

# Decision-making styles and depressive symptomatology: Development of the Decision Styles Questionnaire

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## Abstract

Difficulty making decisions is one of the symptoms of the depressive illness. Previous research suggests that depressed individuals may make decisions that differ from those made by the non-depressed, and that they use sub-optimal decision-making strategies. For this study we constructed an instrument that aims to measure a variety of decision-making styles as well as the respondent's view of him or herself as a decision-maker (decisional self-esteem). These styles and estimates of decisional self-esteem were then related to depressive symptoms. Depressive symptomatology correlated negatively with perception of self as a decision-maker. Those with higher depression severity scores characterized themselves as being more anxious about decisions, and more likely to procrastinate. They also reported using fewer productive decision-making strategies, depending more on other people for help with decisions, and relying less on their own intuitions when making decisions. Further research is needed to determine the extent to which these decision-making styles are antecedents to depressive symptomatology or are instead products of, or aspects of, the phenomenology associated with depression.

Keywords: depression, decision making, depressive decision-making, decisional self-esteem.

## 1 Introduction

Decision-making styles are theorized to be stable, trait-like patterns of approach to situations that call for a decision (Driver, 1979; Harren, 1979). Like personality traits, these styles do not have perfect predictive power, but instead represent likelihoods of behavior across situations and domains. That is, a person scoring high on a particular decision-making style, such as Spontaneity, when needing to make a decision can be expected to act in a spontaneous manner more often than in a thoughtful and deliberate one. The number of styles of decision-making is subject to debate. For instance, Scott and Bruce (1995) suggested that there are five decision styles, whereas Harren (1978) and Nygren (2000) identified three decision styles. Decision styles were found to be associated with a variety of behaviors and attitudes, including life choices, such as career and health-related decisions (Crossley & Highhouse, 2005; Galotti, 2007; Galotti, Ciner, Altenbaumer, Geerts, Rupp, & Woulfe, 2006; Salkeld, Solomon, Butow, & Short, 2005), consumer behavior (Mitchell & Walsh, 2004), evaluations of new technology (Selart, Johansen, Holmesland, & Gronhaug, 2008), and cultural backgrounds (Mann, 1998; Ok-

wumabua, Wong, & Duryea, 2003; Radford, Nakane, Ohta, Mann, & Kalucy, 1991).

Affect, stress, and other “non-rational” internal events are capable of influencing people's decisions (Bolte, Goschke, & Kuhl, 2003; Clore, Schwarz, & Conway, 1994; Janis & Mann, 1977; Peters, Västfjäll, Gärling, & Slovic, 2006). Sadness – the emotion most closely associated with depression — has been shown to influence decisions made in both experimental tasks (Chuang, 2007; Harlé & Sanfey, 2007) as well as real-life decisions (Raghunathan & Pham, 1999; Small & Lerner, 2008). Individuals suffering from a variety of psychopathological conditions that influence the degree and the quality of affect, stress, or anxiety, are therefore likely to engage in decision-making that differs from that of better-adjusted individuals, which may result in less productive decisions (Leykin, Roberts, & DeRubeis, 2010). Thus, individuals with disorders such as depression may have a particular pattern of decision styles.

The conflict theory of decision-making (Janis & Mann, 1977) attempts to characterize the decision-maker in regard to: (a) confidence in the decision, (b) the coping strategies used to handle the internal conflict of a decision and to arrive at the most adaptive solution. An individual's most prominent decision-making style is one that reflects the default coping strategy employed when making important decisions. A questionnaire to assess both the confidence as a decision-maker as well as the

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coping strategies has been developed (Mann, 1982), assessing for three styles of decision-making (Defensive Avoidance, Hypervigilance, and Vigilance) as well as the individuals' confidence as a decision-maker. A strong emotion (or psychopathology) may affect a decision process either through its effect on decisional self-esteem or by increasing the likelihood that a suboptimal decision coping style (such as Defensive Avoidance or Hypervigilance) will be employed, rather than the more adaptive decision-making style, namely Vigilance. Indeed, avoidant decision style was found to be associated with greater perceived stress (Thunholm, 2008).

Radford, Nakane, Ohta, Mann, and Kalucy (1991) used the Mann (1982) questionnaire in a cross-cultural study comparing decision styles of Japanese and Australian depressed subjects and controls. Australian depressed subjects exhibited lower self-esteem as decision makers compared to Australian controls, whereas for Japanese subjects there was no such difference. Echoing the findings from their previous work examining decision-making in inpatients with psychiatric disturbances (Radford, Mann, & Kalucy, 1986), Australian depressed subjects found decision-making very stressful, and were more likely than non-depressed to use maladaptive decision styles; interestingly, few differences were found between depressed and nondepressed Japanese subjects.

The results found in Australian sample were also found in a sample of African-American adolescents from low-income families (Okwumabua, Wong, & Duryea, 2003). As in the Radford et al. (1991) study, depressive symptoms correlated with poor self-esteem as a decision-maker, careless decision style, and avoidance of decisions. Many important decisions that will affect later adult life, such as willingness to persevere in school, interest in potential occupations, and choice of peers, are made during the adolescent years. The association of maladaptive decision styles with adolescent dysphoria (Okwumabua et al., 2003) highlights the need for earlier identification of the potential problem, which would then allow for earlier, targeted interventions.

Other evidence suggesting that depressed individuals may have a distinct pattern of decision-making comes from research in areas related to decision-making. Indecisiveness has been noted as one of the core symptoms of depression, according to the DSM-IV-TR (APA, 2000). Decisional avoidance, or a tendency to "avoid making a choice by postponing it or by seeking an easy way out that involves no action or change" (Anderson, 2003, p. 139) may be especially problematic for depressed individuals (Saunders, Peterson, Sampson, & Reardon, 2000). Pietromonaco and Rook (1987) compared the decision styles of dysphoric college students to those of controls by asking them to make decisions about real-life situa-

tions with a possible risk and a possible benefit. Dysphoric students considered risks to be more likely, more important, and more damaging in all types of situations. For social situations, dysphorics also under-rated benefits, as compared to the non-dysphorics, and were more reluctant to proceed with a decision, which is consistent with findings that affective component of decision-making may produce an inverse correlation between perceived risks and benefits (Finucane, Alhakami, Slovic, & Johnson, 2000). The Pietromonaco and Rook results suggest that dysphoric individuals may be more avoidant in decisions, and that it might be due to increased perception of risk, which makes them more cautious. Depressed individuals may therefore exhibit greater indecisiveness, greater avoidance of decisions, as well as greater avoidance of risk.

Perfectionist tendencies, insofar as they contribute to feelings of disillusionment and dissatisfaction with oneself and with the world, have been shown to be associated with depression (Rice & Aldea, 2006). Schwartz et al. (2002) found that individuals who tend to pursue the best possible option, rather than the "good enough" option, are more likely to have depressive symptoms. Whereas "satisficers" are likely to be happy with the option that just satisfies their needs, "maximizers" are considerably less likely to be fully satisfied with their choices, because the "perfect" option is usually a rather elusive goal. Maximizers are also more prone to experience regret, which further contributes to dysphoria. Regret has also been found to be associated with depressive symptoms (Choi & Jun, 2009; Monroe, Skowronski, MacDonald, & Wood, 2005). It is therefore likely that decision-making styles based on perfectionism, and tendency towards regret would be associated with depressive symptoms. Interestingly, a recent study found that maximizers may have a somewhat distinct decision style profile, specifically greater spontaneity in their decisions (Parker, Bruine de Bruin, & Fischhoff, 2007).

Several questionnaires assessing decision styles have been developed (e.g., Mann, 1982; Nygren, 2000; Scott & Bruce, 1995), each of which targets a relatively small set of decision styles. These questionnaires also show considerable overlap in some subscales. For instance, the Analytical subscale from the Nygren (2000) instrument is similar to the Rational subscale from the Scott & Bruce (1985) questionnaire, and similar to the Mann (1982) Vigilance subscale. Similarly, the Defensive Avoidance subscale (Mann, 1982) has features similar to both Avoidant and Dependant subscales from the Scott & Bruce (1985) questionnaire. Each of these instruments also has subscales that are unique. However, administering more than one questionnaire to study participants would be impractical given the aforementioned overlap. Furthermore, current instruments do not address some

styles of decision-making that are likely to be especially relevant for depressed individuals. As discussed above, risk-avoidance, perfectionism, and being prone to regret have not been included in decision style inventories.

This study aimed to accomplish two goals. In Study 1, a more comprehensive questionnaire than the ones currently available for the assessment of decision-making styles was created. The new instrument sampled a broad set of decision-making styles and constructs that are related to decision-making. In Study 2, the resulting instrument was used to identify patterns of decision-making that are common to depression by relating decision-making styles to the assessment of depressive symptoms.

## 2 Study 1

Study 1 was undertaken to test an initial pool of questionnaire items and to derive the subscales of the final questionnaire. The pool of items was intentionally broad, representing a variety of decision-making styles and conceptually related areas (e.g., regret, risk-seeking, perfectionism). Existing questionnaires (complete subscales) comprised a subset of our item pool. There was some overlap in subscale content in existing questionnaires, thus, whenever subscales in two or more questionnaires were theoretically similar (i.e., Vigilance and Defensive Avoidance, Mann, 1982, were similar to Rational and Avoidant, Scott & Bruce, 1995), all items from these subscales were included in order to select the most useful items.

### 2.1 Methods

#### 2.1.1 Participants

Participants were 301 undergraduates from the University of Pennsylvania, recruited via the subject pool of the Department of Psychology. Participants were mostly young (mean age = 19.3,  $SD = 2.6$ ) and female (64.1%). The sample was largely nondepressed; only a small minority had previously been given a diagnosis of depression (5.0%), or reported being currently treatment for depression, either with medication (3.0%) or psychotherapy (2.7%).

#### 2.1.2 Materials

The *Decision Style Questionnaire — Preliminary* consisted of 84 items to be answered on a 5-point Likert scale. Some of the items came from existing measures, including Mann (1982; 22 items, from the following subscales: Decisional Self-Esteem, Vigilance, Defensive avoidance, Hypervigilance), Schwartz et al., (2002; the 5 item Regret subscale), and Scott and Bruce (1995; 23 items from the Rational, Intuitive, Dependent, Avoidant,

Spontaneous). Other measures were considered but not selected because the items were not published (e.g., Epstein & Meier, 1989; Johnson, Coscarelli, & Johnson, 1983), or due to considerable overlap with the included measures (e.g., Harren, 1978; Nygren, 2000), or due to differences in format (e.g., Bruine de Bruin, Parker, & Fischhoff, 2007; Sjöberg, 2003). Thirty-four other items were written specifically for this study. Of these, 16 were created to complement content areas covered by subscales from other instruments (e.g., “I weigh the pros and cons of each option before I make a decision.” — to complement the Vigilance subscale). Eighteen items were written to capture new content areas, which were: Perfectionism (e.g., “I’m not satisfied until I find the best possible option.”), Risk-seeking (e.g., “I choose the safest alternative when I make decisions.”), and Indecisiveness (e.g., “I cannot make up my mind when I need to make a decision.”). The new items were created based on their face validity and theoretical relationship to the construct of interest (e.g., the item “My decisions are spontaneous.” was created to complement the “Spontaneous” subscale). The final set of items thus represented 11 theoretical constructs, one of which targeted respondents’ perceptions of themselves as decision-makers: Decisional self-esteem. The others assessed respondents’ decision styles: Perfectionist, Regretful, Indecisive, Risk-seeking, Vigilant, Intuitive, Dependent, Avoidant, Spontaneous, and Anxious.

### 2.2 Results

Parallel analysis (permutations of the raw dataset), conducted to determine the maximum number of factors to be extracted for factor analysis as outlined in O’Connor (2000), revealed that up to 9 factors could be extracted. Responses were then factor-analyzed using common factor analysis (maximum likelihood), with equimax rotation, specifying a 9-factor solution. Items with factor scores lower than 0.4 were considered unacceptable, as were items with high (0.4 and above) loadings on more than one factor. These items were eliminated iteratively until none met either of these criteria. This resulted in a total of 61 items retained, loading on 9 factors, with the initial Cronbach’s alphas for the 9 scales ranging from 0.72 to 0.91. To further reduce the length of the instrument and make it less burdensome to participants in future administrations, another 18 items were eliminated after conducting factor analyses on several subsets of the final sample. Several subsets were natural (males, females, top and bottom half of the BDI-II scores, first and second half of sample) and several other were artificially created by taking random 60% subsets of the full sample. Items exhibiting lack of robustness in these subsamples (e.g., failure to load on a factor, or loading a different factors in different subsets) were marked for exclusion,

Table 1: Intercorrelations and Cronbach's alphas.

Factor name	Alpha	Mean (SD)	Intercorrelations								
			2	3	4	5	6	7	8	9	
1 Respected	0.77	3.48 (0.69)	0.30	-0.04	0.04	0.35	-0.18	-0.05	0.08	-0.13	
2 Confident	0.86	3.69 (0.71)		0.03	-0.31	0.26	-0.65	-0.51	0.23	-0.65	
3 Spontaneous	0.80	2.54 (0.64)			-0.23	-0.37	-0.10	0.02	0.35	-0.23	
4 Dependent	0.82	3.61 (0.60)				0.21	0.34	0.13	-0.05	0.45	
5 Vigilant	0.78	3.89 (0.52)					-0.11	-0.04	0.01	0.08	
6 Avoidant	0.88	2.73 (0.82)						0.49	-0.14	0.64	
7 Brooding	0.68	2.72 (0.63)							-0.22	0.50	
8 Intuitive	0.76	3.25 (0.57)								-0.18	
9 Anxious	0.82	3.00 (0.72)									

as were items that weakened the internal consistency of the subscale, as determined via Cronbach alphas. The resulting factor solution conformed to the above criteria of no multiple high loadings (above 0.4) and no items with low loadings (less than 0.4) on all factors. The final solution (shown in the Appendix) comprised 43 items (29 items from existing scales and 14 original items) loading on nine factors. Two factors appeared to assess the respondent's self-perception as a decision-maker. The other seven factors represented dimensions that described decision styles. Cronbach's alphas of the factors ranged from 0.68 to 0.88 (Table 1). Participants' mean scores for each factor were calculated by averaging the item scores for each factor. The mean scores were found to be moderately intercorrelated, with correlations ranging from |0.011| to |0.651| (Table 1).

To ensure the robustness of the final solution, it was examined via the split-half method, where two halves (first and second half of the participants) of the samples were compared via coefficients of congruence to the full sample and to each other. The agreement of the factor structure derived from the entire sample with those derived from the subsamples as specified above was acceptable, with the average agreement between the two halves and the full sample being  $r_c = 0.93$  (range: 0.70 to 0.98), and the average agreement between the two halves being  $r_c = 0.86$  (range: 0.66 to 0.92). The final categories were: Confident and Respected, reflecting dimensions of self-perception as a decision maker; and Intuitive, Spontaneous, Vigilant, Dependent, Anxious, Brooding, and Avoidant, reflecting styles of decision-making. These 43 items in nine subscales constituted the Decision Style Questionnaire used in the Study 2. Several of the constructs from the original 84-item scale did not appear as distinct factors: items from Regretful and Risk-seeking subscale folded into the Brooding subscale, items from

Indecisive subscale — into Avoidant subscale. None of the items from the Perfectionist subscale was in the final 43-item scale, suggesting that this may not be a reliable decision style.

## 3 Study 2

### 3.1 Methods

#### 3.1.1 Participants

Participants were 162 people recruited from an anonymous paid online subject pool that is frequently used for psychological and decision-making studies, and from the Internet community (depression-related discussion groups and forums). Due to their presence on such forums, is likely that Internet community participants self-identified as experiencing depressive symptoms. Overall, the participants were mostly women (73%), with an average age of 39.2 ( $SD = 12.1$ ). Most participants (73%) reported having been given a diagnosis of depression in the past; 44% were currently taking antidepressants, and 24% were currently seeing a therapist.

#### 3.1.2 Materials

*Beck Depression Inventory-II* (BDI-II, Beck et al., 1996) is a standard, widely-used self-report measure of depressive symptoms. In compliance with the University of Pennsylvania Institutional Review Board, question 9, which assesses for suicidal ideation, was not included. The resulting scale consisted of 20 items, thereby reducing the possible range to 0–60, rather than 0–63. Average BDI-II score of the sample was 19.4 ( $SD = 16.0$ , range 0–58).

Table 2: Mean subscale scores, with alphas, and correlations to the BDI-II.

Subscale	Mean (SD)	Alpha	Correlations with BDI-II (r)
1 Respected	3.13 (0.84)	0.86	−0.33**
2 Confident	3.30 (0.97)	0.92	−0.69**
3 Spontaneous	2.70 (0.76)	0.85	0.02
4 Dependent	3.22 (0.77)	0.87	0.27** <sup>Δ</sup>
5 Vigilant	3.83 (0.68)	0.87	−0.28**
6 Avoidant	2.94 (1.01)	0.93	0.62**
7 Brooding	3.02 (0.80)	0.76	0.58**
8 Intuitive	3.27 (0.62)	0.68	−0.41**
9 Anxious	3.14 (0.97)	0.90	0.66**

Note: \*\* =  $p < 0.001$ ; <sup>Δ</sup> = No longer significant after controlling for demographic and treatment variables.

*Decision Styles Questionnaire* consisted of 43 items generated in the Study 1. Participants were asked to rate the items on 5-point Likert-type scales. The items represented nine categories, two of which assessed one's perception of oneself as a decision-maker (Confident and Respected), and others addressing the styles of decision making (Intuitive, Spontaneous, Vigilant, Dependent, Anxious, Brooding, and Avoidant).

## 3.2 Results

### 3.2.1 Reliability and scale characteristics

The alpha coefficients for the seven decision-making styles subscales ranged from 0.68 to 0.93, indicating good to excellent internal consistency. The intercorrelations between the decision style subscales ranged from negligible ( $r = |0.06|$ ) to high ( $r = |0.78|$ ), with a median of  $r = |0.33|$ . The alphas for the two subscales assessing for the perception of oneself as a decision-maker were 0.86 and 0.92, again indicating excellent reliability (see Table 2). These subscales were moderately correlated ( $r = 0.44$ ). Likewise, there were negligible ( $r = |0.08|$ ) to high ( $r = |0.79|$ ) intercorrelations between the decisional self-esteem subscales on the one hand, and the decision styles subscales on the other (median  $r = |0.27|$ ).

### 3.2.2 Association with depressive symptoms (Table 2)

Greater depressive symptomatology was strongly associated with lower scores on the Confident subscale ( $r = -0.69$ ,  $p < 0.001$ ) as well as with lower scores on the Respected subscale ( $r = -0.33$ ,  $p < 0.001$ ), suggesting that

depressed individuals not only think poorly of themselves as decision-makers, but they might also perceive corroboration of that assessment of their decision-making skills from others. The results remained significant after controlling for those demographic (age, gender) and/or current treatment (current antidepressant use, current psychotherapy) variables that were significantly associated with the subscales.

Participants' BDI-II scores were also related to six of the seven decision-making style subscales. The sole exception was the Spontaneous subscale, which was found to be unrelated with BDI-II ( $r = -0.02$ ,  $p < 0.80$ ). Positive correlations with the BDI-II were obtained with avoidance of decisions ( $r = 0.61$ ,  $p < 0.001$ ). Interestingly, higher BDI-II scores were associated with reduced vigilance vis-à-vis decisions ( $r = -0.28$ ,  $p < 0.001$ ), greater dependence on other people ( $r = 0.27$ ,  $p < 0.001$ ), greater anxiety about decisions ( $r = 0.66$ ,  $p < 0.001$ ), greater brooding ( $r = 0.58$ ,  $p < 0.001$ ), and reduced reliance on one's own intuitions ( $r = -0.41$ ,  $p < 0.001$ ).

Analyses that controlled for those demographic (age, gender) and treatment (current antidepressant, current therapy) variables that were associated with the subscale scores produced similar results, with the exception of the Dependent subscale, which was no longer significant ( $r = .13$ ,  $p < 0.11$ ). A regression model, with Dependent score as a dependent variable, and with BDI-II score, age, current antidepressant, and current therapy as predictors, revealed that those currently in therapy indicated a greater reliance on others ( $\beta = .17$ ,  $t(157) = -2.31$ ,  $p < .03$ ), as did younger individuals ( $\beta = -.01$ ,  $t(157) = -2.48$ ,  $p < .02$ ).

## 4 Discussion

The purpose of the investigation was two-fold — to improve upon and expand the scope of existing instruments for assessing decision-making styles, and to relate these styles to depressive symptomatology. Using existing and original items, a concise and reliable instrument designed to measure both the styles of making decisions, as well as the person's perception of him- or herself as a decision-maker, was created.

Indecisiveness is one of the main symptoms of major depression. In our sample, avoidance of decisions was strongly related to depressive symptoms, as were similar decision-making styles, such as brooding about decisions, and anxiety related to decisions. Several studies (e.g., Monroe et al., 2005; Schwartz et al., 2002) have noted that depressed individuals tend to experience greater postdecisional regret than the non-depressed. It is possible that the anticipation of regret from an outcome of a bad decision may increase the avoidance of decisions.

Pilowsky (1979) asserted that depressed individuals may rely on others to make decisions for them. Our results offer partial support for this assertion. Although depressive symptoms were moderately correlated with the dependent decision-making style, this association was primarily driven by those individuals currently in psychotherapy for their depression, and those who are younger. It may be that younger individuals are likely to be in habit of consulting others, being in the stage of life that calls upon them to make many important decisions for the first time. Likewise, psychotherapy clients might also be more likely to look to others for help in decisions, given that they have chosen to actively seek out help for their depression from another person.

Although the low opinion depressed individuals hold of their decision-making capacity may reflect the generally low self-esteem commonly present in depression, it may, alternatively, reflect reality. Insofar as those exhibiting greater levels of depressive symptomatology use maladaptive decision-making strategies (Radford et al, 1986, 1991), the likelihood of their making inferior decisions increases. Thus, depressed individuals may accurately recognize their inferior decision-making ability, as well as the lower likelihood of using vigilant, or productive, decision-making strategies. Indeed, sad mood has been shown to impair adaptive decision making (Harlé & Sanfey, 2007; Small & Lerner, 2008); and depression was also shown to be related to worse decisions (Leykin, Roberts, & DeRubeis, 2010). Similarly, depressed individuals would be less likely to trust their intuition, and more likely to avoid making decisions and to be anxious and brooding about their decisions. Interestingly, spontaneity in regards to decision-making does not seem to be related to depression. It is possible that the mechanism behind spontaneous decision-making is different for persons with lower and higher depressive symptoms. Nondepressed individuals may engage in a spur-of-the-moment decision-making to feel adventurous or daring. In contrast, depressed individuals might make rapid decisions to avoid the anxiety of thinking about options and deciding actively. This possibility is partially supported by the finding that depressive symptoms were related to the reduced use of vigilant decision-making.

An important question regarding the interpretation of these findings concerns the direction of causality in the association of decision styles and depression. It is important to know whether depression, along with cognitive and behavioral changes, also influences styles of decision-making, or whether it is the perpetual struggle with decisions and self-distrust that brings about negative outcomes, and, subsequently, depression. If these decision-making difficulties are temporary, evident only

during depressive episodes, then it may be advisable for depressed individuals to avoid making important life choices while in a depressed state — a recommendation often made by physicians and mental health professionals. If, however, the inability to make sound decision is a precursor, and perhaps a precipitant of a depressive illness, then poor decision-making would inform preventative treatment and early interventions.

This investigation had several limitations. A self-report instrument to assess for depressive symptomatology was used for the study. Although high scores on this instrument may be indicative of major depression, the design of the study prevented us from making formal diagnoses. Several of the subscales were highly inter-correlated. Therefore, whether the relationship of subscales to depressive symptomatology is due to unique or shared variance that relates to depression is unclear. It is not clear whether decision-making styles exhibited by depressed individuals become prominent only in the presence of the symptoms, or whether they (as well as the maladaptive decisions that are likely to follow from these patterns) predate depressive episodes. Finally, because the decision styles in this investigation were assessed, as in previous decision-styles studies, via self-report, they may not reflect reality. Rather, they may reflect individuals' perceptions of their decision-making abilities and patterns. Future research should address decision-making styles without relying solely on self-report methodologies, with the goal of determining whether the differences in decision styles between individuals with higher or lower symptoms of depression reflect difference in actual decision-making patterns, rather than differences in perceptions of these patterns.

Our results illustrate relationships that appear to exist between psychological conditions and decision-making processes. Insofar as depression affects the individual's ability to process information and to assign probabilities to positive and negative outcomes, the approach to decisions is also likely to become affected in some way. Interestingly, it might be the case that the decision styles change to reflect the deficiencies in decision-making, that is, to protect the individual against making unproductive decisions, both by alerting the individual to his or her decisional shortcomings and by leading to the avoidance of decisions. This may affect the individual's likelihood of seeking treatment, and might partially explain the reluctance many depressed individuals exhibit to pursue treatment options. Further research may address the direction of causality between decision styles and depression, as well as the role individual characteristics play in influencing decision-making styles of persons suffering from depression.

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**Appendix: Scale items with factor loadings.**

Scale items	Factor loadings								
	Avo	Dep	Con	Anx	Vig	Spo	Int	Res	Bro
I don't make decisions unless I really have to.	<b>0.48</b>	0.15	-0.22	0.20	0.01	0.02	0.03	-0.24	0.23
I postpone decision-making whenever possible.	<b>0.76</b>	0.15	-0.20	0.20	-0.05	-0.01	-0.06	-0.16	0.11
I procrastinate when it comes to making important decisions.	<b>0.77</b>	0.10	-0.25	0.18	-0.02	-0.06	0.03	-0.11	0.14
I put off making many decisions because thinking about them makes me uneasy.	<b>0.66</b>	0.07	-0.21	0.34	-0.09	-0.08	-0.07	-0.07	0.26
I worry that making a decision will close out other options, so I postpone the decision.	<b>0.55</b>	0.12	-0.20	0.27	0.04	-0.06	-0.09	-0.15	0.23
I do not seek advice from others when I make decisions. (R)	-0.01	<b>0.55</b>	-0.17	0.09	0.06	-0.11	0.10	0.03	-0.09
I like to have someone to steer me in the right direction when I'm faced with important decisions.	0.26	<b>0.60</b>	-0.09	0.23	0.11	0.04	0.02	-0.13	0.16
I need the assistance of other people when making important decisions.	0.25	<b>0.75</b>	-0.21	0.13	-0.08	-0.13	-0.06	-0.04	0.12
I use the advice of other people in making my important decisions.	0.07	<b>0.66</b>	0.00	0.02	0.23	-0.01	-0.04	-0.03	0.12
If I have the support of others it is easier for me to make important decisions.	0.13	<b>0.60</b>	0.06	0.12	0.18	-0.06	-0.02	-0.09	-0.14
When I need to make a decision, I consult family or friends.	-0.01	<b>0.63</b>	-0.03	0.12	0.06	-0.24	0.02	0.15	0.08
I have faith in my decisions.	-0.14	0.00	<b>0.60</b>	-0.24	0.15	0.03	0.11	0.18	-0.15
I don't trust my ability to make important decisions. (R)	-0.24	-0.07	<b>0.50</b>	-0.32	0.10	-0.06	0.08	0.16	-0.20
I feel confident about my ability to make decisions.	-0.21	-0.15	<b>0.73</b>	-0.26	0.13	0.02	0.09	0.21	-0.17
I feel inferior to most people in making decisions. (R)	-0.32	-0.21	<b>0.54</b>	-0.26	0.07	-0.03	0.04	0.18	-0.20
I think I am a good decision maker.	-0.32	-0.13	<b>0.65</b>	-0.15	0.13	-0.04	0.14	0.26	-0.13
I feel very anxious when I need to make a decision.	0.24	0.16	-0.23	<b>0.63</b>	0.21	-0.08	0.01	-0.10	0.03
I feel as if I'm under tremendous time pressure when making decisions.	0.20	0.16	-0.18	<b>0.64</b>	0.07	-0.10	0.03	-0.02	0.18
I panic when I think that my decision might be wrong.	0.19	0.18	-0.26	<b>0.58</b>	0.09	-0.08	-0.10	-0.05	0.29
When making a decision, I am afraid that I might be wrong.	0.34	0.20	-0.25	<b>0.41</b>	0.11	-0.07	-0.05	-0.18	0.14
I can't think straight if I have to make decisions in a hurry.	0.20	0.20	-0.22	<b>0.42</b>	0.00	-0.15	-0.11	-0.23	0.09

*Continued on next page.*

Scale items	Factor loadings									
	Avo	Dep	Con	Anx	Vig	Spo	Int	Res	Bro	
When making decisions I like to collect lots of information.	-0.11	0.11	-0.01	0.00	<b>0.66</b>	-0.18	-0.03	0.13	-0.05	
I like to consider all the alternatives.	0.19	0.11	0.07	0.10	<b>0.55</b>	-0.12	0.10	0.16	-0.06	
I try to be clear about my objectives before choosing.	-0.14	-0.02	0.30	-0.02	<b>0.41</b>	-0.22	-0.01	0.16	0.14	
I weigh the pros and cons of each option before I make a decision.	-0.05	0.11	0.12	0.08	<b>0.66</b>	-0.09	-0.05	0.16	0.00	
My decision making requires careful thought.	0.08	0.12	0.03	0.05	<b>0.52</b>	-0.26	0.10	0.05	-0.07	
When making a decision, I consider various options in terms of specific goals.	-0.10	0.08	0.11	0.05	<b>0.45</b>	-0.16	0.03	0.18	0.21	
I often make decisions on the spur of the moment.	-0.05	-0.06	-0.01	-0.07	-0.14	<b>0.67</b>	0.13	0.00	0.07	
I make impulsive decisions.	0.04	-0.09	-0.08	0.10	-0.13	<b>0.84</b>	0.12	-0.03	-0.08	
I make decisions quickly.	-0.19	-0.05	0.22	-0.23	-0.14	<b>0.52</b>	0.12	0.07	0.12	
My decisions are spontaneous.	0.03	-0.14	-0.13	-0.04	-0.23	<b>0.67</b>	0.23	-0.03	0.07	
When making decisions, I do what seems natural at the moment.	0.03	0.04	0.17	-0.04	0.03	0.31	<b>0.40</b>	-0.12	-0.11	
When I make a decision, it is more important for me to feel the decision is right than to have a rational reason for it.	0.11	0.10	-0.02	0.08	-0.10	0.11	<b>0.52</b>	0.05	-0.10	
When I make decisions, I tend to rely on my intuition.	-0.20	-0.09	0.02	-0.04	0.04	0.09	<b>0.75</b>	0.04	0.02	
When making decisions, I rely upon my instincts.	-0.01	-0.02	0.02	-0.03	0.01	0.14	<b>0.82</b>	0.04	0.06	
When I make a decision, I trust my inner feelings and reactions.	-0.01	0.01	0.19	-0.16	0.18	0.08	<b>0.62</b>	0.07	-0.20	
My friends or family seek my advice when they have to make important decisions.	0.01	-0.04	0.04	0.00	0.08	-0.06	0.04	<b>0.98</b>	0.04	
Others seek my help in making their decisions.	-0.08	0.11	0.11	-0.03	0.34	0.05	-0.01	<b>0.63</b>	-0.02	
I think about all the bad decisions I have made in my life.	0.11	-0.06	-0.29	0.33	0.02	0.09	-0.18	-0.12	<b>0.42</b>	
Whenever I make a choice, I try to get information about how the other alternatives turned out.	0.07	-0.07	-0.11	-0.04	0.33	0.05	-0.17	-0.06	<b>0.61</b>	
If I make a choice and it turns out well, I still feel like something of a failure if I find out that another choice would have turned out even better.	0.20	-0.06	-0.27	0.33	-0.01	0.10	-0.20	-0.09	<b>0.47</b>	
When I make decisions, my top priority is to not get "burned."	0.08	0.08	0.00	0.03	-0.11	0.02	0.06	0.06	<b>0.47</b>	
The possibility that some small thing might go wrong causes me to change my mind abruptly.	0.21	0.06	-0.10	0.04	-0.05	-0.02	-0.09	-0.12	<b>0.43</b>	

Note: (R) indicates that the item is reverse-scored. Avo = Avoidant; Dep = Dependent, Con = Confident, Anx = Anxious; Vig = Vigilant; Spo= Spontaneous; Int = Intuitive; Res = Respected; Bro = Brooding.