


# Dispositional Optimism as a Correlate of Decision-Making Styles in Adolescence

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## Abstract

Despite the numerous psychological areas in which optimism has been studied, including career planning, only a small amount of research has been done to investigate the relationship between optimism and decision-making styles. Consequently, we have investigated the role of dispositional optimism as a correlate of different decision-making styles, in particular, positive for effective styles and negative for ineffective ones (doubtfulness, procrastination, and delegation). Data were gathered through questionnaires administered to 803 Italian adolescents in their last 2 years of high schools with different fields of study, each at the beginning stages of planning for their professional future. A paper questionnaire was completed containing measures of dispositional optimism and career-related decision styles, during a vocational guidance intervention conducted at school. Data were analyzed using stepwise multiple regression. Results supported the proposed model by showing optimism to be a strong correlate of decision-making styles, thereby offering important intervention guidelines aimed at modifying unrealistically negative expectations regarding their future and helping students learn adaptive decision-making skills.

## Keywords

decision making, optimism, vocational guidance

## Introduction

Scheier and Carver (1985) described optimism as a generalized tendency to expect positive outcomes even in the face of obstacles. Optimists are individuals who expect good things to happen to them; conversely, pessimists are those who expect bad things to happen to them (Carver, Scheier, & Segerstrom, 2010).

Dispositional optimism accompanies a number of adaptive psychological qualities (Segerstrom, 2010). People who are more optimistic have less psychological distress, even when things do not coincide with their expectations (Carver et al., 2010). These individuals deal with stressors more actively and more adaptively, using problem-focused strategies when likely to be effective (i.e., in controllable situations such as academic challenges) and emotion-focused strategies when likely to be effective (i.e., in uncontrollable situations such as trauma; Solberg Nes & Segerstrom, 2006). In prospective studies, people who were more optimistic had more academic and professional success (Segerstrom, 2007; Solberg Nes, Evans, & Segerstrom, 2009). Individuals who are more optimistic also have more successful social relationships (e.g., Srivastava, McGonigal, Richards, Butler, & Gross, 2006).

Optimism can therefore be considered a predictor of behavior (Armor & Taylor, 1998), and has been linked to the study of motivation and self-regulation (e.g., Bandura, 1986, 1997; Scheier & Carver, 1988). Optimists seem to employ

more problem-focused coping strategies and more effective ways of emotional regulation, both of which contribute to better functioning (S. E. Taylor & Armor, 1996).

Furthermore, several studies have targeted events that might be viewed as challenging. At least two studies have examined the role of optimism among students starting their college experience (Aspinwall & Taylor, 1992; Brissette, Scheier, & Carver, 2002). Optimism and other variables were assessed upon the students' arrival on campus, and measures of well-being were obtained at the end of the semester. Higher optimism predicted less distress at the end of the semester. Early studies examined student reports of situational coping responses and general coping styles (e.g., Scheier, Carver, & Bridges, 2001), finding that optimists generally appear to be approach copers whereas pessimists appear to be avoidant copers. Results dealing with like concepts have repeatedly followed (Carver et al., 2010).

The rationale for relating optimism to decision making is drawn from the idea that positive expectancies guide individuals to an effective way of making decisions as they feel able to implement adequate strategies and to sustain efforts to cope

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with adversities (Scheier, Carver, & Bridges, 1994). Moreover, optimism has not only been found to predict adaptive career planning strategies (Creed, Patton, & Bartrum, 2002); career optimistic individuals also appear to strive higher academically, report greater comfort with their educational and career-related plans, and engage in activities that enhance their career insight (Rottinghaus, Day, & Borgen, 2005).

Optimism can therefore be associated with coping strategies, emotional regulation, academic and professional success, making it possible to hypothesize that the decision-making process in vocational guidance—which is related with all previously mentioned variables, as will be highlighted later in the text—could be affected by optimism. In fact, despite the important relationship between optimism and many areas linked with scholastic well-being and success, only a small amount of research has investigated the relationship between optimism and career planning. Moreover, recent models in vocational guidance have applied positive psychology principles to school education (Seligman, Ernst, Gillham, Reivich, & Linkins, 2009) and to vocational counseling (Soresi & Nota, 2014), with the aim of helping individuals develop personal resources such as hope, optimism, and resilience, which thus enable them to face uncertainty and challenges in career planning.

So, even though optimism performs a self-regulatory function in determining whether an individual will initiate or maintain working toward desired goals, a small number of studies have investigated optimism as it pertains to career choice (Creed et al., 2002; Petrone, 2000; Powell & Luzzo, 1998). Career development can be considered an adaptational process, requiring individuals to evaluate their situation, consider their personal interests, values, and beliefs when they make decisions about careers, and subsequently manage this ongoing process. Optimism is referred to as an appraisal style within this framework as this predisposition can influence the way an individual thinks, feels, and acts in a particular situation. An individual, for example, who tends to expect that positive outcomes will occur is likely to participate in career-related activities, to set vocationally oriented goals, and to respond with positive affect (Patton, Bartrum, & Creed, 2004).

Creed and colleagues (2002) found that students who endorsed higher levels of optimism showed greater career planning and exploration, were more decided about their career and had more career goals, whereas those with high levels of pessimism reported a lower awareness and knowledge with regard to career choice, were more indecisive, and performed more poorly academically. In this field, career decision making is strongly involved due to the fact that the choices influence life directions and outcomes. Creed, Patton, and Bartrum (2004) pointed out that career issues are particularly salient for adolescent populations where young people need to be informed, skilled, and confident about setting future goals and making career-related decisions. In the broad sense, career maturity refers then to the individual's

readiness to make informed, age-appropriate career decisions and cope with career development tasks (Savickas, 1989). Definitions include the individual's ability to make appropriate career choices, including awareness of what is required for making informed decisions regarding one's career and the degree to which one's choices are both realistic and consistent over time (Levinson, Ohler, Caswell, & Kiewra, 1998). Finally, Patton et al. (2004) have suggested that optimism performs a key role in motivating the development of career goals and expectations and in encouraging the student to remain engaged in these activities, despite adversities that may arise. Having a positive outlook on life appears to perform a conducive and regulatory role for males and females in the career development process. An analysis of this short review, despite the fact that that many career-related variables have been investigated, reveals that there are no studies that directly link optimism with decision-making styles in vocational guidance.

## Decision-Making Styles

The decision-making style can be defined as the tendency to deal with choices according to personal tendencies. Individuals, responding to specific situations, tend to use a personal style more frequently than others, and thus show a predominant style.

Miller and Byrnes (2001) have defined decision making as the process of choosing between different alternatives while in the midst of pursuing one's goal. Concerning the relationship between personality and decision making, many studies have suggested the existence of different typologies of decision-making styles (Brew, Hesketh, & Taylor, 2001; Franken & Muris, 2005). Driver, Brousseau, and Hunsaker (1990) postulated that individuals have a primary decision-making style and a secondary style thus providing them with a range of strategies to choose from, which they can use for different decisions (R. Singh & Greenhaus, 2004). In short, although an individual's approach to a given decisional task may be characterized by one predominant style, elements of other styles can be present (Harren, 1979). As Gati, Gadassi, and Mashiah-Cohen (2012) have highlighted, there has been an increased criticism of the single-most-dominant-trait approach to career decision-making styles. Researchers have argued that individuals in fact have more than one style (Driver et al., 1990) and that they have a range of strategies to choose from, which can be used for different decisions (R. Singh & Greenhaus, 2004). Indeed, studies have shown that the single-dominant-trait approach only partially accounts for individual differences in decision making (Shiloh, Salton, & Sharabi, 2002). We agree with Scott and Bruce (1995), that referred to career decision-making style as a "learned habitual response pattern exhibited by an individual when confronted with a decision situation. It is not a personality trait, but a habit-based propensity to react in a certain way in a specific decision context" (p. 820); so we are convinced

that, even though many external (e.g., involvement in decision, time necessary for good decision making) and internal (motivation, self-esteem, self-determination, perceived resources) variables affect the decision-making process, whenever a choice is perceived as important for the future, individuals tend to use an habitual response pattern.

Starting from some traditional classifications (Arroba, 1977; Harren, 1979; Mann, Burnett, Radford, & Ford, 1997), which have categorized individuals into groups according to a single dominant decision-making style, Di Nuovo and Magnano (2013), using statistical classification techniques, found four decision-making styles:

1. Doubtfulness, which refers to emotional interference such as worry and anxiety regarding choices. It refers to negative emotionality, uncertainty.
2. Delegation, which includes the tendency to attribute to others (significant or not) the responsibility of choice. It is similar to Harren's (1979) dependent style and very close to avoidance in Mann et al.'s (1997) classification. It is related to an external locus of control.
3. Procrastination, which refers to the tendency to avoid or delay beginning or advancing through the career decision-making process.
4. No problem, which is similar to the rational style (Harren, 1979), logic (Arroba, 1977), and vigilance (Mann et al., 1997); it includes the ability to define objectives, to plan actions, to seek information, and to evaluate alternatives carefully.

The choice of the authors to adopt this classification, as well as the resulting scale, derives from the necessity to create a concise instrument that, along with other scales, is easy to apply in vocational guidance interventions in school/academic contexts. Previous research (Di Nuovo, Magnano, Paolillo, & Taibi, 2011; Magnano, 2013) have already used the present decision-making classification and the related measurement instrument in association with measures of vocational guidance variables (such as professional interests, self-image, decisional self-efficacy, attributional styles), showing to be good predictors of effective career choice.

Although Harren (1979) suggested that the most effective approach to decision making is the use of a rational style, studies show conflicting results. As Mau (2000) has pointed out, a rational decision-making style has been found to be associated with career maturity (Blustein, 1987), career decisiveness (Mau, 1995), problem-solving efficacy (Heppner, 1978; Phillips, Paziienza, & Ferrin, 1984). In contrast, a non-rational decision-making style tends to be inversely related to progress in resolving various career tasks (Mau & Jepsen, 1992; Osipow & Reed, 1985). Although a rational decision-making style is generally postulated as an ideal style, some research (Chartrand, Rose, Elliott, Marmarosh, & Caldwell, 1993; Mau, 1995; Phillips, Paziienza, & Walsh, 1984; Phillips

& Strohmer, 1982; Rubinton, 1980) has indicated that it is neither significantly nor necessarily associated with progress in career-related tasks.

According to Klaczynski, Byrnes, and Jacobs (2001), the decisions and the processes by which these decisions are made differ according to the level of motivation and self-involvement for the particular individual (Klaczynski & Fauth, 1997) and may vary across problem contexts as a function of personal relevance (Finken & Jacobs, 1996). However, despite widening interest in these issues, there are still relatively few developmental studies of motivational and affective (e.g., mood) influences on decision making. Individual differences in psychosocial and social cognitive dispositions, and their relationships to decision-making processes, have also received sparse attention in developmental decision-making literature (Moshman, 1999; Perkins, Jay, & Tishman, 1993; Steinberg & Cauffman, 1996).

Correlations between relatively stable personality characteristics, such as impulsivity and sensation seeking, and aspects of decision making have been demonstrated (see Byrnes, 1998). Moreover, in a study done by Jin, Watkins, and Yuen (2009), it was pointed out that conscientiousness, extroversion, and low neuroticism are the prominent personality traits that consistently relate to increased career information seeking and decidedness (Lounsbury, Hutchens, & Loveland, 2005; Reed, Bruch, & Hasse, 2004), whereas low openness is strongly correlated with high-identity foreclosure (Clancy & Dollinger, 1993).

Conversely, Saka and Gati (2007) posited that numerous studies have examined the relations between these various personality and behavioral characteristics on one hand, and career indecision and indecisiveness on the other (e.g., Kelly & Lee, 2005; Leong & Chervinko, 1996; Slaney, 1988). The variables studied include self-esteem and self-confidence (Kishor, 1981), self-efficacy (K. M. Taylor & Betz, 1983), locus of control (K. M. Taylor, 1982), anxiety (Fuqua, Seaworth, & Newman, 1987), and personal and vocational identity (C. R. Cohen, Chartrand, & Jowdy, 1995). Finally, effective decision making is positively related with generalized self-efficacy and with global self-esteem (Betz & Klein, 1996).

Therefore, if we consider that optimism and pessimism may play a functional role in the development of career-related variables (Creed et al., 2004) and that the decision-making process is related to numerous psychological variables such as self-esteem, self-efficacy, locus of control, and other personality characteristics described above, we can then hypothesize that optimism also plays a role in the effectiveness of decision making, specifically in the area of career planning.

## Gender Differences

Literature regarding gender differences in optimism and decision making (career planning) is not definitive. Petrone

(2000), testing the construct of career maturity against the criterion measures of vocational identity, optimism for the future, and level of intelligence, found that females had higher scores on measures of competency for career decision making than males, whereas males scored higher on measures of vocational identity states and possessed a greater sense of optimism for the future. Conversely, Loo (2000) found no significant gender differences on decision-making styles.

Moreover, other recent studies have revealed significant gender differences in career decision making; women tend to invest more effort in the decision-making process and to consult more with others whereas men tend to make quicker final decisions (Gati et al., 2010); girls tend to invest more effort in the process, consult more with others, depend less on others, and be more inclined to please others. Boys, however, tend to make final decisions faster than girls. Girls also have higher scores than boys in information gathering and internal locus of control, all of which can affect the time needed to make a choice (Ginevra, Nota, Soresi, & Gati, 2012). Women reported a greater willingness to consult with others about the decision-making process and reported themselves to be slower in making the final decision than did men (Gadassi, Gati, & Dayan, 2012).

An analysis of these unclear results derived from the literature suggests that gender could play a role in the choice and application of a specific decision-making style; for this reason, in the present study it will be considered as a control variable.

## Aim of the Study

In a very recent study, Tolentino et al. (2014) highlighted that a solid body of research has shown the benefits of optimism on health-related adjustment (e.g., better quality of life and subjective well-being in Scheier & Carver, 1992; less psychological distress in Carver et al., 2005; Fitzgerald, Tennen, Affleck, & Pransky, 1993; Trunzo & Pinto, 2003) as well as on academic adjustment and satisfaction (Aspinwall & Taylor, 1992; McIlveen, Beccaria, & Burton, 2013). Furthermore, optimism has not only been found to predict adaptive career planning strategies (Creed et al., 2002), career optimistic individuals have also been reported to strive higher academically, report greater comfort with their educational and career-related plans, and engage in activities that enhance their career insight (Rottinghaus et al., 2005).

Optimists also tend to be confident and persistent in the face of diverse life challenges, leading them to differ from pessimists in the manner in which they cope with stressful situations (Brissette et al., 2002; Solberg Nes & Segerstrom, 2006), such as the potentially stressful decision of deciding upon a career.

In addition, the positive effects of dispositional optimism have largely been understood in terms of Carver and Scheier's (1981, 1982) and Scheier and Carver's (1988) cybernetic

model of self-regulation. According to this model, goal-directed behaviors are strongly influenced by people's expectations about what the outcomes of their behaviors will be (Bandura, 1986; Seligman, 1975); in particular, these behaviors are affected by the level of confidence regarding whether a particular goal can be reached or not. Doubts regarding the attainment of a particular goal may lead an individual to stop pursuing the goal prematurely or prevent the individual from taking action in the first place. Conversely, if one expects to successfully reach a goal, behavior will be initiated (Armor & Taylor, 1998; Carver et al., 2010).

In the same way, the career-decision process can be seen as an example of goal-directed behavior, in which the individual's level of confidence regarding goal achievement can determine success or failure. Thus, the career-decision process (and, in particular, the "preferred" personal decision style) can be affected from the internal and generalized tendency to expect positive or negative outcomes.

In light of this, whereas optimists' expectations could promote perseverance in the face of challenges, pessimists may procrastinate or give up when confronted with challenges due to their expectation that outcomes will be unfavorable (e.g., Scheier & Carver, 1999; Seligman, 1991).

It is perhaps due to their higher level of confidence regarding the future that optimists utilize a number of active coping methods when confronted with challenges (Jackson, Weiss, & Lundquist, 2000); in contrast, pessimists have more doubts concerning future events and may therefore rely on strategies associated with avoidance and escape from adversity (Carver & Scheier, 2014). Research has demonstrated that optimists generally depend more on strategies such as modifying controllable aspects of stressors (Scheier, Weintraub, & Carver, 1986), seeking information (Aspinwall & Taylor, 1992), planning (Scheier et al., 1989), and positive reframing (Park, Moore, Turner, & Adler, 1997), aspects which are related to adequate and no-problematic decision-making styles (Di Nuovo & Magnano, 2013).

Hence, we hypothesize the following:

**Hypothesis 1:** Dispositional optimism will be positively related to effective decision-making styles after controlling for gender of participants.

In conjunction with this, research has demonstrated that pessimists tend to employ strategies similar to procrastination such as cognitive or behavioral avoidance (Stanton & Snider, 1993)—a strategy typically associated with the procrastination style—and escape (e.g., Carver, Scheier, & Weintraub, 1989), and consequently wind up delegating their choice to others. Several studies have found negative relationships between optimism and anxiety (Bagana, Raciuc, & Lupu, 2011; I. Singh & Jha, 2013), and negative emotionality (S. E. Taylor & Armor, 1996), which can be considered components of the doubtfulness style. In addition, optimism is related to the effective management of uncertainty

(Aspinwall, Richter, & Hoffman, 2001), which is an ability that is lacking in the doubtfulness style. Consequently, we hypothesize the following:

**Hypothesis 2:** Dispositional optimism will be negatively related to doubtfulness, after controlling for gender of participants.

**Hypothesis 3:** Dispositional optimism will be negatively related to procrastination, after controlling for gender of participants.

**Hypothesis 4:** Dispositional optimism will be negatively related to delegation, after controlling for gender of participants.

To sum up, optimists expect to be able to make decisions successfully regarding desired states of actions and thus use positive decision-making styles. In fact, optimists are less likely to expect to fail in choosing their own careers and are thus less likely to use dysfunctional decision-making styles to procrastinate decisions or to delegate to others whom they perceive as being more competent than themselves.

## Method

### Design and Procedure

The cross-sectional study presented was born within a vocational guidance intervention conducted in classroom groups at the end of their high school career, because they were about to embark on a decision-making process. The participation of the students was completely voluntary. Managed through principals of the schools, parents of admitted participants signed an informed consent form. Tests were administered collectively in classroom groups without the presence of teachers. This survey was reviewed and approved by the Ethics Commission of Kore University and the University of Verona. The research protocol included the two surveys presented in the following paragraph; the order of the surveys was counterbalanced.

### Measures

1. Life Orientation Test–Revised (LOT-R; Scheier et al., 1994; Italian adaptation, Anolli, 2005) 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 to indicate their level of agreement with each of the items on a 4-point scale (from *strongly agree* to *strongly disagree*). This gives a possible score range of 6 to 24, with higher scores indicating a higher level of optimism. Anolli reports an internal reliability coefficient of .82. Cronbach's alpha calculation on the sample of the study is .86. 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 specific tests for the assessment of optimism in the realm of vocational guidance adapted to fit the Italian context. Moreover LOT-R has been used together with measures of career maturity, career decision making, career goals and well-being in a study which involved 504 high school students (Creed et al., 2002), showing Cronbach's  $\alpha = .60$ .

2. Decision-Making Styles (DMS; Di Nuovo & Magnano, 2013) is a 15-item test, with 5-point Likert-type scale (1 = *totally disagree* to 5 = *totally agree*); DMS measures four decision-making styles, three of which are considered ineffective (doubtfulness, procrastination, delegation) and one, namely "no problem" considered effective. Cronbach's alpha for each subscale has been calculated on the sample of the study, giving the following values: doubtfulness,  $\alpha = .79$ ; procrastination,  $\alpha = .82$ ; delegation,  $\alpha = .83$ ; no problem,  $\alpha = .77$ . Sample items included, When I have to make a decision or a choice that is important for me . . . "I feel worried and I try to put off the choice" (doubtfulness), "I'm afraid of making mistakes and ask my parents to decide in my place" (delegation), "I feel worried and I try to defer the choice" (procrastination), "I already have clear ideas and I am sure what to choose" (no problem).

This instrument was created and validated for the Italian population to assess decision-making styles in vocational guidance. Predictive validity has been tested through the measurement of the effectiveness of the choices in the transition from middle to high school.

### Participants

Data were collected through convenience sampling. The participants were 803 Italian adolescents (males = 381, 47.45%; females = 422, 52.55%;  $\chi^2 = 2.09$ ,  $df = 1$ ,  $p = .15$ ), aged 16 to 22 years ( $M = 17.73$  years,  $SD = 0.87$  years), coming from the last 2 years (fourth class = 451, fifth class = 352) of different types of high schools.

### Data Analysis

All the analytical tools utilized for the present study were implemented by using SPSS 21.0.

First of all, descriptives and correlations between studied variables were analyzed; then, a series of stepwise multiple regressions was performed.

**Table 1.** Means, SDs, and Correlations for DMS and LOT-R ( $N = 803$ ).

Variables	<i>M</i>	<i>SD</i>	Doubtfulness	Procrastination	Delegation	No problem	LOT-R
DMS							
Doubtfulness	2.63	0.79	—				
Procrastination	2.37	0.78	.63	—			
Delegation	1.60	0.64	.43	.39	—		
No problem	3.50	0.71	-.42	-.39	-.20	—	
LOT-R	19.48	4.07	-.34	-.26	-.12	.34	—

Note. DMS = Decision-Making Styles; LOT-R = Life Orientation Test–Revised. All correlations are statistically significant at  $p < .001$ .

**Table 2.** Multiple Regression Results for Predicting No Problem Decision-Making Style.

	Predictors	$\beta$	Final $R^2$
Step 1	Gender	.06	
Step 2	Optimism	.34***	.11***

\*\*\* $p < .001$ .

As previous research has suggested that gender may affect decision-making style (Gadassi et al., 2012; Ginevra et al., 2012; Petrone, 2000), a decision was made to use this socio-demographic variable as a covariate for each hypothesis. Therefore, each covariate was monitored by entering “gender variable” in the first step of the regression equation, followed by “optimism” entered stepwise.

## Results

### Descriptives and Correlations

Table 1 provides an overview of the means, *SDs*, and correlations between variables. All correlations (Pearson’s *r* coefficient) are statistically significant.

### Hypothesis 1

**Hypothesis 1:** Dispositional optimism would be positively related to effective decision-making styles, after controlling for gender of participants.

“Gender” was entered in the first step, followed by “optimism” entered stepwise. In the final equation, gender was not associated with “no problem” decision style whereas, as displayed in Table 2, optimism significantly accounted for this effective decision-making style ( $\beta = .33$ ,  $R^2 = .11$ ,  $p < .001$ ).

Thus, Hypothesis 1 was supported.

### Hypothesis 2

**Hypothesis 2:** Dispositional optimism would be negatively related to doubtfulness, after controlling for gender of participants.

**Table 3.** Multiple Regression Results for Predicting Doubtfulness Decision-Making Style.

	Predictors	$\beta$	Final $R^2$
Step 1	Gender	-.04	
Step 2	Optimism	-.34***	.12***

\*\*\* $p < .001$ .

**Table 4.** Multiple Regression Results for Predicting Procrastination Decision-Making Style.

	Predictors	$\beta$	Final $R^2$
Step 1	Gender	-.09	
Step 2	Optimism	-.26***	.07***

\*\*\* $p < .001$ .

Gender was entered in the first step, followed by optimism entered stepwise. In the final equation, gender was not associated with doubtfulness whereas, as displayed in Table 3, optimism significantly accounted for this decision-making style ( $\beta = -.34$ ,  $R^2 = .12$ ,  $p < .001$ ).

Therefore, Hypothesis 2 was supported.

### Hypothesis 3

**Hypothesis 3:** Dispositional optimism would be negatively related to procrastination, after controlling for gender of participants.

Gender was entered in the first step, followed by optimism entered stepwise. In the final equation, gender was not associated with procrastination whereas, as displayed in Table 4, optimism significantly accounted for it ( $\beta = -.26$ ,  $R^2 = .07$ ,  $p < .001$ ). Thus, Hypothesis 3 was supported.

### Hypothesis 4

**Hypothesis 4:** Dispositional optimism would be negatively related to delegation, after controlling for gender of participants.

**Table 5.** Multiple Regression Results for Predicting Delegation Decision-Making Style.

	Predictors	$\beta$	$R^2$ change	Final $R^2$
Step 1	Gender	-.23***		
Step 2	Optimism	-.16***	.02***	.07***

\*\*\* $p < .001$ .

**Table 6.** Cohen's  $d$  Effect Size and  $t$ -Test Significance for Gender's Mean Differences in Decision-Making Styles.

Variables	Males ( $n = 381$ )	Females ( $n = 422$ )	Cohen's $d$	$t$ test ( $p$ )
No problem	3.49	3.50	.01	>.05
Doubtfulness	2.63	2.64	.01	>.05
Procrastination	2.41	2.33	.1	>.05
Delegation	1.75	1.46	.46	<.001

Gender was entered in the first step, followed by optimism entered stepwise. As displayed in Table 5, gender significantly accounted for delegation ( $\beta = -.24$ ,  $t = 6.54$ ,  $p < .001$ ) as males reported higher scores than females ( $M = 1.75$  vs.  $M = 1.46$ ). Moreover, optimism was found to be negatively related to delegation as well ( $\beta = -0.12$ ,  $R^2 = .02$ ,  $p < .001$ ), thereby supporting Hypothesis 4.

Table 6 shows gender differences for all the decision-making styles with relative Cohen's  $d$ , which indicates more accurately the effect size of the differences, not depending on the sample size (as it is for the  $t$  test; nevertheless, its significance is reported on the last column). J. Cohen (1988) defined effect sizes as "small,  $d = .2$ ," "medium,  $d = .5$ ," and "large,  $d = .8$ " (p. 25); as it is shown in Table 6, the effect size for the gender differences in delegation style can be considered as moderated ( $d = .46$ ), whereas the effect sizes for all the other decision-making styles are small ( $d < .2$ ).

## Discussion

The aim of the study was to verify if dispositional optimism was positively related to effective decision-making styles and negatively related to doubtfulness, procrastination, and delegation, after having controlled for gender. Data analysis supported the hypothesis, showing the following results: There is a positive relationship between optimism and the effective decision-making style—referred to as "no problem"; the three ineffective decision-making styles—doubtfulness, procrastination, and delegation—have a negative relationship with the optimism. About gender differences, there is a significance difference between males and females in the delegation style, which shows higher scores in males' subsample. The literature (Aspinwall & Taylor, 1992; Creed et al., 2002; McIlveen et al., 2013; Rottinghaus et al., 2005) posits that optimists tend to manage change and uncertainty

favorably because they are able to demonstrate flexibility when appraising and responding to new situations (Tolentino et al., 2014); Patton et al. (2004) have concluded that optimism encourages the student to persevere toward career goals, despite adversities that may arise: "Having a positive outlook on life appears to perform a conducive and regulatory role for males and females in the career development process" (p. 205). The results of our study, confirming our hypotheses, suggest that optimism could perform a key role in decisional situations. As underlined in the literature review, optimistic expectations have been found to promote persistence and to facilitate performance on tasks (Armor & Taylor, 1998); optimists appear generally to be approach copers (Carver et al., 2010); these can be considered the most important characteristics of no-problematic decision-making styles (Di Nuovo & Magnano, 2013). On the contrary, lower levels of optimism are associated to avoidance coping strategies (Carver et al., 2010), which is one of the principal components of procrastination style; moreover, the negative relationship between optimism, anxiety, and negative emotions, highlighted in previous studies (Bagana et al., 2011; Ringeisen & Buchwald, 2010) could explain the negative relationship between optimism and doubtfulness decision-making style; then, dependent decision-making style is marked by pessimistic views of the decisional process (Brown et al., 2012), as delegation style in our results.

Surprisingly, there were significant differences in terms of gender regarding delegation; similar differences do not emerge in the validation study of the DMS (Di Nuovo & Magnano, 2013), in which the mean scores of the male's subsample in this area are not significantly higher than females'. Other studies, indeed, have shown women's scores to be higher than men's in terms of effort invested, which can be considered the opposite of delegation, a decision-making style we have referred to as the tendency to attribute to others (significant or not) the responsibility of choice (Gati et al., 2010). Another recent study (Ginevra et al., 2012) has highlighted that Italian girls also have higher scores than boys in information gathering and internal locus of control. If we consider that delegation is related with external locus of control, as stated above, the literature seems to confirm our results.

The results of our study could make a contribution toward an intervention in vocational and educational guidance. As optimism is also associated with other important school outcomes, for example, it is negatively correlated to exam anxiety (Bagana et al., 2011) and positively related to social competence in children (Deptula, Cohen, Phillipsen, & Ey, 2006), positive education (Seligman et al., 2009)—a school intervention based on Positive Psychology—could represent an effective approach to improve important skills. As Seligman et al. (2009, p.294-295) has highlighted,

positive mood produces broader attention (Bolte, Goschke, & Kuhl, 2003; Fredrickson, 1998; Fredrickson & Branigan, 2005;

Rowe, Hirsh, Anderson, & Smith, 2007), more creative thinking (Estrada, Isen, & Young, 1994; Isen, Daubman, & Nowicki, 1987), and more holistic thinking (Isen, Rosenzweig, & Young, 1991; Kuhl, 1983, 2000) . . . Were it possible, well-being should be taught in school on three grounds: as an antidote to depression, as a vehicle for increasing life satisfaction, and as an aid to better learning and more creative thinking. Because most young people attend school, schools provide the opportunity to reach them and enhance their well-being on a wide scale.

A positive education reduces hopelessness (Brunwasser & Gillham, 2008) and prevents anxiety (Seligman et al., 2009), which can be related with ineffective decision-making styles.

Applying these principles to vocational guidance, the new paradigm of Life Design (Savickas et al., 2009) focuses on intervention to increase career adaptability, which includes the tendency to consider life within a time perspective anchored in hope and optimism. In a very recent work, Soresi and Nota (2014) collected a series of studies and interventions' proposals, which use the constructs of positive psychology—including optimism—to develop life skills in many different contexts (school, university, organizations) and for different kinds of people (children, adolescent, workers, immigrants, disabled).

To conclude, the results of this study could be used by school counselors and advisors in developing programs aimed at increasing students' optimism as development in this area could improve overall well-being, self-efficacy, academic achievement, and, moreover, effective decision making; in fact, in most circumstances, optimism appears to be the best strategy, because it allows individuals to acquire resources to pursue goals, be persistent, and be open to opportunities (if they are realistically available; Forgeard & Seligman, 2012). At last, optimistic students are more adaptable given their confident future orientation and focus on strengths amid adversity (Tolentino et al., 2014); optimists' positive expectancies enable them to demonstrate flexibility, a necessary attribute for adaptation when appraising and responding to new and uncertain situations (Aspinwall et al., 2001), helping to guide students toward a better career *adaptability* (Savickas et al., 2009).

## Limitations and Conclusions

Obviously, the study presents some weaknesses. First of all, study variables were measured from the same source (students) thus creating a single-source bias. It would be more beneficial to control for this effect at the research design stage; for example, future research should collect the ratings at different times and from separate sources (if this is logistically possible).

A further limitation of the study is the cross-sectional measurement. It was not possible to test the causal relationships proposed in the theoretical framework. It is important

to note that there may be a reverse causal relationship to the one hypothesized in the current study. That is, decision-making styles may be an antecedent of optimism rather than its outcome (i.e., maladaptive decision-making style creates negative outcomes and develops pessimism). This reasoning can be extended to suggest that optimism and decision-making styles could both depend on higher level variables, or that optimism may be only one factor among many others that relate to decision-making styles (e.g., cognitive styles, personality traits, self-efficacy). It is therefore suggested that future longitudinal research on optimism and decision-making styles, together with other variables, is required to better understand their relationship.

Moreover, we cannot consider the sample of our study as representative, considering the fact that we used a convenience sampling.

Despite the above limitations, ours is one of the first studies that has empirically tested the relationship between optimism and decision-making styles; its significant results suggest that further research should be undertaken to replicate these findings.

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