

## An Examination of the Relationship amongst Decision-Making Strategies and Ego Identity Statuses\*

### Karar Verme Stratejileri ve Ego Kimlik Statüleri Arasındaki İlişkilerin İncelenmesi

Feride BACANLI\*\*

Gazi Üniversitesi

#### *Abstract*

The purpose of this study was to examine the nature of the relations amongst four general decision making styles and ego identity statuses. Measures of Decision- Making Strategies (Kuzgun, 2005) and Extended Objective Measure of Ego Identity Status- EOM- EIS (Oskay, 1997) were administrated to 298 Turkish freshmen university students (168 female and 130 male). A canonical analysis was performed to examine the relationships between the two sets of the variables. The results indicated that identity- achievement status was positively related to rational decision- making style, but it was negatively related to dependent and indecisiveness styles. Diffusion, foreclosure and moratorium statuses were positively related to the intuitive and indecisiveness styles. The results were discussed in relation to the relevant literature and the suggestions were presented for future research.

*Keywords:* Ego identity status, decision making style/strategy, late adolescence.

#### *Öz*

Bu araştırmanın amacı, dört genel karar verme stili ve ego kimlik statüleri arasındaki ilişkilerin doğasını incelemektir. Karar verme stratejileri (Kuzgun, 2005) ve Genişletilmiş Ego Kimlik Statüleri (Oskay, 1997) ölçekleri üniversiteye yeni başlamış 298 (168 kız ve 130 erkek) Türk öğrenciye uygulanmıştır. İki değişken seti arasındaki ilişkileri incelemek için kanonik analiz uygulanmıştır. Araştırmanın sonuçları, başarılı kimlik statüsünün mantıklı karar verme stiliyle pozitif anlamlı fakat bağımlı ve kararsız stiller ile negatif anlamlı ilişkili olduğunu gösterdi. Kargaşalı, bağımlı ve moratorium statüler içtepsel ve kararsızlık stilleriyle pozitif anlamlı ilişkilidiler. Sonuçlar ilgili literatürle ilişkilendirilerek tartışıldı ve gelecek araştırmalar için öneriler sunuldu.

*Anahtar Sözcükler:* Ego kimlik statüleri, karar verme stili/stratejisi, son ergenlik.

#### Introduction

Adolescents increasingly face with making many important life decisions influencing their future. Adolescent students, for instance, have to decide about their courses in high school during early and mid adolescence or about their studies in higher education during late adolescence. In addition to deciding about school and career pathways, in particular, adolescent students who are at high school or at university increasingly face with decisions regarding risky behaviors (e.g. smoking, drug use, sexuality) that may strongly influence their lives. Such decisions are further complicated by the presence of barriers like conflicts with parents and other significant adults, as well as a lack of adequate training on problem-solving and decision- making skills (D'Zurilla, Maydeu-Olivares & Kant, 1998; Nota, Mann, Soresi & Friedman, 2002). The decision making skills should help the adolescents to better manage difficult decision situations (D'Zurilla

\*A previous version of this article was presented at the 8<sup>th</sup> International Conference on EDUCATION to be held in Athens, Greece, May 25-28, 2006.

\*\*Doç. Dr. Feride BACANLI, Gazi Üniversitesi Gazi Eğitim Fakültesi Eğitim Bilimleri Bölümü, fbacanli@gazi.edu.tr

& Chang, 1995; Mann, Harmoni & Power, 1989). Many researchers have stated that decision making skills should be taught routinely during adolescence, at an age when vital choices are already being made (Baron, 1989; Mann, Harmoni & Power, 1989). To identify an individual's decision-making style is likely to provide very useful information to counselors (Hardin & Leong, 2004). ). The decision-making style refers to the unique manner in which an individual approaches, responds to, and acts in a decision-making situation (Arroba, 1977; Payne, Bettmen, & Johnson, 1993). Therefore, decision making behavior includes several individual differences. Also, an individual's career decision-making style is an important factor effecting the process and outcome of career decision-making (Gati & Asher, 2001).

To understand the construct of individual differences in career decision making, career development theorists and researchers have determined several decisional styles (Arroba, 1977; Harren, 1979; Jepsen, 1974; Johnson, 1978; Kuzgun, 2005; Scott & Bruce, 1995). For example, Harren (1978; 1979) identified different career decision-making styles: rational (planning), intuitive, and dependent (compliant), Scott and Bruce (1995) identified five decision-making styles: rational, avoidant, intuitive, dependent, and spontaneous.

Most empirical research has examined the relations between decision-making styles and career development variables. The rational decisional style is positively associated with career decidedness and negatively associated with the exploration stage on the decision making (Mau, 1995). Dependent style is negatively associated with career decision making self efficacy (Mau, 2000). The intuitive decision makers tend to be nonsystematic and more impulsive than do rational decision maker in decision making process (Payne, Bettmen, & Johnson, 1993; Phillips, Friedlander, Paziienza, & Kost, 1985).

To understand the nature of the individual differences in career decision making, Blustein and Phillips (1990) examined the hypothesis that individual variations in career decision making are related conceptually to the identity formation process of late adolescence. Their results indicated that identity versus identity diffusion psychosocial-developmental task is related to career decision-making styles.

In this study, individual variations in general decision-making are related conceptually to the identity formation process of late adolescence. Although this study seems to be a replication of Blustein and Phillips' study (1990), there are some differences. Blustein and Phillips investigated the nature of individual variations in career decision-making basing on literatures about career development (Harmon & Farmer, 1983; Kroll, Dinklage, Momley & Wilson, 1970; Miller-Tiedeman, 1980) and adolescent development (Cella, DeWolfe, & Fitzgibbon, 1987; C. K. Waterman & Waterman, 1974; Marcia, 1980). In this study, the nature of individual variations in general decision-making is examined in terms of general decision making (e.g., Bacanlı, 2000,2006; Bell, Raiffa, & Tversky, 1988; Gelatt, 1989; Horan, 1979; Janis & Mann, 1977; Kuzgun, 2005; Mann, 1985; Mann et al., 1989) and adolescent development (e.g. Cella et al., 1987; Marcia, 1980; C.K. Waterman & Waterman, 1974) literatures. Besides, their sample included freshmen, sophomores, juniors, seniors, and graduate students. However, in this study the participants consistent of only freshmen (first year students) at the university and at late adolescent stage (see Elliot and Feldman, 2001). Late adolescence, in particular, is a crucial time period for identity formation (Erikson, 1959). According to Meilman (1977), most individuals shift from identity diffusion or foreclosure to identity achievement status between 18 and 21 years of age. Similarly Morsümbül (2005) founded that diffusion and foreclosure status scores of Turkish high school students were higher than Turkish university students. Also, Turkish university students need to make many decisions related to friendships, dating, values, and career pathways.

During late adolescence, the major developmental tasks involve the exploration of various dimensions of identity and the commitment to an identity (Ericson, 1959). Marcia (1966) developed the identity status paradigm to define and investigate Erikson's construct of identity. Marcia (1993; 1994) found that individuals had different ways of arriving at an identity. The formulation of an identity involves two important processes: exploration and commitment. Based on the cri-

teria of these processes, Marcia formulated four different identity statuses: Identity Achievement, Moratorium, Foreclosure, and Identity Diffusion. Marcia's ideas have generated a great number of studies (Kroger, 2000).

Marcia (1980), Miller-Tiedeman (1980), and Waterman (1985) suggested that persons at various stages of development tend to approach decisions in rather different yet predictable fashions. In this study, it is proposed that each of the ego identity statuses is characterized by certain decisional qualities that are conceptually analogous to the general decision-making styles that have been described by Kuzgun (2005) in this study. From the ego identity perspective, the exploration and commitment processes not involve only vocational decisions, but also involve a lot of general decisions related to political, friendship, and dating domains, values, beliefs, and goals. Accordingly, the purpose of this study was to examine the nature of relations between four general decision-making styles and ego identity statuses. Specifically, four hypotheses were tested.

Kuzgun (2005) identified four different general decision-making styles: rational, intuitive, dependent, and indecisiveness. The rational style is characterized by systematic and planful strategies with a clear future orientation. The rational decision-makers accept responsibility for choice that is derived from an internal locus of control and are active, deliberate and logical (Harren, 1979; Kuzgun, 2005; Rubinton, 1980). Identity-achieved persons have gone through a period of exploration and have made a commitment to a specific decision after careful exploration (Marcia, 1966). These persons typically use planful strategies (e.g., rational style). Thus, it is expected that the identity-achievement status would be positively associated with the rational style, but would be negatively related to the indecisiveness and the dependent style (Hypothesis 1).

The intuitive style is characterized by the reliance on inner experience, fantasy, and a propensity to decide rapidly without much deliberation or information gathering. The intuitive decision makers accept responsibility for choice, but focus on emotional self-awareness, fantasy and feeling, often in impulsive manner (Harren, 1979; Kuzgun, 1995; Payne et al., 1993). Persons in the moratorium status are currently in the process of exploration and commitments are either vague or absent. Moratoriums struggle to achieve identity is an ambivalent one. The moratoriums also tend to use planful strategies that are also derived from an internal locus of responsibility (Cella et al., 1987; Marcia, 1980). Thus, it is expected that the moratorium status would be positively associated with the intuitive style (Hypothesis 2).

The indecisive persons tend to avoid decision-making situations or project responsibility toward others. Indecisive persons need significantly more time when they have to make a choice (Rassin, Muris, Booster, & Kolsloot, 2008), but they are also more selective and less exhaustive in their information search (Bacanli, 2006; Ferrari, & Dovidio, 2000; Rassin et al., 2008). Identity-diffused persons may have undergone some explorations, but they seem to be meandering more than actively exploring. The overriding decisional characteristic of the diffusion status is the tendency to avoid decision-making situations (Marcia, 1980). These persons may rely on intuitive and spontaneous styles or may seek answers from others (as in the dependent style and the indecisiveness style) to reduce the deliberation and consequent anxiety (Marcia, 1980). Thus, it is expected that the diffusion would be positively associated with the indecisiveness style and the intuitive style (Hypothesis 3).

The dependent decision-making style involves denying responsibility for their choices and projects responsibility towards others, generally authority figures (Kuzgun, 2005). The persons in the foreclosure status generally tend to depend on others (e.g., friends, family, and authority figures) in resolving decisions related to identity concerns and likely to seek out rapid, non-deliberate solutions to decision-making tasks (Marcia, 1980; A. S. Waterman, 1985). These persons are not likely to use systematic or rational approaches that are also derived from an external locus of responsibility (Cella et al., 1987; Marcia, 1980). Thus, it is expected that the foreclosure status would be positively associated with the dependent and the indecisiveness style (Hypothesis 4).

A lot of research on general decision-making styles as mediating factors in decision-making

processes (Deniz, 2006; Fischhoff, Crowell & Kipke, 1999; Gucray, 2005; Köse, 2002; Shiloh, Koren, & Zakay, 2001) can be found in both the decision-making and the adolescent development literatures. For example, Köse (2002) found that there was not any statistically significant difference in the decision making strategies of university students. Identity status research focused primarily on validating the identity statuses and finding associated personality correlates and examining patterns of change over time (Cramer, 1998; Josselson, 1996; Oskay, 1998; Kroger, 1998; Morsüm-bül, 2005; Yenihayat, 2011). Individuals from late adolescence through early adulthood found individuals who changed identity status to move most commonly from a position of fore closure or diffusion to moratorium or achievement (Cramer, 1998). Yenihayat (2011) investigated the relations between identity statuses, personality traits and perceived parenting styles and found that conscientiousness predicts achieved and foreclosed identity status positively, moratorium and diffused identity status negatively but neuroticism predicts moratorium identity status positively. However, there is not any study which examined the developmental context or etiology of general decision-making styles neither in Turkey nor abroad. Without a framework to suggest the nature of individual variations in decision making, designing and modifying psychological counseling and career counseling interventions may be insufficient and thus less effective. If the nature of individual variations in general decision making are well understood, they can be used more effectively in the general decision making process.

## Method

### *Participants and procedure*

The participants consisted of 298 Turkish freshman students (168 female and 130 male) at Gazi University, Ankara, Turkey. All participants were first-year students. Participants ranged in age from 18 to 19 ( $M=18.2$ ,  $SD=1.2$ ). All participants met the criterion for late adolescence defined as being between the age of 18 and 20 years (Elliot & Feldman 2001). The participants volunteered. The participants have studied the following departments in the Faculty of Gazi Education: 49.8% elementary school teachers, 21.3% science, 18.6% psychological counseling and guidance, and 10.3% mathematics teachers.

### *Measures*

*Extended Objective Measure of Ego Identity Status (EOM-EIS)*. The revised version of the EOM-EIS (Bennion & Adams, 1986) that was adapted to Turkish culture for undergraduate university students by Oskay (1998) was used to measure the ego identity statuses. The EOM-EIS is a 64-item scale. It combined the ideological and interpersonal subscales to yield 16 items for each of the four ego identity statuses. Oskay (1998) determined the internal consistency reliability of the ego-identity status (Identity achievement,  $\alpha = .75$ ; Moratorium,  $\alpha = .73$ ; Foreclosure,  $\alpha = .84$ , and Diffusion,  $\alpha = .57$ ) but the value of Diffusion was quite below (.57) the proposed criterion level of .70 (Nunnally & Bernstein, 1994). Thus, Cronbach's alpha estimates were calculated on the data of the sample of this study ( $n=298$ ) for the ego-identity statuses. The scales have adequate to excellent internal consistency (Identity Achievement,  $\alpha = .84$ ; Moratorium,  $\alpha = .78$ ; Foreclosure,  $\alpha = .85$ , and Diffusion,  $\alpha = .75$ ) that four ego identity statuses are highly reliable. The scales have adequate to excellent stability (Identity-achievement, .72; Moratorium, .77; Foreclosure, .81, and Diffusion, .79) across a 4-week interval (Oskay, 1998). Oskay (1998) examined the correlations between the each of the four ego-identity statuses for discriminant validity. The findings indicated that of each four ego identity statuses measure different structures. She also examined the correlations between the ideological and interpersonal subscales for convergent validity and found positive and significant relations between the ideological and interpersonal subscales. Thus, the results of discriminant and convergent validities were relatively consistent with the theoretical predictions and the results of Bennion and Adams (1986). Each participant's four status scores are converted to standard scores, and the status with the highest standard score becomes the participant's clas-

sification.

*Decision-making Strategies Scale (DMSS)*: The DMSS was developed by Kuzgun (2005) to measure characteristic differences in the approaches that person use to consider important general choices and decisions (e. g., choosing a friend, choosing clothes etc.). The underlying structure of the DMSS was examined using factor analysis. The factor structure of the DMSS is generally consistent with theoretical expectations (Kuzgun, 2005; Harren 1984). The 40 items of the DMSS are equally distributed among the four general decision-making styles and yield separate scores for the rational, intuitive, dependent, and indecisiveness styles. The DMSS uses a 4-point Likert response format to assess the relative degree of prevalence of each of the four decision-making styles. Kuzgun (2005) determined the internal consistency for reliability of the decision-making styles (Intuitive,  $\alpha = .74$ , Rational,  $\alpha = .72$ ; Indecisiveness,  $\alpha = .70$ , Dependent,  $\alpha = .55$ ) but .55 for dependent was quite below the proposed criterion level of .70 (Nunnally & Bernstein, 1994). Thus, Cronbach’s alpha estimates were calculated on the data of the sample of this study (n=298) for the decision-making styles. The scales have adequate to excellent internal consistency (Intuitive,  $\alpha = .80$ ; Rational,  $\alpha = .81$ ; Indecisiveness,  $\alpha = .78$ , and Dependent,  $\alpha = .75$ ). One week test-retest stability coefficients were reported to range from .52 to .86 by Kuzgun (2005). For this study, two week test-retest stability coefficients were found to range from .74 to .89. The results of the series of studies indicated that the DMSS has adequate to excellent internal consistency and excellent stability.

### Results

Means, standard deviations, Cronbach  $\alpha$  values, and intercorrelations for the DMSS and the EOM-EIS are presented in Table 1.

Table 1.

*Means, Standard Deviations, Internal Consistencies, and Intercorrelations for the DMSS, and the EOM-EIS.*

| Variables              | M     | SD    | 5      | 6      | 7     | 8     |
|------------------------|-------|-------|--------|--------|-------|-------|
| 1.DMSS Rational        | 32.42 | 5.83  | .22**  | -.04   | -.10  | -.04  |
| 2. DMSS Intuitive      | 23.89 | 5.46  | .02    | .33**  | .31** | .23*  |
| 3. DMSS Dependent      | 31.53 | 6.22  | -.13*  | .18**  | .08   | .20** |
| 4.DMSS Indecisiveness  | 23.36 | 6.49  | -.18** | .38*** | .23** | .29** |
| 5.Identity achievement | 68.05 | 12.49 |        |        |       |       |
| 6. Moratorium          | 46.89 | 10.22 |        |        |       |       |
| 7. Diffusion           | 42.81 | 9.19  |        |        |       |       |
| 8. Foreclosure         | 33.52 | 12.35 |        |        |       |       |

Note. n=298. Internal consistencies (Cronbach  $\alpha$ ). DMSS=Decision Making Strategies Scale; EOM-EIS=Extended Objective Measure of Ego Identity Status.

\*p < .05, \*\*p < .01, \*\*\*p < .001

In this study a canonical correlation was performed between a set of decision variables and a set of ego identity variables using SAS CONCORR (9. 0) (Tabachnick & Fidell, 1996). The decision set measured the rational, the intuitive, the dependent, and the indecisiveness styles. The ego identity set measured the achievement, the moratorium, the foreclosure, and the diffusion ego-identity statuses. Canonical analysis provides a means of assessing the nature and extent of relations between two sets of variables.

Within the sets, four univariate and eight multivariate outliers were identified ( $p < .001$ ) and they were deleted from data set. In addition, within- sets multicollinearity were not met.

Two significant canonical roots were extracted in the analysis. The first canonical correlation was .53 (28% overlapping variance); the second was .30 (9% overlapping variance). The remaining two canonical correlations were effectively zero. With all four canonical correlations included,  $\chi^2(16) = 124.51$ ;  $p < .001$ , and with the first canonical correlation removed,  $\chi^2(9) = 32.08$ ;  $p < .001$ . Subsequent  $\chi^2$  tests were not statistically significant. The first two pairs of canonical variates, therefore, accounted for the significant relationships between the two sets of variables. The correlation coefficients of each of the original variables for each of these roots are presented in Table 2.

Table 2.

*Correlations, Standardized Canonical Coefficients, Canonical Correlations, Percents of Variance, and Redundancies between Decision- making Style and Ego-Identity Statue Variables and Their Responding Canonical Variables*

|                                   | First Canonical Variable |             | Second Canonical Variable |             |
|-----------------------------------|--------------------------|-------------|---------------------------|-------------|
|                                   | Correlation              | Coefficient | Correlation               | Coefficient |
| <b>Decision- making Style Set</b> |                          |             |                           |             |
| Rational                          | -.17                     | .15         | .62                       | .84         |
| Intuitive                         | .78                      | .62         | .04                       | .83         |
| Dependent                         | .19                      | .34         | -.54                      | .09         |
| Indecisiveness                    | .50                      | .55         | -.76                      | -.53        |
| Percent of variance               | .35                      |             | .20                       | Total : .54 |
| Redundancy                        | .10                      |             | .02                       | Total: .12  |
| <b>Ego-Identity Statue Set</b>    |                          |             |                           |             |
| Achievement                       | -.01                     | -.21        | .96                       | .99         |
| Moratorium                        | .89                      | .71         | .02                       | -.05        |
| Diffusion                         | .65                      | .16         | .07                       | .34         |
| Foreclosure                       | .68                      | .36         | .06                       | .01         |
| Percent of variance               | .41                      |             | .24                       | Total = .65 |
| Redundancy                        | .12                      |             | .02                       | Total = .14 |
| Canonical Correlation             | .53                      |             | .30                       |             |

Note: All canonical loadings are rotated.

As shown in Table 2, the first canonical root accounted for 35% of the variance of the decision set and 41% of the variance of the ego identity set. The second canonical root accounted for 20% of the variance of the decision set and 24% of the variance of the ego identity set. The first canonical root accounted for 53% of the variance between canonical composites and the second canonical root accounted for 65% of the variance between canonical composites. Total percent of variance and total redundancy indicate that both the first and the second pairs of canonical roots were moderately related.

With cutoff correlation of .30, the variables in the decision set that were correlated with the first canonical root were the intuitive and the indecisiveness styles. Among the ego identity variables, the moratorium, the foreclosure, and the diffusion statuses correlated with the first canonical root. The first pair of canonical root indicate that those with the intuitive style (.78) and the indecisiveness style (.50) are associated with the moratorium status (.89), the foreclosure status (.68) and the diffusion status (.65).

The variables in the decision set that were correlated with the second canonical root were the rational, the dependent, and the indecisiveness styles. Among the ego identity variables, the identity-achievement status correlated with the second canonical root. The second pair of canonical root indicate that those with the rational style (.62), the dependent style (-.54) and the indecisiveness style (-.76) are associated with the identity-achievement status (.96).

### Discussion

The present study investigated to ascertain the extent and nature of relations between the general decision-making styles and the ego identity statuses. The results provide some empirical support for the proposition that individual differences in general decision-making may be tied to a developmental process of exploring and committing to one's ego identity in late adolescence. Consistent with the theoretical predictions of scholars in career and general decision-making literatures (Bell, Raiffa, & Tversky, 1988; Blustein & Phillips, 1990; Harmon & Farmer, 1983; Harren, 1979; Kroll et al., 1970; Kuzgun, 2005; Mann et al., 1989; Miller-Tiedeman, 1980) and adolescent development (e.g., Cella et al., 1987; Marcia, 1989; C. K. Waterman & Waterman, 1974), ego identity status in which persons resolve the identity versus identity diffusion psychological task seem to be related to decision making styles.

More specifically, the relationships between general decision-making styles and ego identity statuses are evident in the first extracted root. The first root supported the second hypothesis that the moratorium status would be positively associated with the intuitive style. This relationship between moratorium and intuitive style supports the suggestion by (Cella et al., 1987; Marcia, 1980) that the moratoriums also tend to use playful decision making strategies that are derived from the internal locus of control and including affective information. This finding was also consistent with the results of Blustein and Phillips (1990). In contrast to expectation, moratorium status in the first root is also associated with indecisiveness style. The source of unexpected finding may be typical characteristics of moratorium status. Marcia (1966) stated that persons in moratorium status are currently exploring but have not yet committed themselves to the various dimensions of identity. Maybe, one of the reasons for not committing themselves to the various dimensions of identity is that indecisiveness style is used by persons in moratorium status. Because, researches indicated that indecisive persons indeed need significantly more time when they have to make a choice (Ferrari & Dovidio, 2000,2001; Rassin, Murris, Booster, & Kolsloot, 2008). Moreover, indecisiveness predicts more doubts about having enough information to decide (Germeijs, Verschueren, & Soenens, 2006), and more problems in making daily decisions (e.g., choosing which clothes to wear or which meal to order from a menu in a restaurant; Bacanli, 2000; Germeijs & DeBoeck, 2002)

The first canonical root identified that the diffusion status was modestly associated with the indecisiveness style and strongly associated with the intuitive style. These findings supported third hypothesis and also concerned with the theoretical suggestions of scholars (Marcia, 1980; C. K. Waterman & Waterman, 1974), the overriding decisional characteristic of diffusion status is the inclination to avoid decision-making situations (as in the indecisiveness style), and persons in the diffusion status may rely on intuitive and spontaneous styles. It may be that persons in the diffusion status use intuitive style in order to reduce the ambiguity that characterize open period of exploration and commitment (Grotevant, 1987).

In addition, the first canonical root identified that the foreclosure status was modestly associated with the indecisiveness style and strongly associated with the intuitive style. These limitedly supported the fourth hypothesis, because the foreclosure status was modestly associated with the indecisiveness style, but it was not the dependent style. Moreover, the foreclosure status was strongly associated with the intuitive style. This finding was not consistent with this study's expectation. Thus, these findings underscore the need for a closer examination of the nature of dependent decision- making style in Kuzgun's (2005) the DMSS.

The second canonical root extracted in this study identified the identity-achievement positively associated the rational style. This finding supported the fourth hypothesis. This finding suggested that the rational style may be understood as a reflection of the autonomous exploration and commitment that is associated with the adaptive formation of an ego identity. This finding also supported that persons in the identity achievement status typically use planful strategies that are also derived from an internal locus of responsibility (Cella et al., 1987; Marcia, 1980) and the studies of Blustein & Phillips (1989; 1990).

The second canonical root also identified negatively relations between the identity-achievement status and the dependent and the indecisiveness styles. These findings were consistent with the persons in identity-achievement status use planful strategies (e. g. rational style), but are not likely to use the dependent and the indecisiveness styles that are also derived from internal locus of responsibility (Cella et al., 1987; Marcia, 1980).

The results of this study suggest some important implications for our understanding of variations in general decision- making styles. The rational style is positively associated with the identity-achievement status and the indecisiveness style is negatively associated with to the diffusion identity status. These results are consistent with the assumptions that underlie these decision- making styles in Kuzgun's (2000) the DMSS. The intuitive style is related to the moratorium status, which is consistent with the theory (Marcia, 1980) and with this study's expectations. However, the indecisiveness style and the intuitive style are also related to the moratorium status. It is suggested that future study will provide the generalizability of these findings in this study. The intuitive style is also associated with the foreclosure and the diffusion statuses, which is not consistent with both the theory and this study's expectations. Thus, these findings clearly point out the need for a closer examination of the nature of intuitive decision- making style in Kuzgun's (2005) the DMSS.

The results of this study also suggest some tentative implications for practice. The results provide a conceptual framework for the treatment of rational decision- making, which has been prominently associated with identity-achievement status. The strong relation between the rational decision- making style and identity-achievement offers one plausible direction for counseling interventions. For example, counselors can assess rational decision- making level of a client and to provide an integrative intervention, including both vocational and nonvocational domain of client's identity. Counselors who note these characteristics might provide a reinforced experience in identity formation.

Although the results of this study may have important implications for theory and counselors, some limitations of this study should also be noted. First, the use of the volunteering freshmen sample in late adolescence is a limitation and in the future research, different samples (such as early adolescence and young adults, those from different socio-economic status) may reveal different results. Second, the relations identified in this study are correlational and not causal. The correlational nature of this study does not permit causal inferences, but the results provide both an empirical foundation that will hopefully foster further research designed to identify the developmental and individual antecedents of variations in general decisional strategies and counseling practice. Although these limitations, the results of this study suggest relationships between general-decision-making styles and ego identity statuses in freshmen sample during late adolescence, replication with equivalent samples and with non-freshmen populations would increase the generalizability of this findings.

#### References

- Arroba, T. (1977). Styles of decision making and their use: An empirical study. *British Journal of Guidance & Counseling*, 5, 149- 158.
- Bacanli, F. (2000). *Kararsızlık ölçeğinin geliştirilmesi [The development of Indecisiveness Scale]*. Turkish



*Psychological Counseling and Guidance Journal*, 2(14), 7-16.

- Bacanli, F. (2006). Personality characteristics as predictors of personal indecisiveness. *Journal of Career Development*, 32, 320-332.
- Baron, J. (1989). *Teaching Decision-Making to Adolescents*. Hillsdale, New Jersey: Erlbaum.
- Bell, D. E., Raiffa, H. J., & Tversky, A. (1988). Descriptive, normative, and prescriptive interactions in decision making. In D.E. Bell, H. Raiffa, & A. Tversky (Eds.) *Decision making* (pp.9-30). New York: Cambridge University Press.
- Bennion, L. D., & Adams, G. R. (1986). A revision of the Extended Version of the Objective Measure of Ego Identity Status: An identity instrument for use with late adolescents, *Journal of Adolescent Research*, 1, 183-198.
- Blustein, D., L., & Phillips, S. D. (1990). Relation between ego identity statuses and decision-making styles. *Journal of Counseling Psychology*, 37, 160- 168.
- Cella, D. F., DeWolfe, A. S., & Fitzgibbon, M. (1987) Ego identity status, identification, and decision-making style in late adolescence. *Adolescence*, 22, 849- 861.
- D’Zurilla, T. J., & Chang, E. C. (1995). The relations between social problem solving and coping. *Cognitive Therapy and Research*, 19, 547-562.
- D’Zurilla, T. J., Maydeu-Olivares, A., & Kant, G. L. (1998). Age and gender differences in social problem solving ability. *Personality and Individual Differences*, 25, 241-252.
- Deniz, E. M. (2006). The relationships among coping with stress, life satisfaction, decision-making styles and decision self esteem: An investigation with Turkish University students. *Social Behavior and Personality*, 34(9), 1161-1170
- Elliot, G.R. & Feldman, S. S. (2001) Capturing the adolescent experience. In Feldman, S. S. & Elliot, G. R. (Eds.), *At the threshold: The developing adolescent* (pp. 277-207). Cambridge, MA: Harvard University Press.
- Erikson, E. H. (1959). *Identity and the life cycle*. New York: Norton.
- Ferrari, J.R., & Dovidio, J.F. (2001). Behavioral decision making strategies by indecisiveness. *Personality and Individual Differences*, 30, 1113-1123.
- Ferrari, J.R., & Dovidio, J.F. (2000). Examining behavioral processes in indecision: Decisional procrastination and decision-making style. *Journal of Research in Personality*, 34, 127-137.
- Fischhoff, B., Crowell, N. A., & Kipke, M. (Eds.). (1999). *Adolescent decision making: Implications for prevention programs: Summary of a workshop*. Commission on Behavioral and Social Sciences and Education, National Research Council, Institute of Medicine. Washington, D.C.: National Academy Press.
- Fondacaro, M. R., Brank, E.M., Stuart, J., Abraham, S., Luescher, J. & McNatt, P. S. (2006). Identity Orientation, Voice, and Judgments of Procedural Justice During Late Adolescence. *Journal of Youth and Adolescence*, 35(6), 987-997.
- Gati, I., & Asher, I. (2001). The PIC model for Career Decision Making: Prescreening, In Depth Exploration, and Choice. In T. L. Frederick, & A. Barak (Eds.); *Contemporary Models in Vocational Psychology* (pp.7-54). Mahwah, New Jersey: Lawrence Erlbaum Associates Publishers.
- Gelatt, H. B. (1989). Positive uncertainty: A new decision making framework for counseling. *Journal of Counseling Psychology*, 36, 252-256.
- Germeijs, V., & De Boeck, P. (2002). A measurement scale for indecisiveness and its relation to career indecision and other types of indecision. *European Journal of Psychological Assessment*, 18, 113-122.
- Germeijs, V., Verschueren, K., & Soenens, B. (2006). Indecisiveness and high school students’ ca-

- reer decision-making process: Longitudinal associations and the mediational role of anxiety. *Journal of Counseling Psychology*, 53, 397-410.
- Grotevant, H. D. (1987). *Toward a process model of identity formation*. *Journal of Adolescent Research*, 2, 203-222.
- Gucray, S. S. (2005). A study of the decision- making behaviors of Turkish adolescents, *Pastoral Care*, 75, 34-44.
- Hardin, E. E. & Leong F. T. L. (2004). Decision- making theories and career assessment: A psychometric evaluation of the Decision Making Inventory. *Journal of Career Assessment*, 12, 51-64.
- Harmon, L. W., & Farmer, H. S. (1983). Current theoretical issues in vocational psychology. In W. B. Walsh & S. H. Osipow (Eds). *Handbook of vocational psychology* (Vol 1. pp. 39 -77). Hillsdale, NS: Erlbaum.
- Harren, V. H. (1979). A model of career decision making for college students. *Journal of Vocational Behavior*, 14, 19- 133.
- Harren, V. H. (1984). *Assessment of career decision making*. Los Angeles: Western Psychological Services.
- Horan, J.J. (1979). *Counseling for effective decision making: A cognitive-behavioral perspective*. North Scituate, MA: Duxburg Press.
- Janis, I. L., & Mann, L. (1977). *Decision making. Psychological analysis of conflict, choice and commitment*. New York: Free Press.
- Jepsen, D. A. (1974). Vocational decision- making strategy types: An exploratory study. *Vocational Guidance Quarterly*, 23 (1), 17- 23.
- Johson, R. (1978). Individual styles of decision making: A theoretical model for counseling. *Personnel & Guidance Journal*, 56, 530- 536.
- Köse, A. (2002). *Psikolojik danışma ve rehberlik birinci sınıf öğrencilerinin cinsiyet ve algılanan sosyo-ekonomik düzey açısından psikolojik ihtiyaçları ve karar verme stratejilerinin incelenmesi (Psychological counseling and guidance first grade students personal preferences and decision making strategies regarding gender and socioeconomic status)*. Unpublished mastery thesis, Social Science Institute of Hacettepe University.
- Kroger, J. (2000). Ego identity status research in the new millennium. *International Journal of Behavioral Development*, 24 (2), 145-148.
- Kroll, A. M., Dinklage, L. B. , Lee, J., Morley, E.D. , & Wilson, E. M. (1970). *Career development: Growth and crisis*. New York: Willey.
- Kuzgun, Y. (2005). Karar Stratejileri Ölçeği. [Decision Making Strategies Scale]. In Y. Kuzgun & F. Bacanlı (Eds.) [Measurement devices and programmes series used in practice guidance and psychological counseling: Measurement devices used in practice GPC: 1, pp.9-27], Ankara-Turkey, Nobel Publication.
- Mann, L. (1989). Becoming a better decision maker. *Australian Psychologist*, 24, 141-155.
- Mann, L., Burnett, P. C., Radford, M., & Ford, S. (1997). The Melbourne Decision Making Questionnaire An instrument for measuring patterns for coping with decisional conflict. *Journal of Behavioral Decision Making*, 10, 1- 19.
- Mann, L., Harmoni, R., & Power, C.(1989). Adolescent decision- making: The development of competence. *Journal of Adolescence*, 12, 265-278.
- Marcia, J. E. (1966). Development and validation of ego identity status. *Journal of Personality and Social Psychology*, 3, 551-558.
- \_\_\_\_\_ (1980). Identity in adolescence. In J. Adelson (Eds.). *Handbook of adolescent psychology* (pp. 159-187). New York: Wiley.

- \_\_\_\_\_ (1993). The ego identity status approach to ego identity. In D. R. Matteson, J. L. Orlofsky, A. S. Waterman, S. L. Archer, & J. E. Marcia (Eds.), *Ego identity: A handbook of psychosocial research* (pp. 3-21). New York: Springer-Verlag.
- \_\_\_\_\_ (1994). The empirical study of ego identity. In H. A. Bosma, T. L. Graafsma, H. D. Grotevant, & D. J. Delevita (Eds.), *Identity and development: An interdisciplinary approach* (pp. 67-80). Thousand Oaks: Sage Publications.
- Mau, W. C. (1995). Decision- making styles as a predictor of career decision status and treatment gains. *Journal of Career Assessment*, 3, 90-101.
- Mau, W. C. \_\_\_\_\_ (2000). Cultural differences in career decision- making styles and self-efficacy. *Journal of Vocational Behavior*, 53, 365-378.
- Miller-Tiedeman, A. (1980). Explorations of decision making in the expansion of adolescent personal development. In W. L. Erickson & J. M. Whiteley (Eds.). *Developmental counseling and teaching* (pp. 158- 187). Monterey, CA: Brooks/ Cole.
- Morsümbül, Ü. (2005). *Ergenlikte kimlik statülerinin bağlanma stilleri, cinsiyet ve eğitim düzeyi açısından incelenmesi (An examination of ego identity in adolescence with regard to attachments styles, gender, and education level)*. Unpublished mastery thesis, Education Sciences Institute of Ankara University.
- Munley, P. H. (1977). Erikson's theory of psychosocial development and career development. *Journal of Vocational Behavior*, 10, 261- 269.
- Nota, L., Mann, L. Soresi, S., & Friedman, I. (2002). *Decisione e Scelte [Decisions and choices]*. Firenze: Iter-Organizzazioni Speciali,
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory*. (3<sup>rd</sup> ed). New York: McGraw-Hill.
- Oskay, G. (1998). Genişletilmiş Objektif Ego Kimlik Statüsü Ölçeği'nin Türkçeye Uyarlanması: Geçerlik ve Güvenirlik Çalışmaları [The adaptation of Extended Objective Measure of Ego Identity Status- EOM-EIS: Validity and Reability studies]. *Psikolojik Danışma ve Rehberlik Dergisi (Psychological Counseling and Guidance Journal)*, 3, 17-21.
- Payne, J. W, Bettmen, J. R., & Johnson, E. J. (1993). *The adoptive Decision-Maker*. Cambridge University Press: New York, 330.
- Phillips, S. D., Friedlander, M. L., Paziienza, N. J., & Kost, P. (1985). A factor analytic investigation of career decision- making styles. *Journal of Vocational Behavior*, 26, 106-115.
- Rassin, E., Muris, P., Booster, E., & Kolsloot, I. (2008). Indecisiveness and informational tunnel vision. *Personality and Individual Differences*, 45, 96-102.
- Rassin, E., Muris, P., Franken, I., Smit, M., & Wong, M. (2007). Measuring general indecisiveness. *Journal of Psychopathology and Behavioral Assessment*, 29, 61-68.
- Rubinton, N. (1980). Instruction in career decision making and decision making styles. *Journal of Vocational Behavior*, 20, 215- 222.
- Scott, S. G., & Bruce, R. A. (1995). Decision-making style: The development and assessment of new measure. *Educational and Psychological Measurement*, 55, 818-831.
- Shiloh, S., Koren, S., & Zakay, D. (2001). Individual differences in compensatory decision making style and need for closure as correlates of subjective decision complexity and difficulty, *Personal and Individual Differences*, 30, 699-710.
- Tabachnick, B. G., & Fidell, L. S. (1996). *Using multivariate statistics* (3<sup>rd</sup> ed.). New York: Harper-Collins.
- Taylor, K. M. (1982). An investigation of vocational indecision in college students: Corralates and moderators. *Journal of Vocational Behavior*. 21, 318-329.
- Yenihayat, T. (2011). *Üniversite öğrencilerinin kimlik statüleri, kişilik özellikleri ve algıladıkları ebeveyn*

*tutumları arasındaki ilişkilerin incelenmesi (An examination of relationships between perceived parent attitudes and personality characteristics, ego identity status)*. Unpublished mastery thesis, Social Science Institute of Istanbul University.

Waterman, A. S. (1985). Identity in the context of adolescent psychology. In A. S. Waterman (Ed.) *Identity in adolescence: Process and contents* ( pp. 5-24). San Francisco: Jossey- Bass.

Waterman, C. K. , & Waterman, A. S. (1974). Ego identity status and decision styles. *Journal of Youth and Adolescence*, 3, 1- 6.