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Paulo Jorge Santos, Joaquim Armando Ferreira, Carlos Manuel Gonçalves

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Paulo Jorge Santos

University of Porto

Joaquim Armando Ferreira

University of Coimbra

Carlos Manuel Gonçalves

University of Porto

Author Note

Paulo Jorge Santos, Faculty of Arts and Humanities, University of Porto, Portugal.

Joaquim Armando Ferreira, Faculty of Psychology and Education, University of Coimbra, Portugal.

Carlos Manuel Gonçalves, Faculty of Psychology and Education, University of Porto, Portugal.

Correspondence concerning this article should be addressed to Paulo Jorge Santos, Faculty of Arts and Humanities, University of Porto, Via Panorâmica, s/n, 4150-564 Porto, Portugal. Phone: + 351229370816; Email: pjsantos@sapo.pt

Abstract: Research on career indecision has emphasized the need to distinguish between normative indecision, which corresponds to a developmentally-appropriate state, and indecisiveness, a persistent problem in making decisions across multiple dimensions. This distinction is important in order to design appropriate interventions. These two types of indecision are related with two dimensions (decided-undecided and decisiveness-indecisiveness) that, if conceptualized as orthogonal, result in a diagnostic scheme with four groups (high or low in career decidedness and high or low in indecisiveness). The aim of this study was to test whether the four groups could be distinguished from each other with regard to cognitive and affective variables that have been used in career indecision research. A descriptive discriminant analysis was employed with a sample of secondary school students. The grouping variable effects of two significant functions are described and implications for career counseling and future research are discussed.

### Indecisiveness and career indecision: A test of a theoretical model

Career indecision, defined by Kelly and Lee (2002) as “the inability to specify an educational or occupational choice” (p. 322), is a classical topic of theoretical debate and research in vocational psychology (Crites, 1969; Gati et al., 2011; Holland & Holland, 1977; Osipow, 1999; Santos, 2007; Slaney, 1988). Initially, career indecision was conceptualized as a dichotomous construct (decided or undecided). However, from the mid-1960s, some authors began to sustain career undecided individuals could present different profiles. A previous assessment of its characteristics was particularly important in order to provide appropriate intervention for clients with different needs.

Two main types of career indecision were identified. The first was *developmental indecision*, a transitory phase of the vocational decision-making process. This type of indecision is considered a normative period of development and can be seen as the inevitable consequence of a stage of career exploration, according to career developmental theories (Super, 1957; Tiedeman, 1961). The second type of indecision, *indecisiveness*, also called *chronic career indecision* (Fuqua & Hartman, 1983; Hartman & Fuqua, 1983), is considered a trait and is not exclusive to the career domain. It is a pervasive type of indecision that is present in other domains of life. At the same time, several psychological characteristics, suggesting less adaptive levels of psychological adjustment, were indicative that indecisiveness should not be considered a normative type of indecision (e.g., Santos, 2001).

Earlier authors (Crites, 1969, 1981; Fuqua & Hartman, 1983; Goodstein, 1972; Hartman & Fuqua, 1983; Holland & Holland, 1977; Tyler, 1969) described quite accurately indecisiveness and developmental indecision. Paul Salomone (1982) wrote a seminal article on this matter in the early 1980s. He proposed that vocational decision-

indecision should be conceptualized as a construct that comprised two states: *decidedness-undecidedness* and *indecisiveness-decisiveness*. Each of these two states is related with two separate and independent continua. The first is a rational-cognitive state that is present when individuals face some process of choice, including a vocational one. They could be undecided for different reasons, like being involved in a process of self and environmental exploration, for example. The second is an emotional-psychological state related with developmental problems, including identity confusion, a high level of anxiety, and difficulty in making choices, no matter how individuals are helped through the decision-making process.

Van Matre and Cooper (1984) suggested a different approach to the conceptualization of career decision problems. They presented a diagnostic scheme based on two primary dimensions along which career decision problems can occur. The first is the *Decided-Undecided State*, a transitory level of indecision that is present in all decision processes. The second is the *Decisiveness-Indecisiveness Trait* and refers to a more stable proneness regarding decision-making tasks. Individuals may range from very high to very low in these two dimensions. Contrary to Salomone's (1982) proposal, they suggested that the two dimensions could be conceptualized as orthogonal. Hence, there were four quadrants in which clients could be included. The authors believed that the combination of the two dimensions could comprise almost all cognitive, affective, and behavioral difficulties that career counselors encountered in counseling situations that involved career decisions.

The originality of this proposal is the combination resulting from high indecisiveness and high decidedness. "Clients who are located at the negative end of the decisiveness dimension and the positive end of the decided continua (...) have usually made a temporary career decision. Due to their general indecisiveness, however, they are likely to experience ambivalence over their choice and return to a state of vocational

indecision” (Van Matre & Cooper, 1984, p. 637). We know that indecisive individuals reveal high levels of anxiety (Goodstein, 1972; Salomone, 1982) and that this variable is a strong predictor of indecisiveness (Santos, 2001). We postulate that for some indecisive students the choice of a career, without exploring a full range of career alternatives, could serve to lower anxiety in the process. However, as Van Matre and Cooper (1984) suggested, satisfaction with the choice may remain low and high levels of choice instability may persist, an idea that has since received empirical support. Nauta (2007) showed that indecisive students were less satisfied with their majors in college. Two longitudinal studies (Germeijs & Verschueren, 2011; Germeijs, Verschueren, & Soenens, 2006) presented empirical evidence showing that indecisiveness at the beginning of the 12<sup>th</sup> grade had a negative impact on the degree of commitment to the chosen university course at the end of the year and after students had entered college. Low levels of commitment, in its turn, predicted higher levels of choice instability. This means that even when indecisive individuals do select an option, they are less committed to their choice and they change the options they had previously chosen more often. They could be considered a risk group in terms of their career decision process. However, empirical studies on this topic are rather scarce.

To the best of our knowledge, the Van Matre and Cooper (1984) diagnostic scheme has yet to be empirically tested. We think there are two main reasons that could explain this fact. The first is related with the absence of instruments to assess the two dimensions when the article was published, in particular indecisiveness. As the authors mentioned at the time: “it is important to further develop practical assessment tools to supplant clinical judgment of these factors” (p. 639). The second is associated with the conceptualization of indecisiveness itself, identified with the difficulty of making decisions. However, several authors suggested that indecisiveness should be studied before, during, and *after* a decision is made. Post-decision dysfunctional behaviors and emotions, like worrying, checking,

regretting decisions that were made, and choice instability, are now considered important facets of the indecisiveness construct (see Germeijs & De Boeck, 2002; Rassin, 2007).

Descriptive discriminant analysis (DDA) was the statistical method used to analyze the data (see Betz, 1987; Sherry, 2006), since the model we wanted to test is taxonomic. DDA involves statistical analysis in which a group of variables can be described more parsimoniously to examine differences between previously defined groups. In the words of Sherry (2006):

In DDA, dependent variables are linearly combined to create a synthetic or composite variable that separates or maximally differentiated the groups. Because of this, the DDA technique tends to emphasize group differences and to deemphasize group similarities because variables on which group differ are generally weighted more heavily (p. 665).

In order to select the variables used in our study, beyond career decidedness and indecisiveness, the two structural dimensions of the Van Matre and Cooper model, our choice was based on those that have been identified as more characteristic of indecisiveness. These include high levels of anxiety (Chartrand, Robbins, Morrill, & Boggs, 1990; Fuqua & Hartman, 1983; Goodstein, 1972; Hartman, 1990; Hartman & Fuqua, 1983, Heppner & Hendriks, 1995; Jones, 1989; Lancaster, Rudolph, Perkins, & Patten, 1999; Lucas & Wanberg, 1995; Wanberg & Muchinsky, 1992), low self-esteem (Chartrand et al., 1990; Crites, 1981; Germeijs & De Boeck, 2002; Lucas & Wanberg, 1995; Wanberg & Muchinsky, 1992; Salomone, 1982), external locus of control (Fuqua & Hartman, 1983; Hartman & Fuqua, 1983; Johnson, 1990; Wanberg & Muchinsky, 1992; Salomone, 1982), and a poorly defined sense of identity (Chartrand et al., 1990; Fuqua & Hartman, 1983; Hartman, 1990; Hartman & Fuqua, 1983; Johnson, 1990; Salomone, 1982). Based on these studies, the variables selected were anxiety, self-esteem, locus of

control, and vocational identity, as the most likely to contribute to group separation in the DDA.

Vocational identity was selected as the variable for identity, since it seems to play a pivotal role in identity formation when compared with other domains of the identity construct. As Erikson (1968) stated: “In general it is the inability to settle on an occupational identity which most disturbs young people” (p. 132). According to Skorikov and Vondreck (1998), development in the vocational domain seems to be the driving force of identity development of youth in the context of industrialized countries.

The aim of this study was to empirically test the Van Matre and Cooper model (1984). In particular, we wanted to verify if some previously chosen variables of a cognitive and affective nature could distinguish the four groups as defined by the levels of career decidedness and indecisiveness and explore their implications for career interventions.

## Method

### Participants

The sample consisted of 729 Portuguese secondary school students in the 11<sup>th</sup> (49.7%) and 12<sup>th</sup> grade (50.3%). The participants were recruited from classes in seven urban and suburban public schools using convenience sampling. Their ages ranged from 15 to 22 years, with a mean age of 16.92 years ( $SD = 0.94$ ). There were 420 female students (57.6%) and 309 male students (42.4%).

Secondary education in the Portuguese educational system is structured into two basic types of courses: general courses, mainly directed towards higher education, and vocational courses, aimed primarily at those seeking to enter the job market after the 12<sup>th</sup> grade. Any student with a high school diploma can apply to higher education institutions. In order to apply to public universities, the most prestigious and selective of the Portuguese educational system, students have to take national examinations, which bear significant



weight in the admission criteria. The great majority who are attending general courses intend to pursue their studies in higher education. However, they have to decide for specific degrees (e.g., law, mechanical engineering, psychology, sociology, medicine, etc.) and, exclusively based on their grade point average, are admitted or not to one of these choices. In comparison to American college students, who usually choose a major during the first two years of undergraduate studies in university, Portuguese students face two important points of vocational decision in their educational path much earlier: at the end of basic education (9<sup>th</sup> grade) and after completing secondary education (12<sup>th</sup> grade).

We decided that our sample would only include students in general courses because we were interested in those individuals who intended to pursue their studies in higher education. We did not include 10<sup>th</sup>-grade students because of the high attrition rate in the first year of secondary education.

#### Procedure and instruments

Administration of the instruments took place in school, during class time, after the participants were informed that the general purpose of the research was to study some aspects of adolescent development. The voluntary nature of the participation was stressed, and the confidentiality of the data guaranteed. Previously informed written consent was obtained from the parents of the students who agreed to take part in the study. The measures were arranged in random order to control for order effects. After the administration of the instruments, the students were informed in more detail about the purposes of the study.

*Measurement of career decidedness.* We used a four-item self-reported measure to assess a participant's level of certainty regarding a prospective career alternative. This measure was a development from a previous scale with two items (Santos, 1997). For each question, participants answered a 6-point Likert-type scale ( $1 = strongly disagree$  to  $6 = strongly agree$ ), with higher scores representing a higher level of career decidedness.

Examples of items are “I have already decided the career area in which I would like to work (health, technology, education, etc.)” or “I have very clear ideas about what I want as a professional career.” In this study, the internal consistency (Cronbach’s coefficient alpha) was .85. This kind of global estimate of career decidedness is a common procedure (see Savickas, Carden, Toman, & Jarjoura, 1992).

*Measurement of indecisiveness.* For the evaluation of indecisiveness, we used the Frost Indecisiveness Scale (FIS; Frost & Shows, 1993), a 15-item scale that evaluates the degree of difficulty in making decisions. Nine items are worded negatively (e.g., “I often worry about making the wrong decision”), and six positively (e.g., “I like to be in a position to make decisions”). A 5-point Likert-type scale was used ( $1 = strongly disagree$  to  $5 = strongly agree$ ). The positively worded items were reverse scored with higher results reflecting a greater level of indecisiveness. College students with higher scores on FIS showed greater difficulties in making choices in several aspects of their lives, including at the academic, social, and family levels (Frost & Shows, 1993; Gayton, Clavin, Clavin, & Broida, 1994). Experimental research revealed that indecisive individuals search for more information before making a choice and take more time to reach a decision (Frost & Shows, 1993; Rassin, Muris, Booster, & Kolsloot, 2008; Rassin, Muris, Franken, Smit, & Wong, 2007). The internal consistency (Cronbach’s alpha) of FIS is high: in several studies, it ranged from .80 to .90 (Frost & Gross, 1993; Frost & Shows, 1993; Gayton et al., 1994; Patalano & Wengrovitz, 2007; Rassin & Muris, 2005; Rassin et al., 2007). Rassin et al. (2007) found that temporal stability is also adequate (correlation of .88 in a 1-month interval between evaluations).

The Portuguese version of the FIS employed in this study yielded suitable psychometric characteristics in several studies with secondary school and college students: internal consistency coefficients (Cronbach’s alphas) ranged from .77 to .83 and a .85 two-week test-retest coefficient was obtained (Santos, 1997, 2001, 2007; Santos & Ferreira,

2012). In addition, the scale scores were negatively correlated with the degree of career certainty and positively correlated with personal-emotional and information dimensions of career indecision (Santos, 1997). In the present study, the internal consistency reliability (Cronbach's alpha) was .81.

*Measurement of vocational identity.* Vocational identity, defined as "...the possession of a clear and stable picture of one's goals, interests, personality, and talents" (Holland, Daiger, & Power, 1980, p. 1), was assessed by the Vocational Identity Scale (VIS), a 18-item scale, with a true-false type of answer, in which higher scores indicate a clear sense of identity. An example of an item is: "Making up my mind about a career has been a long and difficult problem for me." The internal consistency (KR20) of the scale's scores ranged from .86 to .89 (Holland et al., 1980) and temporal stability, for intervals not greater than three months, was .75 (see Holland, Johnston, & Asama, 1993). Holland et al. (1993), Leong and Morris (1989), and Lucas, Gysbers, Bluescher, and Heppner (1988) presented empirical evidence supporting the validity of VIS.

A study with the Portuguese version of the VIS (Santos, 2010), also used in this research, indicated that the scale measures one construct through the use of confirmatory factor analysis. Internal consistency coefficients (Cronbach's alpha) fell between .78 and .79. VIS scores were negatively correlated with personal-emotional and information dimensions of career indecision and positively correlated with measures of self-esteem and career certainty. The study's internal consistency coefficient (Cronbach's alpha) was .81.

*Measurement of self-esteem.* The Rosenberg Self-esteem Scale (RSES; Rosenberg, 1965) was employed to assess global self-esteem, defined as "...a positive or negative attitude toward a particular object, namely the self" (p. 30). The RSES is a 10-item instrument, 5 positively-oriented (e.g., "I have a positive attitude toward myself") and 5 negatively (e.g., "All in all, I am inclined to feel that I am a failure") answered on a 4-point Likert-type scale (1 = strongly disagree to 4 = strongly agree). The negatively-oriented

items are reverse scored so that higher scores indicated higher levels of self-esteem. The RSES is the most widely-used scale in psychological research aimed at evaluating self-esteem (Blascovich & Tomaka, 1991). The psychometric characteristics of the RSES are excellent: the internal consistency results (Cronbach's alpha) are higher than .80 (Gray-Little, Williams, & Hancock, 1997; Hagborg, 1996) and Fleming and Courtney (1984) indicated a test-retest reliability, with a one-week interval between evaluations, of .82. The RSES's construct validity has been evidenced by significant correlations with other instruments of assessment of self-esteem (e.g., McCurdy & Kelly, 1997) and with a set of dimensions and psychological variables, such as depression, anxiety, and satisfaction with life (Diener & Diener, 1995; Fleming & Courtney, 1984).

A confirmatory factor analysis of the Portuguese version of the RSES (Santos & Maia, 2003) used in this study indicated that the scale assessed one single factor and the internal consistency values (Cronbach's alpha) ranged from .84 to .90. High results in the RSES were positively correlated with satisfaction with life (Freire & Tavares, 2011; Santos & Maia, 2003), positive social and emotional aspects of self-concept (Santos & Maia, 2003), and feelings of happiness (Freire & Tavares, 2011). In the present study, the internal consistency value (Cronbach's alpha) was .88.

*Measurement of locus of control.* The Internal-External Locus of Control Scale (IE; Rotter, 1966) was employed to evaluate the locus of control. The IE is a 29-item forced-choice test, with 6 filler items, designed to assess externality or the perception that events are unrelated to the individual's behavior and are, therefore, beyond personal control. An example of two items in the IE representing an external and internal orientation, respectively, are the following: a. "Many of the unhappy things in people's lives are partly due to bad luck." b. "People's misfortunes result from the mistakes they make." Higher scores represent a higher level of externality. Internal consistency ranged from .65 to .79

and the test-retest reliability (one-month interval) ranged from .60 to .83 (Rotter, 1966).

Evidence supporting the validity of IE can be found in Rotter's monograph (Rotter, 1966).

Barros, Barros, and Neto (1989) adapted the Portuguese version of the IE using a sample of college students and adult teachers. The internal consistency (split-half) was .70. The results of this version of the IE showed significant correlations in the expected directions with a multidimensional scale of locus of control. The study's internal consistency value (Cronbach's alpha) was .66.

*Measurement of anxiety.* To evaluate anxiety we used the Trait Anxiety Scale (TAS), taken from the State-Trait Anxiety Inventory (STAI) - Form Y (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983), which assesses relatively stable individual differences in anxiety proneness. The TAS has 20 items (e.g., "I worry too much over something that really doesn't matter") that are answered on a Likert scale with 4 options (1 = *almost never* to 4 = *almost always*). A total of 9 anxiety-absent items (e.g., "I am a steady person") are reverse scored and higher scores represent a higher degree of trait anxiety. For high school students, the internal consistency value (Cronbach's alpha) was .90 and the test-retest reliability (one-month interval) ranged from .71 to .73. Evidence supporting the validity of STAI can be found in Spielberger et al. (1983).

The Portuguese version of STAI (Silva, 2006) was used in this study. The TAS internal consistency (Cronbach's alpha) with samples of high school students ranged from .88 to .90. The test-retest reliability, calculated with a one-month interval in a sample of college students, was .80. The validity shown by the Portuguese version of STAI, analyzed with samples of adolescents, young adults, and adults, including normal individuals and individuals with psychological disturbances, attest to its adequacy as an assessment and diagnostic instrument in the Portuguese cultural context. In this study, the TAS internal consistency value (Cronbach's alpha) was .91.

## Results

Table 1 presents the mean scores and the standard deviations for each independent variable. We used a mean split process on the Frost Indecisiveness Scale ( $M = 41.74$ ;  $SD = 8.18$ ) and on the Career Decidedness Scale scores ( $M = 17.19$ ;  $SD = 5.10$ ) to create four groups: low career decidedness/low indecisiveness ( $n = 139$ ), low career decidedness/high indecisiveness ( $n = 203$ ), high career decidedness/low indecisiveness ( $n = 251$ ), and high career decidedness/high indecisiveness ( $n = 134$ ). Table 2 presents the correlation matrix of the study's variables.

Since we wanted to understand the differences among groups and test a taxonomic model, a descriptive discriminant analysis was performed (see Betz, 1987; Sherry, 2006). We found that two of the three discriminant functions were statistically significant (Wilk's  $\Delta = .47$ ,  $\chi^2(12) = 488.93$ ,  $p = .0001$  and Wilk's  $\Delta = .85$ ,  $\chi^2(6) = 104.24$ ,  $p = .0001$ ) accounting for 82.3% and 17.6%, respectively, of the between-group variability in discriminating among the groups.

Table 3 presents the structure matrix coefficients and the standardized coefficients of the first two functions. Both types of statistics are important for the interpretation of the results. The structure matrix coefficients are simple linear correlations between each independent variable and the discriminant function. Researchers can identify the construct underlying each function by analyzing the magnitude of the correlations and its directions, in a manner similar to the interpretation of factors in factor analysis. Only coefficients equal to or higher than .30 should be interpreted because they account for more than 10% of variability in the function (see Brown & Wicker, 2000).

The standardized coefficients, on the other hand, are equivalent to beta weights in multiple regression and shows how much an independent variable contributes to group

discrimination in each function. The size of the coefficient indicates the strength of the variable in the discrimination function and the sign indicates that a variable makes either a positive or a negative contribution.

In the first function, vocational identity, positively related, and anxiety, negatively related, contributed most to group discrimination. The analysis of the structure coefficients suggests that high levels of vocational identity and self-esteem and low levels of anxiety characterize this function. We label it *functional style of decision process*.

Anxiety and vocational identity, both positively related, were also the most important variables for the second function because they yielded the highest weights. The analysis of structure coefficients suggests that high levels of anxiety and low levels of self-esteem characterize this function. To a lesser degree, external locus of control and a clear vocational identity also contributed to interpret this function. We label it *dysfunctional style of decision process*.

In order to understand which groups are differentiated in each function, we analyzed the group centroids, that is, the mean discriminant score of the members of a group in a given discriminant function (see Table 3). Function 1 primarily differentiated between the low career decidedness/high indecisiveness and high career decidedness/low indecisiveness groups. The low career decidedness/high indecisiveness group scored at the negative end of the function and the high career decidedness/low indecisiveness at the positive end of the function. Function 2 primarily differentiated between the low career decidedness/low indecisiveness and the high career decidedness/high indecisiveness. The low career decidedness/low indecisiveness group scored at the negative end of the function and the high career decidedness/high indecisiveness at the positive end.

### Discussion

The results of our study support the hypothesis that the variables selected discriminate the four groups of individuals differentiating them by the scores obtained on

indecisiveness and career decidedness. The model proposed by Van Matre and Cooper (1984) evidenced empirical validity and further research could confirm its usefulness as a basic diagnostic scheme to be used in career intervention and research. With this model the dichotomy between career decided and undecided individuals is expanded with the aim of describing more completely the universe of career decision groups. We will discuss briefly the characteristics of each group.

The low career decidedness/low indecisiveness group includes students who lack a clear vocational identity, but reveal low levels of anxiety and externality and high levels of self-esteem. These individuals would be normally considered developmentally undecided. They could be going through a process of exploring several career paths. We should remember that in the Portuguese educational system, admission to higher education courses depends on the grade point average from secondary education and the results obtained in national examinations. Keeping several options open in terms of career choice can be considered an adaptive compromise. Intervention with these types of students should foster self and environmental exploration, in group or individual counseling, in order to develop career plans and promote mature investments.

The low career decidedness/high indecisiveness group includes the typical indecisive individuals (Holland & Holland, 1977; Salomone, 1982; Tyler, 1969). These students have low levels of vocational identity and self-esteem and high levels of anxiety and externality. The difficulty in making career choices is part of a broader dysfunctional pattern in the decision-making process in general (Santos, 2001). For indecisive individuals, deciding is a difficult task for almost all the choices they have to make. Working with indecisive clients implies interventions that address their underlying problems (e.g., interpersonal and intrapersonal conflicts, autonomy, identity definition, anxiety) before any attempt to deal with career indecision. For this reason, according to some authors, intervention should be necessarily more prolonged than a regular career



counseling process (Fuqua & Hartman, 1983; Holland & Holland, 1977; Salomone, 1982), a fact that received empirical support in a single-subject study conducted by Heppner and Hendricks (1995).

The high career decidedness/low indecisiveness group is formed by individuals with a clear vocational identity and a psychological profile indicative of a good level of psychological adjustment (low anxiety and externality and high self-esteem). Probably they do not feel the need to seek career counseling because apparently they have clear career plans, although some of them could be interested in obtaining some reassurance as to their career options (see Multon, Wood, Heppner, & Gysbers, 2007). These individuals are perhaps close to the identity achieved group according to James Marcia's (1966) identity statuses model.

Finally the last group, high career decidedness/high indecisiveness, is the most interesting in the model we tested. The model's authors sustained that some indecisive individuals could present relatively high levels of career decidedness, an option that was not considered at the time their diagnostic scheme was presented. Our study corroborates their insight because we were able to identify a group of indecisive and career decided individuals that revealed a relatively high vocational identity, but at the same time presented low levels of self-esteem, high levels of anxiety, and moderate levels of externality. It was this group that scored higher on the function we labeled *dysfunctional style of decision process*, a finding that we consider theoretical relevant and with important implications for career counseling.

As we have stated before, Van Matre and Cooper (1984) believed that some indecisive individuals could remain in a state of career indecision, while others could present themselves as career decided, although they could return to a state of vocational indecision due to feelings of ambivalence over their choice. In other words, the model we tested assumes that indecisiveness is not a unitary construct, a fact that is now recognized

by an increasing number of authors (e.g., Brown & Rector, 2008; Brown et al., 2012; Saka, Gati & Kelly, 2008). Brown et al. (2012), for instance, suggest that indecisiveness could comprise two groups. The first includes individuals that “prematurely foreclose on available options (as an avoidance strategy) by perhaps relying excessively on the input from others. At the same time, they may not be highly satisfied with their choice” (p. 14). The second group consisted of individuals who identify some good career alternatives, but cannot commit to one of them for several reasons, like the fear of eliminating options that they will regret later.

Identifying different types of career undecided *and* decided individuals is an essential condition to design appropriate interventions that could be applied to a wide range of clients, including those who have already made a career choice (Santos & Coimbra, 2000). As Gordon (1981) stated more than three decades ago, “there are many ‘decided’ students (...) who need the same extensive academic advising and counseling provided the undecided ones” (p. 438). Indecisive students who are, at the same time, career decided, could be an important group of this kind.

The conclusions of our research should take into account some of its limitations. All the variables were assessed through self-report scales, a procedure that could have biased the results through the manifestation of processes of social desirability. Also, the number of discriminating variables was relatively small. Future studies could incorporate other variables in order to more fully understand how these four groups are differentiated from each other. In particular, in order to assess vocational identity, we recommend that the VIS should be replaced by more recent measures of vocational identity, like the Vocational Identity Status Assessment (VISA) (Porfeli, Lee, Vondracek, & Weigold, 2011), an instrument that could identify different occupational identity statuses of the four groups of the model we tested.

We believe that it is of vital importance to conduct longitudinal studies with the purpose of evaluating the developmental paths these four groups follow. We can expect that individuals from some groups turn out to be relatively stable in terms of their career choice (high career decidedness/low indecisiveness), whereas with others the situation is the opposite (low career decidedness/low indecisiveness or even high career decidedness/high indecisiveness). Concerning this last group, we think that is particularly important to understand the processes that underlie the career choice of indecisive individuals using either more sensitive self-report items or semi-structured interviews. Brown et al.'s (2012) interpretation regarding a foreclosed career decision by some indecisive students, although plausible, needs to be confirmed.

Finally, it is of the outmost importance to test the impact of career interventions with the different groups. However, we sustain that these interventions should be tailored to the needs of each group and that uniform interventions should be avoided (e.g., Kelly & Pulver, 2003). As Kelly and Lee (2002) advocated:

We recommend that researchers move beyond generally designating career indecision as a focus of inquiry by identifying specific decision problems as targets of inquiry. We also recommend that researchers study the effects of differential treatments on different types of decision problems (p. 324).

We consider that Van Matre and Cooper's (1994) model, although it does not capture all the different types of career decision problems a counselor can face, is a valuable career diagnostic scheme that deserves to be explored in terms of research and intervention. We hope that our study can inspire other researchers to use this model, as it proved to have a heuristic potential that should be explored.

ACCEPTED MANUSCRIPT

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ACCEPTED MANUSCRIPT

Table 1

*Means and Standard Deviations of the Variables*

Variable	Low career decidedness/low indecisiveness		Low career decidedness/high indecisiveness		High career decidedness/low indecisiveness		High career decidedness/high indecisiveness		Total	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Anxiety	37,20	6,68	46,79	9,42	35,04	7,38	44,33	9,06	40,51	9,70
Self-esteem	33,03	3,91	28,72	5,20	33,75	4,14	29,85	5,00	31,46	5,09
Locus of control	11,59	3,22	13,22	3,19	10,92	3,78	12,85	3,41	12,06	3,58
Vocational identity	8,76	3,50	6,51	2,72	13,07	3,21	11,13	3,40	10,02	4,16

*Note:* The potential scores ranges for the several instruments are as follows: Indecisiveness Scale (15 – 75); Trait Anxiety Scale (20 – 80); Rosenberg Self-Esteem Scale (10 – 40); Internal-External Locus of Control Scale (0 – 23); Vocational Identity Scale (0 – 18).

Table 2

*Correlation matrix of the variables*

Measure	1	2	3	4
1. Indecisiveness (FIS)				
2. Anxiety (TAS)	.67			
3. Self-esteem (RSES)	-.56	-.79		
4. Locus of control (IE)	.31	.31	-.26	
5. Vocational identity (VIS)	-.47	-.44	.38	-.26
6. Career decidedness (CD)	-.31	-.24	.21	-.15
.66				

*Note:* All correlations are statistically significant ( $p < .01$ ).

Table 3

*Standardized Coefficients, Structure Coefficients, and Group Centroids of the Two Significant Functions*

	Discriminant Variables	Standardized Coefficients	Structure Coefficients
Function 1	Anxiety	-.42	-.60
	Self-Esteem	-.08	.46
	Locus of Control	-.06	-.28
	Vocational Identity	.83	.93
Function 2	Anxiety	.74	.76
	Self-Esteem	-.20	-.60
	Locus of Control	.27	.33
	Vocational Identity	.65	.35
		Function	
	Groups	1	2
	Low career decidedness/low indecisiveness	-.177	-.661
	Low career decidedness/high indecisiveness	-1.210	.050
	High career decidedness/low indecisiveness	1.055	-.050
	High career decidedness/high indecisiveness	.107	.705



### Highlights

- A model based on career decidedness and indecisiveness proved to be reliable.
- A descriptive discriminant analysis evidenced two significant discriminant functions.
- Vocational identity and anxiety contributed most to group discrimination.
- Indecisiveness could be considered a multidimensional construct.