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### Facets of career decision-making difficulties

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# Facets of career decision-making difficulties

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**ABSTRACT** *The present research investigated the relations among the measured and the expressed career decision-making difficulties in a sample of 299 young adults who intended to apply to college or university. As hypothesised, the correlations between career decision-making difficulties, as measured by the Career Decision-Making Difficulties Questionnaire (CDDQ), and the expressed difficulties were generally high (median = 0.64), but varied among the 10 difficulty categories (range 0.35–0.82). Both measured and expressed difficulties correlated negatively with the students' career decision-making self-efficacy (–0.63 and –0.65, respectively). The correlations between the CDDQ and both dimensions of the Vocational Decision Style Indicator were negative but low (–0.25 for the introvert vs. extrovert dimension and –0.35 for the thinking vs. feeling dimension). The correlations between the students' scholastic aptitude test scores and both measured and expressed difficulties were negligible (–0.03 and –0.08, respectively). Participants with more crystallised career plans reported lower career decision-making difficulties, higher career decision-making self-efficacy, and a higher 'thinking' (as opposed to 'feeling') vocational decision-making style. The theoretical and practical implications of these findings are discussed.*

Career decisions made by young adults have significant implications for their lifestyle and their personal and occupational satisfaction. Making a career decision is a complex task; while some people make such decisions fairly easily, with no apparent difficulty, many others face difficulties before or during the decision-making process (Campbell & Cellini, 1981; Gati *et al.*, 1996; Rounds & Tinsley, 1984). Such difficulties, if not adequately dealt with, may prevent the individual from making the decision or lead to a less-than-optimal choice. The negative consequences may particularly affect young adults who have little previous experience in decision-making. Thus, locating individuals' career decision-making difficulties is among the first steps in providing them the help they need. Indeed, career indecision is one of the central issues in vocational psychology (e.g. Mitchell & Krumboltz, 1984;

Osipow, 1999; Osipow *et al.*, 1976; Savickas *et al.*, 1992; Slaney, 1988; Tinsley, 1992). The goal of the present study was to better understand the various career decision-making difficulties faced by young adults, most of whom intend to apply to a college or university.

Career decision-making difficulties can be analysed in several ways. First, where (i.e. in what domains or categories) do the client's difficulties lie (Gati *et al.*, 1996)? Second, how severe are these difficulties? Third, to what degree is the client aware of these difficulties? Additional aspects of career decision-making include individuals' vocational decision-making style (e.g. Harren, 1979; Walsh, 1986) and their beliefs regarding their ability to successfully accomplish certain tasks involved in career choice—that is, their career decision-making self-efficacy (Taylor & Betz, 1983). In the following sections, we briefly review these aspects and discuss the possible relations among them.

### **The Gati *et al.* (1996) Taxonomy of Difficulties in Career Decision-Making**

This taxonomy, which is based on decision theory, includes three major categories of difficulties, which are further divided into 10 specific categories of difficulty (Gati *et al.*, 1996). The first major category, *lack of readiness*, includes three difficulty categories which precede engagement in making a specific career decision: (a) *lack of motivation* to engage in the career decision-making process, (b) *general indecisiveness* concerning all types of decisions, and (c) *dysfunctional beliefs* about career decision-making. The two other major difficulty categories, *lack of information* and *inconsistent information*, include categories of difficulties that may arise during the actual process of career decision-making. *Lack of information* includes four categories: (a) *lack of knowledge about the steps involved in the process* of the career decision-making, (b) *lack of information about the self*, (c) *lack of information about the various occupations*, and (d) *lack of information about the ways of obtaining additional information*. The major category of *inconsistent information* includes three categories of problems with using the information: (a) *unreliable information*, (b) *internal conflicts*, which are conflicts within the individual (such as contradictory preferences), and (c) *external conflicts*, which are conflicts involving the opinions of significant others.

The theoretical taxonomy was tested and validated with the Career Decision-Making Difficulties Questionnaire, developed for this purpose (CDDQ; Gati *et al.*, 1996). Testing American and Israeli samples of young adults, Gati *et al.* (1996) found great similarity between the empirical structure of the three major categories and the 10 specific categories, on the one hand, and the proposed taxonomy, on the other. They reported test–retest reliabilities of 0.67, 0.74, 0.72, and 0.80, for the three major categories and the whole questionnaire, respectively, and median Cronbach alpha internal consistency coefficients of the 10 scale scores of 0.78 and 0.77, in the Israeli and the American sample, respectively (Gati *et al.*, 1996). The construct and concurrent validity of the CDDQ was supported by Osipow and Gati (1998), using the Career Decision-Making Self-Efficacy Scale (CDMSE; Taylor & Betz, 1983), and the Career Decision Scale (CDS; Osipow *et al.*, 1976; Osipow & Winer, 1996). Lancaster *et al.* (1999) reported a large difference in the total CDDQ

score between decided and undecided groups. Conclusions about clients' career decision-making difficulties derived from the CDDQ were found compatible with the conclusions of their career counsellors (Gati *et al.*, 2000). The construct, concurrent, and convergent validity of the CDDQ's paper and pencil questionnaire, as well as Internet versions, have been tested in additional studies (Albion & Fogarty, 2002; Gati & Saka, 2001a, 2001b; Kelly & Lee, 2002; Kleiman & Gati, 2004; Kleiman *et al.*, 2004; Mau, 2000, 2001; Morgan & Ness, 2003; Tien, 2001, 2005). Further information on the CDDQ, including its online Internet version and an abridged professional manual, can be found at [www.kivunim.com/cddq](http://www.kivunim.com/cddq).

### **Awareness of one's difficulties**

One of the challenging conceptual and psychometric issues connected with vocational interests is comparing expressed and measured interests (e.g. Crites, 1999; Spokane & Decker, 1999). The importance of studying the reliability, validity, and utility of subjective evaluation has also been recognised in assessments of clients' career decision-making readiness (Sampson *et al.*, 2000a). Jepsen (2000) and Sampson *et al.* (2000b) discussed ways of assessing clients' career readiness: (a) using objectively scored measures and (b) using subjective self-assessment system, based on clients' response to the explicit question of what 'they think is most appropriate for their learning today' (Jepsen, 2000, p. 176); these researchers suggested that the latter might be equally valid and practical. The question of whether individuals are aware of all of their difficulties and are prepared to acknowledge them is important because such awareness probably affect their inclination to seek help. It is reasonable to assume that young adults have different degrees of awareness and of readiness to acknowledge their difficulties with respect to different issues. In the present research, we compared measured and expressed career decision-making difficulties and tested the hypotheses that young adults are generally aware of their difficulties. In addition, we tested the hypothesis that because of the nature of the difficulties involving *dysfunctional beliefs*, the correspondence between measured and expressed difficulties will be lower for this type of difficulty.

### **Vocational decision-making style**

Individuals differ in their career decision-making style. Harren (1979), for example, distinguished between the rational, intuitive, and dependent styles. In the present research we used the classification of Walsh (1986, 1987), according to which vocational decision-making styles can be characterised along two dimensions. The first dimension is *thinking–feeling*, which refers to the degree to which individuals rely upon a systematic or rational approach as opposed to an intuitive or affective approach to career decision-making. The second dimension, labelled *introvert–extrovert*, pertains to the extent to which an individual relies upon an active internal posture as opposed to a passive dependent posture in decision-making (Walsh, 1987). Individuals with more thinking-oriented and introvert styles are likely to be more actively engaged in a systematic search for information about self and

environment and should exhibit more exploratory activity. Such an approach towards career decision-making should result in a higher quality of decision processes (Blustein & Phillips, 1988). Hence, we hypothesised that individuals who can be characterised as thinking-oriented and as introvert would report less career decision-making difficulties.

### **Career decision-making self-efficacy**

One factor that may affect individuals' inclination to seek help in making a career decision is their perceived career decision-making self-efficacy, that is, individuals' beliefs regarding their ability to successfully accomplish certain tasks connected with career choice (Betz *et al.*, 1996; Taylor & Betz, 1983). Low self-efficacy in a certain domain may lead to avoiding dealing with tasks and challenges in that domain. For example, in career decision-making one may avoid collecting relevant information, clarifying preferences, planning, or implementing the decision (Betz & Luzzo, 1996; Taylor & Betz, 1983). The Career Decision-Making Self-Efficacy (CDMSE) scale has five theoretically defined scales, corresponding to the five career competencies suggested by Crites (1973): self-appraisal, occupational information, goal selection, planning, and problem solving. Using the CDMSE, Taylor and Betz (1983) found that career decision-making self-efficacy contributes significantly to the prediction of career indecision. Negative correlations between self-efficacy measures and indecision measures have also been reported in recent studies (Betz & Voyten, 1997; Osipow & Gati, 1998; Wulff & Steitz, 1999). We, therefore, hypothesised that the correlation between both measured and expressed career decision-making difficulties and the CDMSE would be negative (because of the opposite direction of the scales of the CDMSE and of the CDDQ).

### **Scholastic aptitude and career decision-making**

Peterson *et al.* (1991) suggested a cognitive approach to information-processing in career problem solving and decision-making. Higher ability in information-processing and problem solving should facilitate career decision-making. Albion and Fogarty (2002) investigated the relations between general intellectual functioning and career decision-making difficulties in a sample of 11th and 12th grade students and a sample of adults. As expected, the observed correlations were negative, but they were very low (range  $-0.07$  to  $-0.20$  and  $-0.05$  to  $-0.15$ , respectively), suggesting that there are other (and apparently more important) factors, which account for the individuals' career decision-making difficulties. To explore the relations between scholastic aptitude and career decision-making difficulties, we used the participants' Psychometric Entrance Test (PET) scores. PET, which is the Israeli equivalent of the Scholastic Aptitude Test (SAT), serves as one of the criteria for admission to the Israeli universities.

## Degree of decidedness

Gati and Asher (2001) suggested distinguishing among three stages in the career decision-making process: prescreening, in-depth exploration, and choice (*PIC*). Individuals can be at different points in the career decision-making process (Gati *et al.*, 2001). For example, some clients may have no alternatives at all, reflecting that they are prior to the prescreening stage; others may have a few specific options, which they wish to further explore, and thus may be regarded as being at the in-depth exploration stage. Previous research has demonstrated that many young adults are eager to make their initial career decision (i.e. what to study after high school); they want to be as close as possible to saying *I know what occupation I am interested in* (Gati *et al.*, 2003). This indicates that many deliberating individuals have an explicit goal to find a specific career option.

We assumed that, as in most groups, the participants in this study, who were students in a special 1-year pre-academic preparatory programme, differed in their degree of decidedness. Specifically, some might already have had a very specific career goal in mind (e.g. to be a social worker or to study economics), others might have been considering a few alternatives, while others might have had only a general direction (e.g. 'something in the life sciences') or no direction at all. In the present study, we compared the career decision-making difficulties, career decision-making self-efficacy, vocational decision-making style, and scholastic aptitudes of groups of students who differed in their degree of decidedness, testing the hypothesis that all these variables are correlated with degree of decidedness.

## The present study

There are two major differences between the Israeli and many European and the American higher-education systems. First, the compulsory military service in Israel interrupts the transition from high school to work or to higher education for most young adults; discharged veterans are older and much more mature than recent high-school graduates, after their 2–4 years of military service. Second, undergraduate studies in Israel are organised by major from the first year; hence, candidates have to list the specific major(s) they would like to study on their application form. Because admission to certain majors or fields of study in Israel (e.g. computer science, electrical engineering, psychology) is highly competitive, the procedure of admission requires applicants to rank-order the specific majors they prefer. To increase the chances of being admitted to the selective majors, prospective students may join a special 1-year preparatory programme. This programme, which is aimed at preparing potential students for undergraduate studies, also provides 'a second chance' for the applicants (including students from disadvantaged backgrounds)—namely, an opportunity to improve their high-school grades in order to be admitted to higher education and in particular to selective majors. The counsellors on the staff of this programme often help students clarify their career goals, reassess and reanalyse their abilities and interests, and if needed, modify their initial career decisions. Setting a career goal during the preparatory programme is considered important, as it is

expected to contribute to the students' motivation towards academic achievements. The goal of the present study was to understand the various career decision-making difficulties faced by this group, which represents young adults characterised by a genuine concern about their future and a willingness to invest in it, as reflected by their participation in this special 1-year pre-academic programme.

## Hypotheses

In the present research, we tested the following hypotheses:

- a. High correlations will be found between measured and expressed career decision-making difficulties, but the degree of correspondence between them will vary among the 10 difficulty categories.
- b. The correlations between the career decision-making difficulties, as measured by the CDDQ, and career decision-making self-efficacy will be negative for all five scales of the CDMSE, as well as for the total CDMSE.
- c. With respect to the vocational decision-making styles, individuals with thinking-oriented and introvert styles will have lower career decision-making difficulties than individuals with feeling-oriented and extrovert styles.
- d. The correlations between the students' scholastic aptitude test score and their career decision-making difficulties will be negative but low.
- e. Participants' degree of decidedness will be negatively correlated with their career decision-making difficulties, will be positively correlated with career decision-making self-efficacy, and will have a thinking (rather than feeling) and introvert (rather than extrovert) vocational decision-making style. However, the participants' degree of decidedness will not be correlated with their scholastic aptitude test score.

## Method

### *Participants*

A total of 299 students (42% of them female) in the 1-year pre-academic programme at one of the large Israeli universities participated in this study. Their ages ranged from 17 to 30 (mean = 22.3, SD = 1.64, median = 22). The mean PET score in the present sample was 571 (SD = 78.6, with a range of 350 to 751). Thirty-five percent of the students were from families of low socio-economic status.

### *Instruments*

*The background questionnaire.* The participants were asked to report general background information, which included age, gender, high-school diploma status (complete, partial, none), and to answer four questions regarding their career decision-making process. The first two questions were (a) 'Are you contemplating a career choice?' (not at all, slightly, very); (b) 'Have you already considered a field of

study or an occupation?’ (yes, no). Those who responded *yes* to the previous question were asked to rate (c) ‘How confident are you in that choice (9 = very confident, 1 = not at all confident). Finally, participants were asked (d) to report their degree of decidedness by checking the statement they thought best described their stage in the decision-making process: (a) ‘I don’t even have a general direction’, (b) ‘I have only a general direction’, (c) ‘I am deliberating among a small number of specific majors/occupations’, (d) ‘I am considering a specific major/occupation, but would like to explore other options before I make my decision’, (e) ‘I know what major/occupation I am interested in’ (Gati *et al.*, 2001).

*Career Decision-Making Difficulties Questionnaire (CDDQ)*. The abridged, 34-item version of the CDDQ was used (Gati & Saka, 2001b). The participants were asked to rate, on a 9-point Likert-type scale, the degree to which each difficulty described them (1 = does not describe me, 9 = describes me well). Finally, at the end of the questionnaire the participants were asked to rate the overall severity of their difficulties in the career decision-making process (1 = not at all severe, 9 = very severe). The 10 category scores were defined as the mean of the items included in each category. Gati *et al.* (1996) reported median Cronbach alpha reliabilities of the 10 scale scores as 0.78 and 0.77 in the Israeli and an American sample, respectively. Osipow and Gati (1998) reported a similar median Cronbach alpha of 0.76; Gati *et al.* (1996) reported test–retest reliabilities of 0.67, 0.74, 0.72, and 0.80 for the three major categories and the whole questionnaire, respectively. The median scale reliability of the 34-item version was 0.72 in the present study, and that of the total CDDQ score was 0.90.

*Expressed Difficulties Questionnaire*. This two-page questionnaire was designed to elicit the participants’ expressed career decision-making difficulties. The questionnaire contained a brief (about 40-word) description of each of the 10 difficulty categories. For example, the category *lack of information about occupations* was described as follows: ‘*Lack of information about occupations* refers to lack of information about the variety of career options—what educational and occupational alternatives exist and what characterises each of them’. The participant was asked to indicate, for each of the 10 difficulty descriptions, the extent to which it described his or her situation, on a 9-point Likert-type scale (1 = does not describe me, 9 = describes me well).

*The Career Decision-Making Self-Efficacy Scale (CDMSE; Taylor & Betz, 1983)*. The CDMSE was developed to assess self-efficacy expectations associated with career decision-making. The response to each statement reflects the respondent’s confidence in being able to accomplishing the described task, and is indicated on a 10-point scale ranging from 0 (no confidence at all) to 9 (complete confidence). It has five scales: self-appraisal (SA), gathering occupational information (OI), goal selection (GS), making plans for the future (PI), and problem solving (PS). A higher score on the CDMSE indicates higher self-efficacy. Taylor and Betz (1983) reported high scale reliabilities, ranging from 0.86 to 0.89, but concluded, on the

basis of factor analyses, that the existence of five distinct scales which parallel the five competencies was not supported empirically. However, using six items per scale (instead of 10, as in the original version of Taylor & Betz 1983), Gati *et al.* (1994) found an adequate differentiation among the scales with good reliabilities, and this short version of the CDMSE was used in the present study. In the present research the Cronbach alpha internal consistency estimates ranged from 0.75 to 0.80 for the five scales; it was 0.93 for the whole questionnaire. The Career Decision-Making Self-Efficacy Scale–Short Form (CDMSES-SF; Betz *et al.*, 1996), which includes 25 items, has demonstrated psychometric properties comparable to or better than the longer, 50-item form. Betz *et al.* (1996) reported an alpha of 0.94 for the total scale and Luzzo (1993) reported a 6-week test–retest reliability of 0.83. The validity of the CDMSE-SF was supported by studies which demonstrated negative correlations between the CDMSE-SF, on the one hand, and career indecisiveness (Robbins, 1985; Taylor & Betz, 1983), career indecision (Betz *et al.*, 1996), external career locus of control (Luzzo *et al.*, 1996), and problems with career exploration (Blustein, 1989), on the other. Furthermore, low levels of student self-efficacy have been shown to be associated with poor grades, attrition, and psychological difficulties (Multon *et al.*, 1991).

*Vocational Decision Style Indicator (VDSI; Walsh, 1986).* This questionnaire was used to assess individual variations in vocational decision-making style. The VDSI has 40 items, 20 items assessing each of the two dimensions—thinking–feeling (TF) and introvert–extrovert (IE). A 5-point Likert-type rating scale (1 = always to 5 = never) was used to elicit the individuals' responses. High scores on the TF and IE scales are associated with *thinking* and *introvert* poles, respectively. Based on Walsh (1986), Blustein and Phillips (1988) reported that the internal consistency reliability estimates of the English version of the two scales were 0.77 and 0.85, and the test–retest reliabilities were 0.89 and 0.85, for the TF and IE scales, respectively. The internal consistency reliability estimates in the present sample were 0.83 and 0.84 for the TF and the IE scales, respectively. The correlation between the two scales in the present sample was nil ( $-0.02$ ), supporting Walsh's claim that the two dimensions are independent. The VDSI's validity was supported by the pattern of correlations between the VDSI scales and Harren's (1984) decision-making styles, and between the VDSI and the conceptually similar scales of the Myers–Briggs Type Indicator (Myers, 1985). Blustein and Phillips (1988) found, as expected, that the thinking-oriented dimension emerged as significantly associated with exploratory activity. Finally, the VDSI has demonstrated discriminant validity with social desirability and intelligence (Walsh, 1986).

*Psychometric Entrance Test (PET).* The Psychometric Entrance Test (PET; Beller, 1994) measures various cognitive and scholastic abilities for the purpose of predicting future success in academic studies. It is a paper and pencil test, normalised, like the SAT, to a mean of 500 and standard deviation of 100. The final PET score is a combination of verbal reasoning subtests (40%), quantitative reasoning subtests (40%), and English proficiency (20%). The internal reliability

estimate of the total score of the PET is 0.95 and its test–retest reliability is 0.90. The PET’s correlation with the SAT is 0.82; its validity, estimated by correlations with grade point average at the end of the first year, in all faculties and fields of study in six universities in Israel, ranged from 0.43 to 0.53 (Beller, 1994).

### *Procedure*

Two months before the universities’ application deadline, students attending the preparatory programme were asked to participate in research aimed at ‘studying the process of career decision-making among students in the pre-academic programme’ by filling out the questionnaires in their classrooms. They were informed that any information they provided would be kept confidential and used for research purposes only. Of those present in the classrooms, only a few (less than 3%) did not return the questionnaires. Half of the participants filled out the CDDQ before the Expressed Difficulties Questionnaire, whereas for the other participants the order was reversed. The other two questionnaires were administered in the same order for everyone—the CDMSE third and the VDSI last. Students were offered individual feedback; those who were interested in such feedback were asked to write their names on the questionnaire (92% did so). The participants were offered professional career counselling or sources of information for dealing with their difficulties. The time needed for completing all questionnaires varied from 35 to 45 minutes.

### *Preliminary analyses*

For each participant we computed first the 10 CDDQ scale scores (the mean of the items of each difficulty category), then the three major difficulty cluster scores (the mean of the scales) and lastly the total CDDQ score. Next, we computed the five CDMSE scale scores and the total CDMSE score. Finally, the two VDSI dimension scores were computed by subtracting the feeling scale from the thinking scale, and the extrovert scale from the introvert scale.

Then we checked whether the order of administration of the CDDQ and the Expressed Difficulties Questionnaire affected the difficulty scores. In spite of the relatively large sample, no statistically significant order effect was obtained in any of the 10 scales, the three major difficulty categories or the total CDDQ. When we tested for possible order effects in the expressed difficulties, we found a statistically significant difference ( $p < 0.01$ ) in three of the 10 difficulty categories, but the effect size ( $d$ , Cohen, 1992) was relatively small:  $d = 0.25$  for *dysfunctional beliefs*,  $d = 0.36$  for *lack of information about occupations*, and  $d = 0.31$  for *lack of information about sources for additional information*, showing that expressed difficulties in these three categories tended to be lower when that questionnaire was administered after the CDDQ. No statistically significant order effect was obtained in the other seven expressed difficulties. Because the effect sizes were small and an order effect was observed in only three out of the 23 comparisons, we report only the across-order findings in the next section.

## Results

### *Comparison of measured and expressed career decision-making difficulties*

The means and standard deviations of the 10 scale scores, the three major categories, and the total score are presented in Table 1 for both the CDDQ and the Expressed Difficulties Questionnaire. Table 1 also presents the *t* statistics for the differences between the expressed difficulties and the respective measured difficulties, as well as the effect size in terms of Cohen's (1992) *d*. While in a few categories the differences were very small (e.g.  $d = -0.12$  for *unreliable information*,  $d = -0.13$  for *lack of information about self*), other differences were quite large ( $d = 0.50$  for *dysfunctional beliefs* and  $d = -0.60$  for *internal conflict*). Except for the scale *unreliable information*, the differences were statistically significant. Note that the expressed difficulties were higher than the measured ones in all but two categories—*general indecisiveness* and *dysfunctional beliefs*.

The right-hand column in Table 1 presents the correlations (corrected for attenuation) between measured and expressed difficulties in the 10 difficulty categories. These correlations range between 0.35 in *dysfunctional beliefs* to 0.82 in *lack of motivation*. As hypothesised, the correlations between measured and expressed difficulties were high in all three major categories: 0.84 for the *lack of readiness*, 0.89

TABLE 1. Means and standard deviations of the Career Decision-Making Difficulties Questionnaire (CDDQ) and expressed difficulties, and comparison between them ( $N = 297$ )

Difficulty category	CDDQ		Expressed difficulties		<i>t</i> <sup>a</sup>	<i>d</i>	<i>r</i> <sup>b</sup>
	M	SD	M	SD			
Lack of readiness	3.50	1.04	3.04	1.55	6.54	0.35	0.84
Lack of motivation	1.88	1.12	2.35	1.85	-5.32	-0.31	0.82
General indecisiveness	4.37	1.95	3.51	2.21	8.44	0.42	0.76
Dysfunctional beliefs	4.26	1.63	3.30	2.13	7.02	0.50	0.35
Lack of information	3.62	1.83	4.27	1.94	-10.50	-0.34	0.89
About the process	3.83	2.25	4.21	2.53	-3.52	-0.15	0.79
About self	3.14	1.83	3.40	2.34	-2.51	-0.13	0.72
About occupations	4.13	2.22	5.13	2.41	-8.82	-0.44	0.72
About additional sources	3.36	2.24	4.28	2.59	-8.09	-0.39	0.80
Inconsistent information	2.69	1.28	3.40	1.55	-10.90	-0.35	0.74
Unreliable information	2.83	1.71	3.07	1.97	1.90	-0.12	0.59
Internal conflicts	3.56	1.71	4.91	2.67	-10.00	-0.60	0.64
Rexternal conflicts	1.67	1.37	2.26	1.96	-6.80	-0.35	0.76
Overall CDDQ	3.31	1.21	3.64	1.44	-8.24	-0.25	0.92

<sup>a</sup>Positive *t* and *d* indicate that measured difficulties are higher than expressed difficulties. All *ts* were statistically significant ( $p < 0.01$ ), except for *unreliable information*.

<sup>b</sup>All correlations between the CDDQ scales and the respective expressed difficulties were statistically significant,  $p < 0.01$ .

TABLE 2. Means, standard deviations, and correlations between the scales of the Career Decision-Making Self-Efficacy (CDMSE) and the two dimensions of the Vocational Decision Style Indicator ( $N=261$ )

CDMSE Scale	M	SD	Correlations with VDSI	
			Thinking vs. feeling	Introvert vs. extrovert
Self-appraisal	6.84	1.25	0.44**	0.16**
Occupational information	6.63	1.38	0.43**	0.08
Goal selection	6.65	1.32	0.36**	0.28**
Planning	6.84	1.21	0.41**	0.10
Problem solving	6.58	1.26	0.38**	0.29**
Total CDMSE	6.72	1.09	0.49**	0.22**

\* $p < 0.05$ , \*\* $p < 0.01$ .

for *lack of information*, and 0.74 for *inconsistent information*. The correlation between the total CDDQ and the mean of the 10 expressed difficulties was very high (0.92).

#### *Career Decision-Making Self-Efficacy and the Vocational Decision Style Indicator*

Table 2 presents the correlations between the five CDMSE scales and the two dimensions of the VDSI. As can be seen, the correlations between the five CDMSE scales and the introvert–extrovert dimension of the VDSI were lower (0.08–0.29) than the respective correlations with the thinking–feeling dimension (0.36–0.44). This difference was also reflected in the correlation between the total CDMSE and the two VDSI dimensions (0.22 and 0.49, for the introvert–extrovert and the thinking–feeling dimension, respectively). The positive correlations show that higher introvert (rather than extrovert), and higher thinking (rather than feeling) styles are associated with higher career decision-making self-efficacy.

#### *The relations between career decision-making difficulties and Career Decision-Making Self-Efficacy and the Vocational Decision Style Indicator*

Table 3 presents the correlations between measured and expressed career decision-making difficulties and the CDMSE and VDSI scores. As can be seen in Table 3, all correlations are negative as hypothesised, showing that higher CDMSE and higher introvert and thinking styles are associated with lower career decision-making difficulties. Of the five CDMSE scales, the self-appraisal and occupational information scales of the CDMSE correlated negatively most significantly with *lack of information* (–0.52 and –0.49, respectively), goal selection correlated most with *inconsistent information* (–0.57), and planning and problem solving correlated most with the major category *lack of readiness* (–0.43 for both). The pattern of correlations between expressed difficulties and the CDMSE was similar, with one exception—goal selection of the CDMSE correlated negatively most significantly (–0.58) with expressed *lack of readiness* (and not with *inconsistent information*).

TABLE 3. Correlations between measured and self-reported career decision-making difficulties and the CDMSE ( $N=261$ ) and the VDSI ( $N=297$ )

Scale	CDDQ major categories				Expressed major difficulty categories			
	Lack of readiness	Lack of information	Incons. info.	Total	Lack of readiness	Lack of information	Incons. info.	Total
<i>CDMSE</i>								
Self appraisal	-0.38 <sup>a</sup>	-0.52	-0.48	-0.57	-0.48	-0.50	-0.40	-0.56
Occupational information	-0.38	-0.49	-0.41	-0.53	-0.42	-0.50	-0.38	-0.55
Goal selection	-0.44	-0.54	-0.57	-0.62	-0.58	-0.54	-0.53	-0.65
Planning	-0.43	-0.36	-0.38	-0.45	-0.46	-0.41	-0.35	-0.49
Problem solving	-0.43	-0.35	-0.41	-0.46	-0.45	-0.37	-0.40	-0.50
Total CDMSE	-0.49	-0.54	-0.54	-0.63	-0.55	-0.55	-0.48	-0.65
<i>VDSI</i>								
I-E	-0.27	-0.16	-0.28	-0.25	-0.24	-0.16	-0.19	-0.22
T-F	-0.27	-0.29	-0.32	-0.35	-0.35	-0.29	-0.31	-0.37

Abbreviations used: CDDQ = Career Decision Difficulties Questionnaire, CDMSE = Career Decision-Making Self Efficacy, VDSI: high scores on the I-E (introvert-extrovert) and T-F (thinking-feeling) dimensions of the VDSI reflect an endorsement of the introvert and thinking poles, respectively.

<sup>a</sup>All correlations are statistically significant at  $p < 0.01$ .

The correlations between the two VDSI scales and the three major difficulty categories of the CDDQ and the total CDDQ score were also negative, but the correlations were lower in comparison to the correlations between the CDMSE scales and the CDDQ; the median correlations were  $-0.43$  and  $-0.28$ , for the CDMSE and the VDSI, respectively. The correlations between the two VDSI scales and the expressed difficulties showed the same pattern. To locate specific difficulties associated with the vocational decision-making style, we divided the sample into thinking versus feeling groups by the median of their T-F score. In all except the dysfunctional beliefs category, the measured difficulties were significantly lower ( $p < 0.05$ ) for the 'thinking' group than for the 'feeling' group. A parallel comparison with the introvert-extrovert dimension revealed the same pattern of findings. Specifically, the 'introvert' group reported fewer difficulties than the 'extrovert' group in all categories except for dysfunctional beliefs. Both differences were noticeable in the total CDDQ score:  $d$  was  $0.55$  for the thinking versus feeling comparison, and  $0.49$  for the introvert versus extrovert comparison.

#### *Scholastic aptitude and career decision-making*

The correlations between the PET score and the 10 measured categories were negligible and ranged between  $-0.16$  and  $0.07$ , with a median of  $-0.03$ . The

correlations between the PET and the expressed difficulties showed a similar pattern, ranging between  $-0.19$  and  $0.10$ , with a median  $-0.08$ . Although 15 out of 20 correlations were negative as expected ( $p < 0.05$  by the binomial test), showing that difficulties were lower among those with higher PET scores, the correlations were negligible and of no practical significance. The results for the relations between the PET, on the one hand, and career decision-making self-efficacy and the two dimensions of the VDSI, on the other hand, revealed a similar pattern. The correlations between the PET and the five CDMSE scale scores varied between  $-0.04$  and  $0.16$ , while the correlations between the PET and the introvert-extrovert and thinking-feeling dimensions were  $-0.04$  and  $0.07$ , respectively.

*Degree of decidedness and career decision-making*

We divided the participants into five groups according to their *degree of decidedness*, as reported by them. The top row of Table 4 presents the number of participants in each of the five groups; most participants reported that they had already considered specific alternatives (groups 3, 4, and 5); a minority (14%) reported that they had only a general direction, and only a few (4%) reported that they did not have even a general direction. As can be seen in Table 4, the five groups differed as expected in their measured career decision-making difficulties ( $F(4, 292) = 26.88, p < 0.001$ )—participants with a lower degree of decidedness had greater difficulties. Similarly, the five groups differed in their expressed difficulties ( $F(4, 277) = 27.39, p < 0.001$ ). The expected pattern of differences among the five groups also emerged in the participants' career decision-making self-efficacy ( $F(4, 256) = 19.21, p < 0.001$ ): the higher the CDMSE, the higher the degree of decidedness. Finally, participants with different degrees of decidedness also differed in the thinking-feeling dimension of

TABLE 4. Correlations between measures of career decision-making and degree of decidedness (standard deviations in parentheses)

Measure	Degree of decidedness <sup>a</sup>					F	df
	1 (n=11)	2 (n=42)	3 (n=56)	4 (n=115)	5 (n=73)		
CDDQ	4.40 (1.61)	4.16 (0.89)	3.55 (1.12)	3.37 (1.10)	2.34 (0.82)	26.88*	4,292
Expressed difficulties	5.29 (1.84)	4.65 (1.05)	3.90 (1.29)	3.74 (1.24)	2.49 (1.15)	27.39*	4,277
CDMSE	5.38 (1.85)	6.05 (0.92)	6.68 (0.85)	6.58 (0.99)	7.49 (0.91)	19.21*	4,256
VDSI (I-E)	-0.16 (1.29)	0.13 (0.92)	0.30 (1.08)	0.24 (0.92)	0.42 (0.83)	1.32	4,291
VDSI (T-F)	0.78 (1.63)	0.88 (0.95)	1.02 (0.93)	1.20 (0.90)	1.65 (0.85)	6.37*	4,291
PET <sup>b</sup>	605.9 (83.6)	571.6 (73.9)	589.3 (68.7)	558.1 (83.7)	573.2 (76.7)	1.99	4,271

\* $p < 0.001$ .

<sup>a</sup>1 = 'I don't even have a general direction', 2 = 'I have only a general direction', 3 = 'I am deliberating among a small number of specific occupations', 4 = 'I am considering a specific occupation, but would like to explore other options before I make my decision', 5 = 'I know what occupation I am interested in, but would like to feel sure of my choice'.

<sup>b</sup>The number of participants was slightly smaller because no PET score was available for 22 participants who did not provide their names.

the VDSI ( $F(4, 291) = 6.37, p < 0.001$ ): the higher the participant's thinking–feeling score, reflecting a more systematic decision-making style, the higher the degree of decidedness. However, as can be seen in Table 4, no differences were found in the PET scores among the five groups of participants who differed in their degree of decidedness ( $F(4, 271) = 1.99, ns$ ); likewise, the five groups did not differ in the introvert–extrovert dimension of the VDSI ( $F(4, 291) = 1.31, ns$ ).

## Discussion

### *Measured versus expressed career decision-making difficulties*

The goal of the present research was to improve our understanding of the various facets of career decision-making difficulties of young adults. To achieve this goal, we first investigated the participants' awareness of their difficulties in the career decision-making process by comparing expressed difficulties to those measured by the CDDQ. This comparison resembles that between expressed and measured vocational interests. As hypothesised, and as was found for vocational interests (see review by Spokane & Decker, 1999), we found an overall high correlation between the two, reflecting the participants' general awareness of their career decision-making difficulties. However, the size of the correlation and the difference between expressed and measured difficulties varied among the 10 difficulty categories.

The variance in the participants' awareness of their career decision-making difficulties is reflected in three ways. First, in some categories the measured difficulties were higher than the expressed difficulties (e.g. *general indecisiveness*), whereas in other categories the opposite pattern was observed (e.g. in those related to lack of information). Second, in some categories (e.g. *unreliable information*) these gaps were very small, whereas in others (e.g. *internal conflict*) they were rather large. Third, there was considerable variance in the correlations between the expressed and the measured difficulties. Specifically, for *lack of information about the process* the difference between expressed and measured difficulties was small ( $d = -0.15$ ) and the correlation between them was high (0.79), reflecting the participants' awareness of their difficulties in this difficulty category. In contrast, the mean of the expressed difficulties related to *dysfunctional beliefs* was much lower than the mean of the measured difficulties ( $d = -0.50$ ), and the correlation between them was low (0.35), showing that the participants had less awareness of their difficulties in this category. The latter finding is of no surprise—people who are aware that their career decision-making-related beliefs are dysfunctional will probably do something to change those beliefs.

### *Career decision-making self-efficacy and vocational decision-making styles*

As expected, we found that career decision-making self-efficacy correlated positively with the students' decision-making style. The finding of interest is that the correlations between the five CDMSE scales, as well as the total CDMSE, and the thinking–feeling dimension were higher than the respective correlations of the

introvert–extrovert dimension. This difference indicates that the CDMSE taps mainly the cognitive aspects of vocational decision-making styles.

#### *Career decision-making self-efficacy and career decision-making difficulties*

As could be expected, because of the high correlations between measured and expressed difficulties in career decision-making, the pattern of correlations between the five CDMSE scales and the three major career decision-making difficulty categories was similar for the expressed and the measured difficulties. Higher career decision-making self-efficacy was associated with lower levels of difficulties, reflecting that individuals who have higher career decision-making self-efficacy are probably at a more advanced stage of their career decision-making process. Specifically, in terms of the PIC model (Gati & Asher, 2001), they are less likely to be at the *prescreening* or the *in-depth exploration* stages and more likely to be near the end of the process—at the *choice* stage or the *implementation* stage. Indeed, participants who reported a higher degree of decidedness, which reflects being at a more advance stage of their career decision-making process, had fewer career decision-making difficulties (see Table 4).

Contrary to our expectations, however, no noticeable differences were observed in the correlations between the CDDQ major categories and the five CDMSE scales. (For example, the correlation between the major category of *lack of information* of the CDDQ and the occupational information scale of the CDMSE was not higher than that of the planning scale of the CDMSE.) This lack of variation in the size of correlations may be accounted for by the insufficient distinction among these five scales, reflected in the high intercorrelations among them (range 0.59 to 0.77, median 0.70), replicating previous findings (e.g. Osipow & Gati, 1998; Taylor & Betz, 1983). The correlation of  $-0.63$  between the total CDMSE and the total CDDQ, which is slightly higher than a correlation of  $-0.50$  reported by Osipow and Gati (1998), supports the construct validity of the CDDQ; the correlation is negative, as expected, but its size supports the claim that these two questionnaires tap related but different aspects of career decision-making.

#### *Vocational decision-making style and career decision-making difficulties*

Walsh's (1986) claim that the two dimensions of the VDSI are independent was supported also in the present research—the correlation between them was nil ( $r = -0.02$ ). The patterns of correlations between the two dimensions of the VDSI and the measured difficulties were highly similar, showing that introvert and thinking styles are associated with lower career decision-making difficulties to about the same extent. Again, the pattern of correlations was similar with the expressed difficulties. The thinking style apparently represents a more systematic search for information (e.g. 'I collect a lot of information when I make a decision') whereas the introvert style represents independence from the influence of others (e.g. 'I do not take into account other's opinions when I am making a decision').

When comparing the correlations of the CDMSE and those of the VDSI with the career decision-making difficulties, an interesting difference emerged: the correlations between the VDSI dimensions and both the measured and the expressed career decision-making difficulties were significantly lower (median  $-0.28$ ) than those between the CDMSE scales and the measured and expressed difficulties (median  $-0.43$ ). This finding suggests that the vocational decision-making style is less related to career decision-making difficulties than is career decision-making self-efficacy. This conclusion, however, needs to be examined by further research.

#### *Scholastic aptitudes and career decision-making difficulties*

As expected, we found that the correlation between the PET score, representing the participants' scholastic aptitudes, and both measured and expressed difficulties was negligible (median  $-0.03$  and  $-0.08$ , for measured and expressed difficulties, respectively), and without practical significance. These findings and conclusions are compatible with those of Albion and Fogarty (2002), who also found a negative but small correlation between intelligence and career decision-making difficulties (medians of  $-0.11$  and  $-0.08$ , for adolescents and adults, respectively). The tendency for negative sign of the correlations may be attributed to the fact that those with higher abilities have more options and thus less need to consider compromising, as the need to compromise contributes to the difficulties in making a decision (Gati, 1993). The observed negligible correlations are important because many attempts to assess decision-making skills have failed because the scores correlated so highly with scholastic ability that they were redundant (Jepsen, 2000). Apparently, career decision-making difficulties do not stem from lack of aptitudes and skills needed for academic success, but from other factors.

#### *Degree of decidedness and career decision-making*

As hypothesised, those who reported higher degrees of decidedness had fewer difficulties in career decision-making, reported higher career decision-making self-efficacy, and could be characterised by a thinking (rather than feeling) decision-making style. These findings are compatible with those of Gati *et al.* (2001), who found that individuals at more advanced stages of their career decision-making process reported lower levels of difficulties.

The finding that the five groups who differed in their degree of decidedness did not differ in their PET scores suggests that the individual differences in scholastic aptitude, which is correlated with general cognitive ability, do not account for individuals' degree of decidedness. Rather, one possibility is that the affective dimension, which correlates with the crystallisation and coherence of preferences, plays a more important role in career indecision. Future research may support or refute this hypothesis.

Finally, the ordering of the five categories of the degree of decidedness (in the questionnaire and in Table 4) implicitly assumed that the response of *I am considering a specific occupation, but would like to explore other options before I make my decision*

reflects a higher degree of decidedness than the response of *I am deliberating among a small number of specific occupations*. However, as can be seen in Table 4, these two groups had about the same levels of difficulties, career decision-making self-efficacy, and thinking decision-making style; in fact, the means of the latter group tended to be more similar to the most decided group than did the former. This may reflect that those who reported *I am deliberating among a small number of specific occupations* are already at the *choice stage* of the career decision-making process (in terms of the PIC model; Gati & Asher, 2001). This group is thus actually more decided than those who reported *I am considering a specific occupation, but would like to explore other options before I make my decision*; the latter showing that they are still searching for additional potential career options to explore before making a decision, and thus that they are only nearing the end of the *prescreening stage* (the first stage in the PIC model).

### Implications

Before discussing the implications of the study, its limitations should be acknowledged. First, studying individuals' awareness of their difficulties in career decision-making is complex, and the use of expressed difficulties has inherent problems, characteristic of those cases where some aspects of the researched phenomenon may be unconscious. Second, because the present study was carried out with a particular group of young adults, it should be replicated with other groups, and in other countries. Finally, we used a particular set of instruments representing a specific group of career decision-making constructs (out of the large number available; Sampson *et al.*, 2000a); future research may use other sets of constructs and instruments.

*Future research.* The present research raises some questions for future research. First, is the degree of awareness of one's difficulties and the readiness to acknowledge them related to career maturity? Second, is there a way to identify groups of clients with similar patterns of difficulties, thus making it possible to use group intervention to reduce these difficulties? Third, although we did not find any connection between individuals' scholastic aptitudes and their difficulties in career decision-making, the proposal that intervention to reduce those difficulties should consider clients' information-processing capabilities has to be investigated empirically. Fourth, as expected, we found that the participants differed in their degree of decidedness and we located variables associated with it; future research may focus on additional factors that correlate with the degree of decidedness. For example, is indecisiveness characteristic of individuals with a low or medium degree of decidedness? Future research may also examine not only the impact of interventions in reducing career decision-making difficulties, but also the possible indirect effects of such interventions on the individual's career decision-making style and career decision-making self-efficacy.

*Counselling implications.* Locating the client's career decision-making difficulties allows counsellors to focus on the most challenging issues for the client. Finding out

what is really bothering the client is important because it affects the career counselling process. Niles *et al.* (2000) found that the concerns reported during intake do not provide a clear indication of what is actually discussed during the career counselling sessions, so counsellors cannot rely on them. One explanation for this problem is that clients are not aware of their difficulties, are not ready to acknowledge them, or are unable to articulate them adequately during the intake interview. Thus, if the goal is a general global assessment, expressed difficulties may be informative. However, if the goal is locating the client's specific difficulties, a systematic assessment of the difficulties (e.g. by the CDDQ) seems preferable.

## Conclusions

As with vocational interests, the conclusion from the present study is that the systematic assessment of career decision-making difficulties contributes added value to the expressed difficulties. Specifically, clients are often unaware of or unable to articulate all the relevant difficulties they face. A systematic assessment to locate specific difficulties can decrease the chances of disregarding significant difficulties which may halt the process and prevent making a decision or may lead to a less-than-optimal decision. Furthermore, individuals' awareness of their difficulties in making career decisions is important because lack of awareness decreases the inclination to seek help. However, individuals' direct reports about their career decision-making difficulties should be regarded with reservation, because clients may be more aware of or ready to acknowledge some kinds of difficulties (e.g. related to *lack of information*), and less aware of or ready to acknowledge other types of difficulties (e.g. *dysfunctional beliefs*). Hence, when individuals seek help in making their career decision, be it by applying for face-to-face individual career counselling or using self-help means like the Internet, locating individuals' career decision-making difficulties systematically (or verifying the ones they report) is among the first steps in providing them with the help they need. The results of the present study suggest that the design of such assistance should take into account also their vocational decision-making style and their career decision-making self-efficacy.

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