

Psychometric Properties of the Turkish Form of Codependency Assessment Tool

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This study evaluated the psychometric properties of the Codependency Assessment Tool (CODAT) developed by C. Hughes Hammer, D. S. Martsolf, and R. A. Zeller (1998a, 1998b) for Turkish students and investigated the relationship of codependency with attachment styles and family problems. After the translation of the CODAT, Beck Depression Inventory, Experiences in Close Relationships-Revised, and Family Problems of Young Adulthood Evaluation Scale, each was administrated to Turkish female nurse students (n = 400). Factor analysis and Cronbach's alpha values were then computed. Five-factor solution revealed a similar factor structure for the Turkish version of CODAT compared with that of the original tool. Five factors explained 48.38% of the variance. All of the items (with one exception) loaded on their original factors. Cronbach's alpha values for factors ranged between .62 and .78. For the total score, Cronbach's alpha was found to be .75. After statistically controlling for the effects of depressive symptoms, analysis of covariance (ANCOVA) was conducted to investigate if the attachment styles and family problems would change depending on codependency levels. For ANCOVAs, CODAT scores were treated at three levels. Students with higher CODAT scores had more attachment-related anxiety and reported more family problems after controlling for the effects of depressive symptoms. Our research results support the internal consistency and validity of the Turkish version of CODAT.

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C ODEPENDENCY HAS BECOME a familiar term in health-related literature, and databased evidence indicates its importance for both women (Granello & Beamish, 1998) and the nursing profession (Stafford, 2001). According to the definition developed by the American National Council on Codependence (1990),

Codependence is a learned behavior expressed by dependencies on people and things outside the self; these dependencies include neglecting and diminishing of one's own identity. The false self that emerges is often expressed through compulsive habits, addictions and other disorders that further increase alienation for the person's true identity, fostering a sense of shame (Whitfield, 1991, p. 10).

Studies showed that codependency is common in adults who were raised by alcoholic parents, in chronic stressful family environments, parents of children with behavior problems, people caring for the chronically ill, women, and the helping professions, particularly those in nursing (Biering, 1998; Fuller & Warner, 2000; Hall & Wray, 1989; Hopkins & Jackson, 2002; Martsolf, Hughes-Hammer, Estok, & Zeller, 1999; Williams, Bissel &, Sullivan, 1991; Yates & McDaniel, 1994).

According to the findings of the Yates and McDaniel (1994), one third of nurses have

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moderate to severe levels of codependency; this rate is 80% according to the study carried out by Snow and Willard (1989; as cited in Malloy & Berkery, 1993). Codependency in nurses is still being researched in connection with issues such as caring, history of nursing, working in hospitals, being women, and nursing education.

Caring is the central concept of nursing, and nursing practice is built around this idea (Herrick, 1992). Hall and Wray (1989) stressed that nursing has a codependency risk due to its nature, which requires being sensitive to others' needs. Nurses are expected to sacrifice their own personal needs for the needs of others. Also, nurses seek personal validation through their accomplishments at work but often fail to find it (Caffrey & Caffrey, 1994; Yates & McDaniel, 1994). These result in compulsive caretaker roles being taken on by women. Caffrey and Caffrey (1994) compared the history of the development of nursing with the family history of a codependent. This comparison highlights characteristics such as hiding feelings, diminishing self-value, attempting to control everything in an often-difficult working environment, and accepting peer-group values. Furthermore, nurses are required to obey rules but are not involved in the decisionmaking process.

The nurse is viewed in the traditional role of the woman undertaking the task of "care" which has been undervalued by society. That is, society only considers caring as a valuable asset when linking the characteristics of a "good woman" with that of a "good nurse." This belief results in codependency being perceived as a natural situation for nursing (Caffrey & Caffrey, 1994). The research supports the notion that codependency does overlap with the traditional role of women (Dear & Roberts, 2002; Fisher & Beer, 1990; Fuller & Warner, 2000; Hands & Dear, 1994: Martsolf, Sedlak, & Doheny, 2000). Codependency is also fostered by the processes underpinning nursing education and the socialization of nurses based on traditional values in the workplace (Yates & McDaniel, 1994).

Modern Turkish nursing was founded by Florence Nightingale during the Crimean War. The Turkish Nurses Association was established in 1933 and is a member of the International Nursing Council. In 1955, Turkey was one of the first five countries in Europe to start baccalaureate programs in nursing. Up to 2006, entry into the nursing profession was limited to females. There are now more than 80,000 female nurses, mostly younger than 40 years old and drawn from the middle class. They are employed at various health settings especially in hospitals.

Nurses in Turkey face serious problems related to education, practice, nursing law, and health politics. Significant advances have occurred since 1990, but some of these were not maintained. For example, in 1996, it was decided that a baccalaureate qualification was necessary to enter the nursing profession. However, the Ministry of Health changed this decision and has restarted the vocational high school programs. Excessive work loads, inadequate financial resource allocations, limited workforce numbers, and lack of recognition of nurse's contributions have all combined to lower the status of nursing. Given its lack of political power and autonomy to change perceptions in the community, nursing is often considered a low-status profession in Turkey.

Although there are many studies on the problems of nursing in Turkey, so far, no research has been carried out on codependency which is an important health problem. This study is the first attempt to measure codependency among nurses in Turkey. Depending on its results, future research studies could include the investigation of codependency among nurses, other health professionals, and the effects of codependency on the nurse's job performance and professional image.

RELATED LITERATURE

After the 1970s, codependency was defined as the dysfunctional relationship between "an enabler," often a spouse, and his or her alcoholic counterpart (Caffrey & Caffrey, 1994; Cermak, 1994; Dear & Roberts, 2002; Hands & Dear, 1994; Hopkins & Jackson, 2002; Lindley, Giordano &, Hammer, 1999: Mallov & Berkerv, 1993: Zerwekh & Michaels, 1989). The definition was then changed to the pathological behavior pattern exhibited by individuals coping with stressful situations when growing up in dysfunctional families (Carothers & Warren, 1996; Fuller & Warner, 2000; Hands & Dear, 1994; Hughes-Hammer et al., 1998a; Martsolf et al., 1999). Codependency is learned in dysfunctional family by observing and modeling (Carothers & Warren, 1996; Prest, Benson, & Protinsky, 1998). A positive association was found between codependency and having codependent parents (Carothers & Warren, 1996). Codependency could also be transmitted from one person to another, and a codependent individual could also be a stressor for the family.

The research literature reveals that the generally accepted characteristics of codependency are adopting a caretaking role; self-neglect; low self-worth; a desire to control the self; people and events; an inability to identify, express, and manage feelings; a distortion of boundaries; lack of personal autonomy; using maladaptive strategies to cope with stressful life events; hiding self, feeling responsible for others; seeking others' approval; and the inability to tolerate separation (Arnold, 1990; Breining Institute, 2003; CoDA World Fellowship, 2006; Hall & Wray, 1989; Herrick, 1992; Hopkins & Jackson 2002; Lindley et al., 1999; Malloy & Berkery 1993; Stafford, 2001).

The first step for empirical investigation of codependency is measurement. Although there are numerous conceptualizations of codependency, limited scales do exist in the literature. It is recommended that further studies on developing measuring instruments should be carried out (Harkness, Swenson, Hampton, & Hale, 2006; Lindley et al., 1999; Stafford, 2001).

The Codependency Assessment Tool (CODAT) used in this study was based on the 1990 consensus definition of codependency, the model of Wegscheider-Cruse and Cruse (1990), and the entire codependency literature by Hughes-Hammer et al. (1998a, 1998b) and Martsolf et al. (1999). According to Wegscheider-Cruse and Cruse, codependency covers three essential symptoms, which are denial/delusion, emotional repression, and compulsions. It consists of one core concept and four associated symptoms (Hughes-Hammer et al., 1998a, 1998b; Martsolf et al., 1999; Wegscheider-Cruse & Cruse, 1990). The core concept is other focus/self-neglect and the four associated symptoms are low self-worth, hiding self, medical problems, and family of origin issues.

Other focus/Self-neglect refers to compulsive helping, advice giving, controlling events or people, and having distorted boundaries. Low self-worth comprises self-criticism, self-hatred, self-blame, and feeling of shame. Hiding self refers to use of a "positive front" by controlling or repressing negative emotions. The medical problems factor reflects the preoccupation on real or imagined health problems accompanied by worry. Family of origin highlights unhappiness due to growing up in a troubled family where affection was not openly displayed, and feelings and thoughts were not expressed and discussed.

Some indicators of codependency such as low self-worth, blaming self, family problems, denial and repression, self-hiding, and somatic problems might overlap with depression. A significant and positive correlation was found between codependency and depression by Carson and Baker (1994) and replicated by Martsolf et al. (2002). Hughes-Hammer et al. (1998b) compared codependency with depression as a validity indicator of CODAT. However, in this study, effects of depressive symptoms were statistically controlled due to the common points with codependency.

Codependency can be more easily understood when it is examined within an interpersonal context, together with the variables that are involved in the development of codependency. Although the definition of codependency and measurement is made in the literature, there are few studies that investigate other variables. Carothers and Warren (1996) recommended in their study that future research should focus on personality or situational factors such as attachment style, temperament, personality traits, birth order, communication skills, and interpersonal relationships outside the family.

In this study, relations of codependency with attachment styles and family stressors were analyzed as validity indicators of CODAT because they are considered as important variables. Database search did not reveal any empirical study which directly investigates relations of codependency with attachment styles. However, some inferences could be made from the existing literature about relations of codependency, attachment, and family. The common domain for codependency, attachment, and family literature seems to arise from studies about children of alcoholic parents. In a review article about psychosocial adjustment of adult children of people with alcohol problems, Harter (2000) cited Cermak's (1986) description of codependent personality. According to Harter, some of Cermak's criteria for codependent personality are closely related to attachment and boundaries. Dependence of one's sense of self-worth and emotional state upon significant others' failure or success rather than one's own (confusion of identity), assumption of responsibility for others' needs to the exclusion of one's own, anxiety, and

boundary distortions around intimacy and separation were considered as attachment-related criteria of codependent personality (Harter, 2000).

Attachment is determined through early childhood experiences and accounts for the person's experience in, and construction of, strong emotional bonds with others. Innate parameters of attachment systems are gradually shaped and altered by social experiences with attachment figures and continue to be important across the life span. Bowlby (1988) believed that strong emotions arise during the development, maintenance, termination, and reformation of attachment relationships.

In the literature, two types of attachments are defined as secure and insecure. Individuals who have a history of insecure relationships express more negative emotions and accommodate others' needs (Simon, Collins, Tran, & Haydon, 2007). Romantic love is one of the conceptualizations of adult attachment. Hazan and Shaver (1987), for example, classified adult romantic attachment in three groups as secure, avoiding, and anxious/ undecided after the assumption that the attachment style in infanthood forms the basis of the romantic relationships of the person in adulthood. According to this classification, people who experienced secure attachments are comfortable with close relations, those who experienced avoiding attachments perceive threats, and those who experienced anxious/undecided attachments are afraid of being left and rejected even when they wish to become closer to others. Brennan, Clark, and Shaver (1998) reported that adult romantic attachment behaviors could be defined by two main dimensions: attachment-related anxiety and attachment-related avoidance. Attachment-related anxiety in romantic relationships assesses the degree to which the self is perceived to be worthy or unworthy of love and reflects the degree to which individuals worry and ruminate about being rejected or abandoned by their partners. It inhibits the development of autonomy and self-confidence. On the other hand, attachment-related avoidance reflects the degree to which individuals feel comfortable in closeness and emotional intimacy in relationships. Avoidant attachment is organized by rules that restrict attempts to seek comfort and support from others. People who score high on avoidance dimension tend to be less invested in their relationships. Selcuk, Günaydın, Sümer, and Uysal (2005) found that attachment-related anxiety is associated with

separation anxiety, pleasing others, and need for approval, whereas people with high avoidance prefer loneliness. The generally accepted characteristics of codependency, adopting a caretaking role, self-neglect, low self-worth, distorted boundaries, lack of personal autonomy, hiding self, feeling responsible for others, seeking others' approval, and the inability to tolerate separation, are thought to be related with anxiety dimension of attachment (Arnold, 1990; Breining Institute, 2003; CoDA World Fellowship, 2006; Hall& Wray, 1989; Herrick, 1992; Hopkins & Jackson 2002; Lindley et al., 1999; Malloy & Berkery 1993; Stafford, 2001). Therefore, in this study, it is assumed that attachment-related anxiety and attachment-related avoidance dimensions will change depending on codependency levels.

The family system is important both for attachment styles and codependency. Attachment arises from patterns of interactions with significant others in the family. There is a positive association between parenting styles and secure and insecure attachment (Karavasilis, Doyle & Markiewicz, 2003). Parenting style was also found to be related with codependency in the study of Fisher and Crawford (1992). They indicated that both sons and daughters of authoritarian fathers are codependent. Much research has explored the idea that stressful family environments, and not solely an alcoholic environment, create dysfunctional relationships and may be the predictor of codependency as a coping style in dealing with stress (Carothers & Warren, 1996; Fuller & Warner, 2000; Hands & Dear, 1994; Hughes-Hammer et al., 1998a; Martsolf et al., 1999; Prest et al., 1998). Some family of origin issues are assessed in the CODAT measure itself. In this study, Family Problems of Young Adulthood Evaluation Scale (FPYAES) was also administered to assess family of origin stressors. Turkish sample was used for the development of FPYAES (Tuğrul, 1996). As a validity indicator, Turkish form of CODAT score was compared with a culture-specific instrument, FPYAES.

In this study, we investigated codependency together with attachment styles and family stressors. The objectives were to translate the CODAT into Turkish, investigate the factor structure and internal consistency of the instrument for female nursing students, and investigate the relationship of codependency with attachment styles and family problems, after controlling for the effects of depressive symptoms as the validity indicators of CODAT.

METHODS

Participants

The data were collected from 400 female students who attended a licensed nursing education program. Fourteen outliers (with *z* scores below -3.0 or above 3.0) were eliminated from the data, and the analyses were based on 386 participants. As a rule, for factor analysis, there should be at least 10 cases for each item in the instrument being used. Because the CODAT has 25 items, sample size was within recommended range. The mean age was 20.44 years (*SD* = 1.99 years), with a range of 17 to 35 years.

Instruments

Beck Depression Inventory

The Beck Depression Inventory (BDI) was administered to measure depressive symptoms. It was developed by Beck (1961) and has 21 items covering somatic, emotional, cognitive, and motivational symptoms of depression. Scores range from 0 to 63, and higher scores indicate depressive symptoms. The BDI was standardized for Turkish by Hisli (1989). Cronbach's alpha reliability coefficient was .80, and split-half reliability coefficient was .74. Correlation coefficient of BDI with MMPI-depression scale was reported as .50.

Experiences in Close Relationships-Revised

Experiences in Close Relationships-Revised (ECR-R) is a scale developed by Fraley, Waller, and Brennan (2000) to measure adult attachment dimensions. Items of ECR-R represent attachmentrelated anxiety and attachment-related avoidance. ECR-R has 36 items (18 items for attachmentrelated anxiety and 18 for attachment-related avoidance). Each statement is evaluated on a 7point Likert-type scale (1 = strongly disagree, 7 =strongly agree). For anxiety and avoidance, scores of related items were added and divided by 18. Higher scores indicated more attachment-related anxiety and/or attachment-related avoidance. The validity and the reliability studies for Turkey were completed by Selcuk et al. (2005). They indicated that exploratory and confirmatory factor analyses

revealed two-factor solution representing attachment-related avoidance and attachment-related anxiety. Cronbach's alpha reliability coefficients were found as .90 and .86, respectively, for the factors. Test–Retest reliability coefficients were .81 and .82, respectively.

Family Problems of Young Adulthood Evaluation Scale

Family Problems of Young Adulthood Evaluation Scale was developed by Tuğrul (1996) and gives information about stressors in the family of origin. It reveals two types of scores: number of stressors and the degree of being affected by the stressor. For this study, the number of stressors was calculated. Participants were asked to indicate if the given statement was true (1 point) or false (0 point) for their family. There are 69 items and eight subscales: authoritarian-oppressive attitude, insensitivity and inconsistency in relations, disharmony between parents, limited social activity, disorder in the house, financial problems, intrusion and abuse in relations, and health and social problems. Subscales were determined depending on the factor structure of the instrument. Higher scores indicate more stressors. Cronbach's alpha reliability coefficient for the total score was .93, and test-retest reliability coefficient was .95. Tuğrul (1996) reported that FPYAES is a valid and a reliable tool, with identifiable factor structure for assessment of family stressors in young adulthood.

Codependency Assessment Tool

Codependency Assessment Tool was developed by Hughes-Hammer et al. (1998a) for assessment of codependency. CODAT is a 25-item 5-point Likerttype scale. Participants are asked to record how often they feel in the way indicated by the item on a scale ranging from rarely or never (1) to most of the time (5). The scale has five factors: other focus/self neglect, self-worth, hiding self, medical problems, and family of origin issues. Higher scores indicate higher levels of codependency. Hughes-Hammer et al. indicated that CODAT has good internal consistency and criterion group validity. The Cronbach's alpha reliability coefficients for the five factors ranged from .78 to .80. The total scale alpha reliability was .91. Criterion validity was determined by known group techniques. CODAT was administered to a control group of professional

women and to a group of women who were being treated for codependency. They found that the codependent group had significantly higher scores than those of the control group. Psychometric qualities of the Turkish version of CODAT were evaluated in the context of this study.

Personal Information Form

This form was developed by the authors to identify important sociodemographic information from the participants such as age, health status, and so forth.

Procedure

Our research proposal was vetted and approved by the university ethics committee. After providing the nursing students with brief information about the aims of the study, the Personal Information Form, BDI, ECR-R, FPYAES, and CODAT were administered during course hours by one of the authors and collected within the same session. No one had refused to participate. To eliminate any possible sequencing effect, the questionnaires were presented in a randomized order.

The CODAT was independently translated into Turkish by three translators. The authors then evaluated each of the three alternative translations and, with some minor changes, decided which items would be included in the Turkish form of CODAT. This preliminary draft was given to five judges to get detailed feedback about the clarity of the items. This process resulted in a few items being retranslated so that a final draft form was developed. Before the main study, this form was presented to 20 students who were not participants in the main study for their critical feedback. As they stated that every item was easily understood, the final form was administered in the main study.

In the second stage of the main study, the structural properties and internal consistency of CODAT were investigated. The relationships between codependency, adult attachment styles, and family problems were then critically examined as the indicators of concurrent validity.

RESULTS

Before the main analyses, the outliers (with z scores below -3.0 or above 3.0) were eliminated from the data. After descriptive statistics, factor structure and internal consistency reliability of

CODAT were evaluated. As the last step, analyses of covariance were conducted. For the statistical analyses, SPSS 12.0 (SPSS, Chicago, IL) was used.

Descriptive Statistics

The sample consisted of 386 undergraduates; 113 (29.3%) of them were first-year; 85 (22.3%), second-year, 88 (22.8%), third-year; and 99 (25.6%) participants, last-year students. Thirteen (3.4%) participants were employed. Only 12 (3.1%) participants were married. Twenty-three (4.5%) participants indicated that there was at least one family member (father or brother) experiencing drug or alcohol addiction. Five (1.3%) students were hospitalized due to a psychiatric problem, only 1 of whom was hospitalized for two times.

The mean BDI score of the total sample was 10.65 (SD = 7.49, range = 0-40). BDI scores of 17.4% of the sample were higher than 17 (severe depressive symptoms). Half of the participants' BDI scores were lower than 9 (no or mild depression). We obtained the lowest response rate (88.3%) for the 19th item. It was about weight loss. Response rates for the other items ranged from 98.7% to 100%. For attachmentrelated anxiety factor of ECR-R, the mean was 3.63 (SD = 0.91, range = 1.28 - 5.78), and the mean for avoidance factor was 3.40 (SD = 1.03), range = 1-6.39). Response rates for the items of the questionnaire ranged from 96.9% to 99.7%. The mean number of stressors was found to be 9.75 (SD = 10.53, range = 0-69) by the FPYAES. Response rates for the items ranged from 97.2% to 100%. For the total sample, mean of the CODAT was 48.60 (SD = 8.66, range = 29-72). Response rates for the items of CODAT ranged from 98.4% to 100%. Series means were replaced instead of the missing values.

Factor Analysis

The factor structure of CODAT was analyzed through the basic components method and Varimax rotation. Scree plot and initial solutions revealed seven factors with eigenvalues above 1. Seven factors explained 57% of the variance. When five-factor solution was tried, to ensure the conformity with the original factor structure revealed by Hughes-Hammer et al. (1998a, 1998b), it was found that the factors accounted for 48.38% of the variance. Factor II, 9.18%; factor IV, 8.45%; and

	Factors				
Items	Self-worth	Family of origin issues	Medical problems	Hiding self	Other focus/Self-neglect
4—I feel ashamed of who I am.		.23	06	12	.03
12—I feel ill and run down.	.46	03	.37	.07	.03
17—I pick on myself for everything, including the way I think, feel, look, act, and behave.	.73	.14	.22	.07	.09
21—I blame myself for everything too much.	.67	.15	.24	13	.14
24—I feel humiliated or embarrassed.	.74	.15	.08	.04	.14
25—I hate myself.	.76	.01	.12	.05	.03
15—When I was growing up, my family didn't talk openly about problems.		.67	.04	.13	.06
19—I grew up in a family that was troubled, unfeeling, chemically dependent, or overwrought with problems.		.53	.06	04	.01
20—My family expressed feelings and affection openly when I was growing up.		.68	.02	44	08
22—I am unhappy now about the way my family coped with problems when I was growing up.		.77	.01	.05	.08
23—I am unhappy about the way my family communicated when I was growing up.		.77	.06	03	.06
6—I worry about having stomach, liver, bowel, or bladder problems.	.08	04	.78	.01	.06
7—I am preoccupied with the idea that my body is failing me.		.14	.58	.07	.01
9—I feel that my general health is poor compared with that of my family and friends.		.17	.65	.08	.09
16—I have stomach, bladder, or bowel trouble.		02	.77	05	.01
10—I put on a happy face when I am really sad or angry.		06	.06	.63	.23
11-I keep my feelings to myself and put up a good front.		08	10	.77	.12
13—I hide myself so that no one really knows me.	.30	.25	.06	.49	01
14—I keep my emotions under tight control.	16	.02	04	.74	.04
18—I push painful thoughts and feelings out of my awareness.	.06	.03	.07	.46	09
1-I feel compelled or forced to help other people solve their problems (i.e., offering unwanted advice).	07	.07	.05	.11	.78
2—I try to control events and how other people should behave.	.03	03	001	.10	.58
3—I become afraid to let other people be who they are and allow events to happen naturally.		.01	06	12	.40
5—I try to control events and people through helplessness, guilt, coercion, threats, advice giving, manipulation, or domination.		03	.10	.001	.51
8—I feel compelled or forced to help other people solve their problems {i.e., offering advice)	.04	.13	.11	.12	.74

Table 1. Factor Structure of CODAT

finally factor V, 8.23% of the variance. Explained variances for the original factors indicated by Hughes-Hammer et al. (1998a, 1998b) are as follows: 27.5%, 12.1%, 9.1%, 7.8%, and 6.0% for the five factors, respectively.

In this step, our rationale was to ensure conformity with the original factor structure. Therefore, our first criterion was to consider an item as loaded on a factor on which it was loaded with the highest value. The second criterion was to delete the item from the scale completely only if it loaded on any factor with the value less than .30 because Spector (1992, p. 55) indicated that "a minimum value of about .30 to .35 is required to consider that an item loads on any factor."

The results of factor analysis are presented in Table 1.

As can be seen in Table 1, the factor loadings ranged from .40 to .78. Only two items (12 and 13) also loaded on other factors with high values. Depending on the first criterion, we decided to retain those items on the factors which they loaded on with the highest value. When the factor structures were examined, it was found that all items except one (Item 12, "I feel ill and run down") were loaded on their original factors. Our factors consisted of the same items of the original factors, with one exception. Six items were loaded on the first factor, and five of them were the items of the second factor of the original study. Because these items were named as self-worth by Hughes-Hammer et al. (1998a), we also named the first factor as self-worth. The self-worth factor covers items related to self-criticism, feelings of shame, self-blame, and humiliation. As will be discussed, in this study, the 12th item was loaded on the selfworth factor, but in the original study, it was loaded on the medical problems factor. Factor II of this study was the same as the family of origin issues factor of the original study, so we used the same

Table 2. Cronbach's Alpha Reliability Coefficients for the Factors of CODAT

	Cronbach's a
Self-worth	.78
Family of origin issues	.74
Medical problems	.70
Hiding self	.63
Other focus/Self-neglect	.62
Total	.75

Table 3. Pearson Correlation Coefficients for the BDI, ECR-R Anxiety, ECR-R Avoidance, CODAT, and FPYAES

	(1)	(2)	(3)	(4)
BDI (1)				
ECR-R anxiety (2)	.43*			
ECR-R avoidance (3)	.25*	.40*		
CODAT (4)	.58*	.38*	.18*	
FPYAES (5)	.33*	.21*	.08	.35*
* <i>P</i> <.01.				

name in our study. There were four items on the third factor. The 12th item, which was in this factor in the original study, was loaded on the first factor in our study. Our third factor was also named as *medical problems*. The fourth and the fifth factors were also completely similar to the factors of the original study. The fourth factor, named as *hiding self*, was the third factor of original study. Although the factor other focus/self-neglect was the first in the original study, it emerged as the fifth factor in our study. In conclusion, all items excluding one loaded on their original factors with high values. Only Item 12 was loaded on the self-worth factor.

Internal Consistency Reliability

Cronbach's alpha reliability coefficients were calculated for five factors and for the total score of CODAT. Table 2 presents reliability coefficients.

As shown in Table 2, coefficients ranged from .62 to .78 for the factors and were .75 for the total scale. Interitem correlation coefficients ranged from .30 to .55 for the first factor, .26 to .64 for the second factor, .24 to .55 for the third, .16 to .46 for the fourth, and .11 to .62 for the last factor. Cronbach's alpha reliability coefficients did not increase if the items with low interitem correlation coefficients were deleted.

Correlations

Pearson correlations for the research variables are presented in Table 3.

The total CODAT score revealed the highest and positive correlation with the BDI (.58, P < .001) and the lowest correlation with ECR-R attachmentrelated avoidance (.18, P < .001). CODAT also revealed high correlation with FPYAES (.35, P < .001). High correlation between CODAT and FPYAES might have arisen from the similarity between family of origin issues subscale of CODAT and items of FPYAES. To reveal the relations of

Table 4. Pearson Correlation Coefficients for the CODAT Subscales and FPYAES

CODAT subscales	FPYAES
Self-worth	.23*
Family of origin issues	.46*
Medical problems	.15*
Hiding self	.04
Other focus/Self-neglect	.09

**P* < .01.

CODAT subscales and FPYAES, correlation coefficients for each subscale were calculated.

As presented in Table 4, family of origin issues subscale revealed the highest correlation (.46, P < .001) with FPYAES. Then, we decided to remove the family of origin issues items from CODAT and correlate remaining items with FPYAES. In this case, correlation coefficient was .21 (P < .001) and still significant.

Analyses of Covariance

To reveal if attachment styles and family problems differ depending on codependency levels, analyses of covariance were conducted. Items of self-worth and medical problems factors of CODAT are similar to those of depressive symptoms. The correlation coefficient between BDI and CODAT scores was positive and significant (.58, P < .001). BDI scores were entered into analyses as covariant; in this way, the effect of depressive symptoms was statistically controlled. CODAT scores were dealt with at three levels to be able to compare low, medium, and high codependency levels with each other. CODAT scores corresponding to 33% and 66% of the distribution were selected as cutoff points. Scores less than 44 were hypothesized to indicate low codependency, 45 through 52 were hypothesized to indicate medium, and scores above 53 were hypothesized to indicate high codependency levels. ECR-R and FPYAES scores were the dependent variables. Mean and standard deviation of variables and results of covariance analyses are presented in Table 5.

As shown in Table 5, depending on codependency levels, there was a significant difference at attachment-related anxiety dimension, F(2, 385) = 4.66, P = .01, but not at avoidance, F(2, 385) = .42, P = .66. Post hoc analysis (Tukey) revealed that people who had high CODAT scores were more anxiously attached to close relations. Low- and medium-codependency groups did not differ in terms of attachment-related anxiety.

There were significant differences in terms of total family stressors, F(2, 385) = 6.114, P = .002; authoritarian-oppressive attitudes, F(2, 385) =3.862, P = .002; insensitivity and inconsistency in relationships, F(2, 385) = 8.782, P = .000; disharmony between parents, F(2, 385) = 8.375, P = .000; disorder in the house, F(2, 385) = 3.567, P = .029; and intrusion and abuse in relationships, F(2, 385) = 5.343, P = .005, depending on codependency levels. Post hoc analysis (Tukey) revealed that participants of the high-codependency group reported more authoritarian-oppressive attitudes, insensitivity and inconsistency in relationships, disharmony between parents, disorder in the house, and more intrusion and abuse in relationships than did the participants of other groups. In terms of financial problems, F(2, 385) =3.121, P = .045, high-codependency group only differed from low-codependency group. Social activity, F(2, 385) = 2.573, P = .078, and health and social problems subscale scores did not differ,

Table 5. Mean and Standard Deviation of ECR-R and FPYAES Scores for Three Levels of CODAT and Results of Analysis of Covariance

		CODAT low, M (SD)	CODAT medium M (SD)	CODAT high M (SD)	F(2, 385)	Р	η^2
ECR-R	Anxiety	3.46 (.08)	3.60 (.08)	3.81 (.08)	4.66	.01	.02
	Avoidance	3.34 (.09)	3.46 (.09)	3.42 (.09)	0.42	NS	
FPYAES	Authoritarian-oppressive attitude	.43 (.06)	.48 (.06)	.66 (.06)	3.86	.022	.02
	Insensitivity and inconsistency in relations	.34 (.05)	.40 (.05)	.65 (.05)	8.78	.000	.04
	Disharmony between parents	.36 (.06)	.34 (.06)	.63 (.06)	8.38	.000	.04
	Limited social activity	.28 (.07)	.35 (.07)	.50 (.07)	2.57	NS	
	Disorder in the house	.07 (.03)	.10 (.03)	.19 (.03)	3.57	.029	.02
	Financial problems	.66 (.09)	.78 (.09)	.98 (.09)	3.12	.045	.02
	Intrusion and abuse in relations	.14 (.03)	.11 (.03)	.24 (.03)	5.34	.005	.03
	Health and social problems	.05 (.03)	.09 (.03)	.14 (.03)	1.55	NS	
	Total score of FPYAES	7.73 (.92)	9.03 (.91)	12.37 (.91)	6.11	.002	.03

NOTE. NS = nonsignificant.

F(2, 385) = 1.55, P = .214, depending on codependency levels.

DISCUSSION

In this study, the reliability and validity of the Turkish form of CODAT were critically examined. The scale was preferred because it is based on the definition formulated by the National Council on Codependence in 1990 and was developed by reviewing the entire codependency literature. It evaluated codependency as a situation associated with self-worth, interpersonal relations, family dimensions, and medical problems.

Results of the study indicated that structural properties of the Turkish form of CODAT are within an acceptable range. The factor structure of the Turkish CODAT was similar to the factor structure of the original one and theoretically highlighted aspects (other focus/self-neglect, self-worth, hiding self, medical problems, and family of origin issues), except only one item. It was found that the item "I feel ill and run down" was associated with selfworth in our study, but in the original study, it is evaluated under medical problems with its somatic meaning. This difference, if it is not due to translation failure, may indicate that the concepts such as self-worth defined by emotions, thoughts, and beliefs could also find expression by bodily sensations in Turkish culture. For example, it is our clinical experience that especially patients with depression emphasize somatic complaints and pain to define their symptoms. It is thought that somatic complaints, for example, pain, can be more easily accepted as an "illness" than psychological, vague complaints such as anhedonia in our culture. Also, it might be difficult for significant others to comprehend the patient's difficulties and disability, resulting from mild and vague psychological symptoms rather than somatic symptoms. Gureje (2004) examined the extent of cross-national variations in the rates and correlates of somatic distress in 14 countries, including Turkey. The second highest incidence rate was reported for Turkey. Gureje concluded that cross-national differences occurred in a somatic distress; although the role of culture could not be excluded, cross-national differences did not follow clear cultural lines. Also, it was argued that patients who lacked an ongoing relationship with their doctors were more likely to have multiple somatic complaints to get the attention of their doctors (Gureje, 2004). It is our speculation that, in any culture where somatic complaints could be apprehended more easily, doctor-patient interaction would go on through somatic rather than psychological presentations. It is beyond the scope of this study to reveal why in some cultures psychological symptoms are undermined. However, result about the item of CODAT is considered to be in line with our clinical observations and Gureje's study.

It is thought that the items about self-worth and medical problems could be the symptoms of depression. Although in different studies the relationship between codependency and depression is accepted as a validity indicator (Hughes-Hammer et al., 1998b, Martsolf et al., 2000), the possible effects of depressive symptoms were controlled statistically in this study.

To investigate if attachment styles and family problems differ depending on codependency levels, analysis of covariance was conducted. It was found that highly codependent people are more anxiously attached to their relations, but there is no difference on the avoidance dimension. On the other hand, codependency revealed the lowest but still significant and positive correlation with avoidance dimension of attachment. All study variables, except family stressors with avoidance dimension of attachment, revealed significant intercorrelations. Taken together, this pattern of results suggests that controlling for the effects of depressive symptoms leads to elimination of significant relation between codependency and avoidance dimension of attachment. Avoidant attachment is organized by rules that restrict attempts to seek comfort and support from others, whereas attachment-related anxiety reflects the degree to which individuals worry and ruminate about being rejected or abandoned. Our result may indicate that codependency is a pathological attachment style and has an anxiety component but not avoidance. There may be a reciprocal fulfillment of the needs of both dependent and codependent people. Similarly, anxiously attached people want to please others and need approval. This pattern is similar to other focus/self-neglect dimension of codependency and refers to compulsive helping, advice giving, controlling people, and having distorted boundaries. Consistent with this conceptualization, our result about codependency and the anxiety dimension of attachment style can be considered as a validity indicator for CODAT.

Codependency is considered as being associated with family problems. Significant correlation between family stressors and CODAT scores even after removal of family of origin subscale indicates the association between the two research variables. Also, participants with high CODAT scores did report more family problems, more authoritarianoppressive attitudes, insensitivity and inconsistency in relations, disharmony between parents, disorder in the house, intrusion, and abuse in relationships. These stressors are related to within-family issues and interrelationships among family members. On the other hand, depending on codependency levels, there are no differences in terms of reported social activity and health and social problems. Social activity and health and social problems subscales of FPYAES are related to social, community, and civic life domains. Social activity subscale includes items related to celebration of special days; invitation of friends to home; going to movie, theatre, and picnic; and so forth. Health and social problems subscale includes items such as obstacles in reaching the health system in case of illness, serious troubles of a family member with other people that cause legal problems, and so forth. Reported problems about those domains of family life are found to be not related with codependency. Results on family problems can also be considered as validity indicators. In this study, 4.5% of the participants indicated that there was at least one family member experiencing drug or alcohol addiction. We did not compare the CODAT scores of this group, with the remaining 95.5% due to the unequal sample sizes. Results of this study imply that not only alcoholism but also other stressors in the family are important in the development of codependency. This finding is congruent with the studies of Carothers and Warren (1996) and Fuller and Warner (2000).

This study reveals promising results about the reliability and validity of the Turkish form of CODAT. When its structure, consistency values, and the results on theoretically related concepts are taken into account, we suggest using CODAT in further studies in Turkey. Also, it must be kept in mind that reliability and validity of a scale can only be proved through the usage of that scale in different research projects. Attachment and family problems were investigated as theoretically related concepts with codependency. Similarity between the items of measurement tools for codependency and family stressors is one of the limitations of the study. Different concepts beyond family problems as validity indicators could be used in future studies. Before generalizing the results of different applications of the Turkish form of CODAT, further research on groups is needed. Although the original CODAT is valid and reliable both for males and females (Dear & Roberts, 2002; Martsolf et al., 1999), because codependency is widespread especially among women and nurses, we preferred to conduct the preliminary study with nurse candidates. Further studies with different samples and males are recommended before wide-range use of the scale. Besides gender of the participants, the age range of the sample is also another limitation. Most of the participants were young adults. Codependency may change with age because of maturity, marital status, employment status, and so forth. Longitudinal studies will add more about developmental changes of codependency.

Results of this study also imply the universality of codependency as a concept. Most of the codependency literature is based on Western studies where autonomy is encouraged. Emergence of codependency in Turkish culture with similar Western aspects may indicate the universality of the concept. Further studies will also highlight if codependency is a socially desirable or undesirable characteristic in Turkish culture and is associated with occupational success and promotion, especially among nurses in hospital settings. Severe levels of codependency may be dysfunctional, but lower levels may be a socially desirable characteristic, compatible with the image of a nurse in our culture. Depending on our results, future studies could include the investigation of codependency among nurses, its effects on the quality of nurse-patient interaction, effects on interactions with other health professionals, and the effects of codependency on the nurse's job performance and professional image. Measurement of depressive symptoms among nurses was not the primary aim of the study. However, results revealed high frequency of depressive symptoms for our sample. Future studies could also address the frequency of depression among nurses and political, social, educational, and mental health interventions toward it.

In conclusion, codependency seems to be a universal concept and has similar aspects both in Western and Turkish culture, and the Turkish form of CODAT reveals promising results as a measurement tool of codependency.

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