Adolescence is a period in which individuals experience changes in various life areas. The main developmental task is identity development in adolescence period. According to Erikson (1968) identity can be defined as consciousness (refers to the differences in a specific circumstance) and process (refers to the sameness in changing conditions).

A number of models about identity development have been proposed based on Erikson’s theory such as Marcia’s (1966) Identity Status Model, Waterman’s (1992) Optimal Psychological Functioning Model and Berzonky’s (1992) Identity Styles Model.

Marcia’s Identity Status Model is the model most frequently used in studies. Marcia (1966; 1989; 1994; 2002) defined four identity statuses based on exploration and commitment process: achievement, moratorium, foreclosure and diffusion. Certain scales were developed to measure identity development. Another questionnaire that evaluates both four identity statuses and the exploration-commitment process separately is The Ego Identity Process Questionnaire (EIPQ). The most powerful feature of EIPQ is that it focuses on both identity status and exploration and commitment process. The aim of the current study is to adapt EIPQ into Turkish with factor structure, convergent validity and reliability studies on Turkish college students. This scale is consisted of 32-items. Sixteen of the EIPQ items assess exploration and 16 assess commitment. Current study analyzed data from 230 university students (120 female, 52.17%; 110 male, 47.83%). Exploratory and confirmatory factor analysis results showed that EIPQ has two factor-structures that function differently in identity development. Correlations of exploration and commitment with self-esteem, agency and depression scores were calculated in order to examine convergent validity. Internal consistency coefficients, test-retest values and item-total correlations indicated that EIPQ is a reliable scale. It can be concluded that “Turkish Version of EIPQ” can be used to evaluate both exploration and commitment processes and identity statuses.

Key Words
Ego, Identity, Identity Status, Validity, Reliability.

Abstract
The main developmental task is identity development in adolescence period. Marcia defined four identity statuses based on exploration and commitment process: achievement, moratorium, foreclosure and diffusion. Certain scales were developed to measure identity development. Another questionnaire that evaluates both four identity statuses and the exploration-commitment process separately is The Ego Identity Process Questionnaire (EIPQ). The most powerful feature of EIPQ is that it focuses on both identity status and exploration and commitment process. The aim of the current study is to adapt EIPQ into Turkish with factor structure, convergent validity and reliability studies on Turkish college students. This scale is consisted of 32-items. Sixteen of the EIPQ items assess exploration and 16 assess commitment. Current study analyzed data from 230 university students (120 female, 52.17%; 110 male, 47.83%). Exploratory and confirmatory factor analysis results showed that EIPQ has two factor-structures that function differently in identity development. Correlations of exploration and commitment with self-esteem, agency and depression scores were calculated in order to examine convergent validity. Internal consistency coefficients, test-retest values and item-total correlations indicated that EIPQ is a reliable scale. It can be concluded that “Turkish Version of EIPQ” can be used to evaluate both exploration and commitment processes and identity statuses.
Objective Measure of Ego Identity Status-OM-EIS (Adams, Shea, & Fitch, 1979) was developed since administration and scoring of semi-structured interviews was taking a long time. Following that, a lot of studies employed OM-EIS were revised first by Grotewant and Adams (1984) (Extended Objective Measure of Ego Identity Status; EOM-EIS) and then by Benion and Adams (1986) (Extended Objective Measure of Ego Identity Status 2; EOM-EIS).

However, OM-EIS and EOM-EIS have some limitations. One limitation is related to content of items and the other is the high correlation between the moratorium status and the identity diffusion status making it difficult to differentiate between them (Balisteri, Busch-Rossnagel, & Geisinger, 1995). Separate assessment of exploration and commitment processes provides more accurate examination of identity formation (Bosma, 1992). Another questionnaire that evaluates both four identity statuses and the exploration - commitment process separately is Ego Identity Process Questionnaire (EIPQ) which was developed by Balisteri et al. (1995) to eliminate limitations of EOM-EIS.

EOM-EIS (Benion & Adams, 1986; Eryüksel & Varan, 1999), Sense of Identity Assessment Tool (SIAT; Dereboy, Dereboy, Sevinçok, & Kaynak, 1994; Dereboy, Dereboy, Coşkun, & Coşkun, 1999), Sense of Identity Scale (SIS; Köker, 1997), Dimensions of Identity Development Scale (DIDS; Luyckx et al., 2008; Morsünbül, 2011) were frequently used in the studies on identity in Turkey. Turkey is noticeable with high adolescent population. Identity formation is a main developmental task in adolescence period and healthy identity formation provides better mental health (Luyckx et al., 2008; Schwartz, Beyers, Luyckx, Soenens, & Waterman, 2011). Thus, Turkish adaptation of the new measurement tools to assess identity formation is important. In light of the evidence and reasoning summarized above, aim of the current study is to adapt Ego Identity Process Questionnaire into Turkish.

Method

Design

This is a descriptive study examining the current situation. A cross sectional research method was used and data were obtained from people of different ages.

Study Group

In this study, whole research group was selected via maximum variation method among purposive sampling methods. Participants consisted of 230 individuals who attend a state university in Ankara province. Researchers who use purposive sampling are able to choose a specific unit based on theoretical knowledge and specific goals of the study (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz, & Demirel 2008; Fraenkel & Wallen 1993; Sencer 1989). Sampling method deliberately aims to select for one or more sub-dimension related to the objectives of the study rather than obtain a representative sample of a population (Fraenkel & Wallen, 1993). Current study analyzed data from 230 university students (120 female, 52.17%; 110 male, 47.83%) aged between 18 and 25. The average age of participants was 22.4 years (Sd: 1.3). 38.3% of the participants (n: 88) were in 18-19 age group, 41.7% (n: 96) were in 20-22 age group and 20% (n:46) were in 23-25 age group. While 44.8% (n: 103) of the participants were Faculty of Education students, 33.9% (n: 78) attended Faculty of Sciences and 21.3% (n: 49) were students in Faculty of Communication.

Data Gathering Instruments

Personal Information Form: In this study, a personal information form which included demographic variables such as age and gender was used to reveal the demographic features of the participants.

Ego Identity Process Questionnaire (EIPQ): The scale developed by Balistreri et al. (1995) is a 32-item scale assessing ego identity in four ideological domains and in four interpersonal domains. Sixteen of the EIPQ items assess exploration and 16 assess commitment. There are two exploration and two commitment items per domain. Each item is rated on a 6-point Likert-type scale ranging from strongly agree to strongly disagree. Total points from each subscale are between 16 and 96. For both exploration and commitment, scores falling on or above the median were classified as high, the remainder as low. Identity status categories were assigned on the basis of these median splits. CFA results of the original scale showed that 2 factorial model is valid (Kline, 2005).

Multi-Measure Agentic Personality Scale: The MAPS, developed by Cote (1997), consists of 20 items in total and four subscales which are self-esteem (5 items), purposes in life (5 items), self-
efficacy (5 items) and internal locus of control (5 items). With respect to total point of the scale and subscales, Cronbach alpha values are between .58 and .86. The scale was adapted to Turkish culture by Atak (2010). At the end of the exploratory factor analysis, 15 items and 4 factors were found to explain 57.43% of the variance. Path coefficients were found to be between .41 and .77 in the confirmatory factor analysis and very high goodness of fit was obtained. Cronbach Alphas values were between .72 and .81 in reliability study.

Rosenberg Self-esteem Scale: Rosenberg Self-esteem Scale was developed by Rosenberg (1965). In this scale, there are 12 subscales and a total of 63 items. In this research, only Self-esteem subscale consisting 10 items was used to gather data. It is 4-point Likert type scale with 5 positive and 5 negative items adapted to Turkish culture by Çuhadaroglu (1986).

Beck Depression Scale: It was developed Beck, Ward, Mendelson, Mock, and Erbaugh (1961) and adapted to Turkish by Hisli (1988). This scale is one of the self-evaluated scales and consists of 21 items. Each item provides points between 0 and 4. In addition, total point of this scale is between 0 and 63. Points of twenty one and above indicate medium or high level of depression (Hisli, 1988).

Data Analysis
Frequency and percentage values were used to analyze the demographic characteristics of participants. Exploratory (principal component analysis with varimax rotation) and confirmatory factor analyses were carried out for construct validity. Multi-group multi-trait confirmatory factor analysis was carried out for testing the factor structure between genders. Two types of reliability were examined: internal consistency coefficient (Cronbach's alpha) and test-retest method. A significance level of 0.05 was adopted for statistical analyses. Pearson correlation analysis was used for examining convergent and language validity.

Procedure
Data was collected as a group application. All study participants were anonymous volunteers. Data were collected on a voluntary basis, the participants were first informed of the purpose of the research, and then the volunteers were given the scales. Additional explanations were provided to the participants when necessary. Implementation of the scales took between 15 and 20 minutes. Study data were collected between September 2011 and October 2011 in Ankara province, Turkey.

Results
Language Validity
Initially EIPQ was translated into Turkish from English by four academicians and then common points were sought by bringing together all translations. Different expressions were made into common expressions. Turkish form created on the basis of expert opinion was again translated into English by different academicians. Original scale and English form that was translated from Turkish were examined by three academicians who concluded that no difference existed between two forms. To see whether Turkish and English form of scales express the same meanings, both Turkish and English form of scales were administrated to 24 doctoral students in social sciences who know English at good level and according to this, Pearson Correlation Coefficients were found to be 0.94 (p=0.00) for exploration dimension and 0.96 (p=0.00) for commitment dimension. Pearson Correlation Coefficients that belonged to same items were found to be between 0.88 (p=0.00) and 0.98 (p=0.00). According to these results language validity of scales was assumed to be sufficient.

Examining Factor Structure
Exploratory Factor Analysis: Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) value and Bartlett's test of sphericity values were calculated to examine suitability of data for factor analysis. Results (KMO=0.92; $X^2 = 3256.25; p=0.00$) revealed that data were suitable for factor analysis (Büyüköztürk, 2002). According to principle component analysis results, 2 factors which explained 56.62% of the variance in scores and eigenvalues above 1 were determined. There are 2 factors and 32 items in Turkish form just like the original form. Item loading values change between .37 and .73. Varimax rotation analysis results indicated that explained variance level of scale can measure the features that were intended to be measured.

The first factor consists of 16 items and explained 32.35% of the variance and second factor consists of 16 items and explained 24.27% of the variance. Item loading values of commitment factor changes between 0.40 and 0.72, in respect of exploration.
factor its items loading values changes between 0.37 and 0.70. It was found that items 12, 14, 16, 21, 29 and 31 in commitment factor and items 4, 6, 11, 15, 26 and 30 in exploration factor needed to be encoded in reverse.

**Confirmatory Factor Analysis:** Confirmatory factor analysis indicated that ($X^2/\text{sd}$) was 3.02 and this value shows that proposed factor model was compatible with data (Kline, 2005). Good fit indexes (GFI .94, IFI .91, CFI .93, AGFI .91, NFI .90, RMR .04 and RMSEA .04) revealed that 2 factors structure of scale was confirmed. Path coefficients in commitment factor change between .66 and .82 and in exploration factor change between .65 and .78.

The Validity of EIPQ for Both Genders

In order to test validity of EIPQ for both genders, multi-group multi-trait confirmatory factor analysis was conducted. Analysis demonstrated that fit indexes (RMSEA values) of other models were not significantly more compatible than the first model. When $\chi^2/\text{sd}$ rates examined it was seen that these rates were very close to each other. $\chi^2/\text{sd}$ rates of all models were found to be around 3.00. These other models were rejected because they didn't indicate better compatibility than Model A which accepted that the factor structure of EIPQ were similar in both groups. Results of multi-group multi-trait confirmatory factor analysis demonstrated that factor structure of EIPQ was similar in both groups.

Convergent Validity

Correlations of exploration and commitment with self-esteem, agency and depression scores were calculated in order to examine convergent validity. It was found that exploration dimension correlated negatively with self-esteem ($r = -.18, p<.05$) and commitment dimension correlated positively with self-esteem ($r = .30, p<.01$). Both exploration and commitment correlated positively with agency (respectively $r = .36, p<.01$, $r = .34, p<.01$). It was also found that exploration correlated positively with depression ($r = .16, p<.05$) and commitment correlated negatively with depression ($r = -.24, p<.01$). Examination of studies that investigate relationships between exploration and self esteem (Bandura, 1982, 1995, 2000, 2002, 2006; Baumrind, 1980), agency (Cote, 1997, 2000, 2002; Cote & Levine, 1987, 2002; Cote & Schwartz, 2002; Schwartz, 2005, 2006; Schwartz, Cote, & Arnett, 2005) and depression (Çeçen, 2001; Çuhadaroğlu, 1999, 2001) shows that higher exploration provides lower self-esteem but higher agency and depression. Similarly higher commitment provides higher self-esteem and agency but lower depression.

Consequently, convergent validity of EIPQ was found to be adequate because it was related to scales used for convergent validity.

Item Analysis

To determine how well the item serves to discriminate between participants with higher and lower levels of total points from the scale, independent-t test was administrated. A significant difference was found between higher and lower levels of participants. In other words, each item had item discrimination ($p<.05$). Also item analysis results indicated that corrected item-total correlation changed between .04 and .82 and in exploration factor change between .65 and .78.

Reliability

Cronbach coefficients were found to be 0.85 for commitment and 0.82 for exploration. Scale was administrated to 50 participants with an interval of 3 weeks for test-retest reliability and the values were found to be 0.89 and 0.87 for commitment and exploration respectively.

Distribution of Participants According to Identity Status

Majority of participants took part in moratorium status. The lowest observed identity status was diffused identity status.

Discussion

In this study, EIPQ, developed by Balisteri et al. (1995), was adapted to Turkish. The factor structure of the questionnaire was analyzed with the exploratory and confirmatory factor analysis. Exploratory factor analysis showed that there were 2 factors with more than one eigenvalue in the scale. Also, results of the confirmatory analysis indicated that existing factors were confirmed. In this context, factor structure of the original questionnaire was obtained.

For reliability, internal consistency and test-retest stability were examined. Results revealed that internal
consistency and test-retest stability of sub dimensions were adequate. Similar reliability coefficients were found in other studies (Luyckx, Goosens, Beyers, & Soenens, 2006; Schwartz et al., 2005).

In this study, relations of exploration and commitment with self-esteem, agency and depression scores were examined for convergent validity. It was found that commitment dimension correlated positively with self-esteem and agency scores but correlated negatively with depression scores. In respect of exploration dimension, it correlated negatively with self-esteem and positively with agency and depression scores.

In the study of questionnaire development (Balisteri et al., 1995), it was found that commitment dimension correlated positively with self-esteem and negatively with anxiety. In respect of exploration, it correlated negatively with self-esteem and positively with anxiety. The results of this study are consistent with the results of the original study. Individuals who actively question may search various identity alternatives in the exploration process. This exploration process may induce anxiety and low self-esteem if individuals can’t construct permanent sense of identity. Especially if exploration process is prolonged, it damages identity development (Luyckx et al., 2008; Morsünbül, 2011). Commitment process increases individuals’ self-esteem by helping individuals to interpret their personal experiences and to give meaning and direction to life. Thus, it decreases the risk of anxiety and depression (Vleioras & Bosma, 2004).

Results indicated that both identity dimensions were positively related to agency. Agency has an important role in identity formation process (Cote & Levine, 2002; Erikson, 1968; Schwartz et al., 2005). Individuals should behave independently in their own lives for healthy identity formation (Kağıtçibaş, 1996). More agency contributes to healthier identity formation, less agency induces unhealthy identity formation (Cote, 2002).

It was observed that the highest rate of identity status was moratorium and the least used rate of identity status was diffused identity status when distribution of identity status was considered. This result is similar to the result of studies in Turkey (Atak, 2010; Eryüksel, 1987; Morsünbül ve Tümen, 2008) in which Extended Objective Measure of Ego Identity Status was used.

The most powerful side of Ego Identity Process Questionnaire is that it provides process in both identity development and identity status. In addition, its short implementation time and its reliable scoring increase its usability. Consequently, Ego Identity Process Questionnaire can be used in studies about identity development.

References/Kaynakça


