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UNIVERSITY OF ALBERTA

MEASURING AND DIAGNOSING CODEPENDENCY: CONSTRUCTION  
OF A TEST MANUAL FOR THE INDIVIDUAL OUTLOOK TEST



BY

MICHELLE JEAN WORTH

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of MASTER OF EDUCATION IN COUNSELLING PSYCHOLOGY.

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

EDMONTON, ALBERTA

FALL, 1992

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ISBN 0-315-77157-7

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TITLE OF THESIS: Measuring and Diagnosing Codependency: Construction of a  
Test Manual for the Individual Outlook Test

DEGREE: Master of Education in Counselling Psychology

YEAR THIS DEGREE GRANTED: 1992

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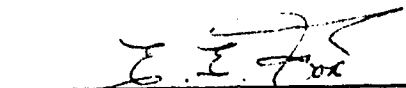
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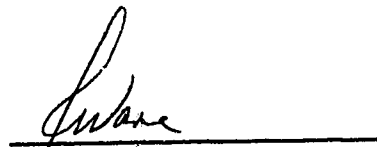
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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled "Measuring and Diagnosing Codependency: Construction of a Test Manual for the Individual Outlook Test" submitted by Michelle Jean Worth in partial fulfillment of the requirements for the degree of Master of Education in Counselling Psychology.

  
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Date: Aug 24 1992

**To Walter H. Worth, my friend and my father.**

## ABSTRACT

A test manual for a test of codependency, the 60-item Individual Outlook Test (IOT), is constructed. The manual provides a general description of the IOT and outlines the purpose and uses of the instrument. It presents the principles of use including the respondent population, user qualifications and ethical and legal issues related to the use of the IOT. Administration and scoring procedures are described and guidelines for the interpretation of total IOT score are delineated. The rationale and theoretical background germane to the development of the instrument is discussed including item selection and standardization procedures. The psychometric properties of the test, including internal consistency reliability, test-retest reliability, standard error of measurement, content, criterion-related and construct validity as well as factorial composition, convergent and divergent validity and the effects of moderator variables on IOT score, are reported. References pertaining to the development of the IOT are provided.

Evaluation of the internal consistency reliability resulted in Cronbach alphas of  $\alpha(300) = .91$  for the normative group and  $\alpha(45) = .94$  for the codependent criterion group. Test-retest procedures yielded a reliability coefficient of  $\alpha(13) = .98$ .

Content validity is established through adherence to current codependency literature in test item generation and an item-total correlation analysis and item-response frequency analysis. Criterion validity is demonstrated by the ability of the IOT total score to discriminate between individuals with a high degree of codependent orientation, the codependent criterion group ( $n = 45$ ), and both a matched sample ( $n = 45$ ) drawn from the normative sample and the normative

sample ( $n = 300$ ) as a whole. Factorial studies using the norm group extracted five factors which correspond to five main characteristics of codependency. The factors are designated: I. Self-Esteem/External Referencing; II. Anxiety; III. Dysfunctional Family of Origin; IV. Dysfunctional Relationships/External Locus of Control; and V. Dependency within Relationships (Alexander, 1992).



### Acknowledgements

The author wishes to acknowledge her indebtedness to a number of individuals. To Dr. E.E.Fox for his enthusiasm, support, advice and encouragement that empowered this project and to Gail Fox for her gentle presence. To Laurie Sim whose excitement about the IOT was contagious and whose help was invaluable. To Chris Andrew who was always there and whose sense of humor was a brightly burning candle of welcomed light. To Mark Gierl for his superb technical assistance with statistical analysis. To Walter H. Worth for his editorial expertise and words of wisdom. To my community, the Grey Nuns of Alberta, for their prayerful support of my studies and especially for Srs. Marcia Wiley and Desanges Gionet who journeyed with me patiently and faithfully. To Ray Douzic who believed in the dream and inspired me to follow it. To those who listened, offered encouragement and believed in my ability: Joan Worth, Odile Mahe, Susan Worth, Sandra Kendrick, Doris Rank and Michelle Gray. And finally, to those who made the thesis journey with me: Margaret Marcan, Lynda Grant, Linda Massimo, Chris Andrew and Troy Janzen.

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## CHAPTER I

### Introduction

The use of the term codependency represents a relatively recent descriptor in the chemical dependency field. Although it has been suggested that codependency lacks legitimacy as a diagnostic entity (Cermak, 1986a; Potter-Efron & Potter-Efron, 1989), there has been a proliferation of self-help books, workshops, journal articles and treatment strategies (Beattie, 1987; Cermak, 1984, 1986a, 1986b, 1991; Gomberg, 1989; Mendenhall, 1989; Wilson Schaef, 1986). However, it is evident in this literature that the controversy, confusion and a lack of consensus regarding the concept of codependency can be attributed to the lack of quantitative research that adheres to scientific methodology.

Initially, terms such as "co-alcoholism", "co-addiction", "enabler" and "codependency" were used interchangeably to describe the personality traits and behaviors associated with the wives of alcoholics as a function or causative agent of their husband's alcoholism (Ballard, 1958; Clifford, 1960; Corder, Hendricks & Corder, 1964; Edwards, Harvey & Whitehead, 1975; Price, 1944; Rae & Forbes, 1966). Contemporary literature has seen a broadening of this definition from dysfunctional traits and behaviors arising in the spouse as a consequence of alcohol/chemical dependence in their partner (Gierymski & Williams, 1986; Asher & Brissett, 1988), to include other family members (Black, 1981; Wegscheider, 1981; Woititz, 1983) and finally to a view that codependent behaviors arise out of any dysfunctional family system (Beattie, 1987; Gierymski & Williams, 1986; Subby, 1987; Whitfield, 1989, 1991). These definitions of codependency and the concomitant theory of etiology, including a behavioral approach (Whitfield, 1984), a personality disorder model (Cermak, 1984, 1986a, 1986b, 1991), an ego

psychology paradigm (Friel & Friel, 1988; Subby, 1987), a sociological perspective (Wilson Schaef, 1986) and a combined behavioral intrapsychic view (Wegscheider Cruse, Cruse & Bougher, 1990), are primarily based on clinical observations, self-diagnosis and retrospective case analysis. Of major concern is the lack of scientifically oriented research (Cermak, 1984, 1986a, 1986b, 1991; Gombert, 1989; Gierymski & Williams, 1986; Morgan, 1991) that allows delineation of codependency as a psychological construct.

Several attempts have been made to develop an instrument to measure and/or diagnose codependency (Friel, 1985; Fischer, Spann, & Crawford, 1991; Potter-Efron & Potter-Efron, 1989; Sim, 1991). The resulting instruments have varying degrees of psychometric soundness. Friel (1985) developed a set of questions based on his definition and conceptual model of codependency. He asked other counsellors to utilize the 60-item Friel Co-dependency Assessment Inventory (FCA) in order to gather data to develop a psychometric instrument. Although Friel acknowledges the clinical need for a psychometrically valid and reliable instrument to measure degree of codependency (Friel, 1985, p.20), the process he has utilized to develop the FCA does not adhere to the procedures for test development found in the American Psychological Association Standards for Educational and Psychological Testing (APA) (1985). In 1989, the Potter-Efrons developed a questionnaire to assist in the assessment of codependency. This questionnaire suffers from some of the same difficulties as the FCA. The Potter-Efrons fail to outline the process utilized in the development of the questions contained in their instrument and provide no information on what criteria or statistical method was used to determine the cut-off point for establishing the presence of and/or degree of codependency. Similarly, the procedure used to



develop the Spann Fischer Codependency Scale (Fischer, Spann, & Crawford, 1991) raises serious questions about the content validity of its items.

In contrast, Sim (1991) provides a detailed presentation of the process utilized to develop the 60-item, Individual Outlook Test (60IOT), an instrument designed to diagnose codependency. The codependency construct that forms the basis of the 60IOT is presented within a conceptual framework that specifies its meaning and distinguishes it from other constructs and definitions of codependency (p. 9-14). The initial process and statistical methodology used for selecting the content and the items included is clearly presented (p. 15-33). In addition, normative data intended to extend the validity network of the 60IOT is outlined (p. 34-37). However, Sim's work represents the initial stages in developing a psychometric tool. Further research is required to extend the validity and psychometric properties of the 60IOT in order for this instrument to become accepted and utilized in clinical practice.

The purpose of this research is to develop a test manual for the 60IOT that is based on scientific methodology. This will provide additional evidence that the 60IOT is a valid and reliable measure of codependency. In addition, gathering more data on the 60IOT will provide further quantitative support for codependency as a recognizable and measurable psychological construct.

## CHAPTER II

### Literature Review

#### Introduction

The lack of quantitative research and consensus on an operational definition of codependency has resulted in a bewildering array of differing conceptualizations of its nature, symptomatology, etiology, treatment and prognosis. There is an urgent need for a valid and reliable psychometrically derived instrument to assess codependency (Alexander, 1992; Cermak, 1984, 1986a, 1986b, 1991; Friel, 1985; Potter-Efron & Potter-Efron, 1989; Sim, 1991). This literature review is focused upon the attempts that have been made to develop a psychometrically sound instrument. While some review of the conceptual framework behind codependency is of necessity included, readers requiring an in-depth overview of the historical and conceptual development of codependency are referred to Alexander (1992) and Sim (1991).

#### Diagnosing and Measuring Codependency

Given the varying conceptualizations, definitions and etiologies regarding codependency, the development of a psychometrically valid and reliable instrument to measure and/or diagnose codependency is a complex task. Inherent in any attempt that adheres to the APA (1985) guidelines for test development is the development of a definition of codependency with objective criteria for diagnosis and/or measurement and the undertaking of empirical research using adequate diagnostic criteria to verify the existence of codependency as a reliable, valid and measurable entity.

### Codependency as a Personality Disorder

Cermak's (1986a) book represents the first attempt to offer diagnostic criteria for codependency. Although there is little agreement about whether codependency has diagnostic legitimacy, let alone that it is a disease entity, Cermak's use of the Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised (DSM-III-R) (American Psychiatric Association, 1987) to develop diagnostic criteria for codependency represents a needed movement to a more rigorous and systematic investigation of codependency.

Without such criteria, no standards exist for assessing the presence and depth of pathology, for developing appropriate treatment plans, or for evaluating the effectiveness of therapy. Treatment team members are hindered in their efforts to communicate clearly and understandably about specific clients, and comparison studies of co-dependency are not possible. Unless we begin gathering reliable and valid research data, co-dependence will remain confined to clinical impression and anecdote (Cermak, 1986a, p. 3).

Cermak's personality disorder model (1984, 1986a, 1986b, 1991) moves codependency into the mental illness framework. Critics of contemporary codependency literature voice a justifiable concern that persons could be labeled and exploited for characteristics that exist, in varying degrees, in most people (Morgan, 1991; Gomberg, 1989; Gierymski & Williams, 1986). Cermak (1986a) suggests that the answer to this dilemma lies in the distinction between personality traits and personality disorders. According to the DSM-III-R, "personality traits are enduring patterns of perceiving, relating to, and thinking about the environment and oneself, and are exhibited in a wide range of important and personal contexts" (p. 335).

Personality traits do not constitute personality disorders until they become "inflexible and maladaptive and cause either significant functional impairment or subjective distress" (p. 335 ). As Cermak (1986a) notes:

The critical point for our purposes is that while co-dependent traits may be widespread, *the diagnosis of Co-Dependent Personality Disorder can only be made in the face of identifiable dysfunction resulting from excessive rigidity or intensity associated with these traits* (p. 10).

Although codependency has been described as resembling the Dependent Personality Disorder (Coleman, 1987; Smalley & Coleman, 1987), Cermak (1986a) rejects this as not embodying the true complexity of codependency. Rather, a classification of codependency as a Mixed Personality Disorder is suggested as a way of encompassing the variety of symptoms observed in codependents (Cermak, 1986a, 1986b). The DSM-III-R replaced Mixed Personality Disorder with the Personality Disorder Not Otherwise Specified classification and indicates that this category can be utilized when an individual exhibits "features of more than one specific Personality Disorder that do not meet the full criteria for any one, yet cause significant impairment in social or occupational functioning, or subjective distress" (p. 358). Cermak (1991) proposes that "the formal designation would be Personality Traits/Disorder Not Otherwise Specified (Co-Dependent Type) 301.90" (p. 270).

Cermak's diagnostic criteria provide the framework to integrate codependency into the standard nomenclature of the DSM-III-R and differentiates it from other disorders. However, the personality disorder model of codependency has not met with widespread acceptance (Gomberg, 1989; Harper & Capdevila, 1990). It has been criticized on the ground that the symptoms described in the

literature are so numerous and diverse " that it would require four separate *DSM* categories to contain it, combining characteristics found in Alcoholism, and the Dependent , Borderline, and Histrionic Personality Disorders, as well as an additional category made up of 'associated features' " (p. 289). Although Cermak's diagnostic criteria may be useful as descriptors of a codependent orientation, the lack of quantitative research to support the personality disorder model of codependency raises some justifiable concerns. In this model

we have moved . . . [the concept of codependency] from the impact of a substance abusing member on other family members to anyone who grew up in an 'emotionally repressive family', to psychiatric diagnosis and treatment of the family member" (Gomberg, 1989, p. 116).

It is questionable whether pathologizing codependency into a personality disorder by " . . . introducing a syndrome for which there are inadequate theoretically established boundaries and meanings and which lacks empirical support" (Gierymski & Williams, 1986, p. 12) supports the primary obligation of helping professions to "first of all, do no harm" (Becvar, Becvar & Bender, 1982). Also, there is concern that labelling those individuals who are codependent as having a personality disorder may negatively impact on the process of recovery. For as Cermak (1986a) himself notes "character disorders are often considered difficult to treat successfully" (p. 101).

A review of the literature to date indicates that Cermak's diagnostic criteria has not been supported by empirical research. Use of the Minnesota Multiphasic Personality Inventory (MMPI) with 207 white females identified as codependent using Cermak's diagnostic criteria revealed no codetypes specifically indicative of codependency (Martin, 1991). While codependency might be a useful descriptive

label for those individuals exhibiting dysfunctional behaviors, it is not suitable as a diagnostic label for a personality disorder or any other clinical syndrome (Martin, 1991). Cermak (1986a) states that "the process of pathologizing human behavior is dangerous and should be entered into only under the weight of compelling evidence " (p. 100). At this time, the 'compelling evidence' for codependency as a personality disorder, which by necessity needs to be quantitative, is not available.

#### Existing Attempts to Develop Instruments to Measure Codependency

A review of the codependency literature indicated that there have been few attempts to develop a psychometric instrument to measure codependency. Several of the attempts have flawed methodology. For example, Snow and Willard (1989) adapted a 121-item self-assessment inventory to measure codependency in practising nurses but acknowledge that the statements in the inventory are based on personal and professional judgements as to what comprises codependency and not on any statistical technique (p. 38). Fisher and Beer (1990) created a questionnaire based on the work of Beattie (1987). Although 25 codependent characteristics in ten of the 14 categories identified by Beattie (1987) were included in the questionnaire (Fisher & Beer, 1990), validation procedures were not provided. While Brewer, Zawadski, and Lincoln's (1990) research on the characteristics of alcoholics and codependents who did and did not complete treatment requires a diagnosis of codependency for a participant to be included in the study, a description of the diagnostic procedures used is not included. However, the increasing emphasis in the codependency literature on the need for a psychometrically derived instrument (Alexander, 1992; Friel, 1985; Sim, 1991) has resulted in the development of several instruments which demonstrate varying degrees of psychometric soundness.

Friel co-dependency assessment inventory (FCA):

In 1985, Friel developed a set of 60 questions to measure degree of codependency. The questions are based on Friel's definition and conceptual model of codependency which he developed from subjective clinical impressions.

*Codependency is a dysfunctional pattern of living which emerges from our family of origin as well as our culture, producing arrested identity development and resulting in an over-reaction to things outside of us and an under-reaction to things inside of us. Left untreated, it can deteriorate into an addiction (Friel & Friel, 1988, p. 157).*

The questions in the FCA appear to address the symptomatology Friel associates with being codependent and are subsumed under "dysfunctional pattern of living" in his definition. These include

. . . depression, tolerance of inappropriate behavior, dulled or inappropriate affect, self-defeating coping strategies, strong need to control self and others, stress-related physical symptoms, abuse of self, neglect of self, difficulty with intimacy and/or sexuality, fear of abandonment, shame, inappropriate guilt, eventual addictions, [and] rages . . . " (p. 157).

The FCA is intended to be used as either a self-exploration tool or in clinical practice (Friel & Friel, 1988, p. 163). The response format calls for a true or false answer for the 60-items. Scoring is accomplished by totaling 1 point for each "true" response to even-numbered questions and 1 point for each "false" response to odd-numbered items with a maximum score of 60 (p. 163). This format is designed to control for acquiescent response sets (Friel, 1985, p. 21). According to Friel and Friel (1988), scores from 10 to 20 indicate mild codependency concerns, 21 to 30 mild/moderate, 31 to 45 moderate/severe and over 45 severe

concerns (p. 163). However, the empirical basis for the interpretation of the scores on the FCA is not presented.

Friel (1985) asked other counsellors to utilize the 60-item FCA in order to obtain data to enhance the psychometric properties of the instrument. To date, whatever data has been collected has not been published. ~~Also~~, it can be concluded that the process used by Friel to develop the FCA violates ~~many~~ of the procedures for test development outlined in APA (1985) and is based primarily on face validity.

Elliot (1991) sought to examine the construct validity of the FCA via its relationship with the Adjective Check List (ACL) which measures well-researched personality traits. The results suggest that these two inventories are independent (Elliot, 1991). West-Willette's (1990) study to assess the internal consistency of the FCA did not find significant differences in the factor structure of the FCA between a group of women having a positive history of alcoholism in family members and a group of women with a negative history in family members. However, the high codependency scores on the FCA for both groups of women raises questions about construct, content and discriminate validity. It is evident that further empirical research is required before the FCA can be accepted as a valid and reliable measurement of codependency.

#### The codependency assessment questionnaire (CAQ).

Recognizing the need for an instrument to utilize in the assessment process, the Potter-Efrons (1989) developed the CAQ. Based on clinical judgement, the CAQ was designed to measure a specific, limited concept of codependency.

*A co-dependent is an individual who has been significantly affected in specific ways by current or past involvement in an alcoholic, chemically dependent, or other long-term, stressful family environment. Specific*



*effects include: (a) fear; (b) shame/guilt; (c) prolonged despair; (d) anger; (e) denial; (f) rigidity; (g) impaired identity development; and (h) confusion (p. 39)*

The questionnaire is organized according to the eight major characteristics, or specific effects, that the Potter-Efrons believe are most frequently found in codependent individuals. Subsumed under each category are a series of questions that appear to describe behaviorally the characteristic being assessed. For any category to be considered positive for codependency, a minimum of two questions in that category must be answered in the affirmative. In addition, codependency can be assessed when

1. The individual has been or is currently exposed to a long-term highly stressful family environment, including but not limited to alcohol dependency of another family member.
2. The individual reports (or is observed to have) at least 5 of the . . . 8 characteristics" (p. 39).

The CAQ is intended to be administered as part of a one-to-one assessment interview process and not used as a self-assessment tool.

Unfortunately, there is no information provided on what criteria or statistical method was used to determine the cut-off point for establishing the presence and/or degree of codependency. Although each of the characteristics/categories is described behaviorally, there is no information provided to suggest that the process utilized in the development of the questions for the CAQ or the categories have an empirical basis or adhere to the APA (1985) guidelines for test development. As a further review of the literature did not reveal any psychometric data for the CAQ,

further quantitative research is required before the CAQ can be deemed valid and reliable for clinical use in diagnosing codependency.

Spann-Fischer codependency scale (SF CDS).

The 15-item SF CDS (Fischer, Spann & Crawford, 1991) is a short, paper-and-pencil measure of codependency. The working definition of codependency which the scale is purported to measure is

{a} psychosocial condition that is manifested through a dysfunctional pattern of relating to others. This pattern is characterized by: extreme focus outside of self, lack of open expression of feelings, and, attempts to derive a sense of purpose through relationships (Spann & Fischer, 1990, p. 27).

Although the authors indicate that this definition is based on " . . . eighteen overlapping characteristics which they collapsed into three areas for a working definition of codependency . . . " (Fischer et al., 1991, p. 88), the criteria and/or statistical methodology utilized to select the eighteen characteristics is not delineated.

A 38-item pilot instrument based on the 1990 Spann and Fischer definition was developed and reviewed by experts (Fischer et al., 1991, p. 91). However, the qualifications of the experts and the results of their review is not outlined. Also, the process utilized to generate the 38 items is not described nor the relationship of these questions to the three areas contained in their definition of codependency. Items that had item-total correlations below .30 were omitted leaving a 15-item scale (p. 91). Test-retest reliability of the 15-item SF CDS has a correlation of .87 and internal consistency Cronbach's alphas of .86 at both time 1 and time 2 (p. 91). While this shortened scale is claimed " . . . to [retain] all the essential characteristics of codependency developed in the working definition . . . " (Fischer et al., 1991, p.

91) there is no evidence as to the 15 questions representativeness of the three areas. In addition, a 16th item is added (Fischer et al., 1991, p. 91) with no reason given for its inclusion.

The SF CDS calls for responses on a six-point Likert type scale. To obtain a scale score, the items are summed with reverse scoring for items 5 and 7 (Fischer et al., 1991, p. 100). Although the authors do not state the reason for the reverse scoring, it is assumed that it is related to controlling for response-set bias. Higher scores on the SF CDS are reflective of greater codependency (p. 91). Although mean scores for the 5 groups utilized in the research designed are reported, the meaning of the resultant scores in terms of codependent orientation is not discussed.

One of the conclusions reached by Fischer, Spann and Crawford is that the content validity of the SF CDS has been established " . . . through review by experts in the field as well as by factor analysis which revealed support for the definition out of which the scale was derived . . . " (1991, p. 95). However, the above mentioned process for the development of the SF CDS appears to violate two important guidelines for test development as outlined by the APA (1985). Standard 1.6 states that,

. . . the procedures followed in generating test content to represent that universe should be described. When the content sampling is intended to reflect criticality rather than representativeness, the rationale for the relative emphasis given to critical factors in the universe should also be described carefully (p. 14).

In addition, Standard 1.7 indicates that "when subject-matter experts have been asked to judge whether items are an appropriate sample of a universe . . . the

91) there is no evidence as to the 15 questions representativeness of the three areas. In addition, a 16th item is added (Fischer et al., 1991, p. 91) with no reason given for its inclusion.

The SF CDS calls for responses on a six-point Likert type scale. To obtain a scale score, the items are summed with reverse scoring for items 5 and 7 (Fischer et al., 1991, p. 100). Although the authors do not state the reason for the reverse scoring, it is assumed that it is related to controlling for response-set bias. Higher scores on the SF CDS are reflective of greater codependency (p. 91). Although mean scores for the 5 groups utilized in the research designed are reported, the meaning of the resultant scores in terms of codependent orientation is not discussed.

One of the conclusions reached by Fischer, Spann and Crawford is that the content validity of the SF CDS has been established " . . . through review by experts in the field as well as by factor analysis which revealed support for the definition out of which the scale was derived . . . " (1991, p. 95). However, the above mentioned process for the development of the SF CDS appears to violate two important guidelines for test development as outlined by the APA (1985). Standard 1.6 states that,

. . . the procedures followed in generating test content to represent that universe should be described. When the content sampling is intended to reflect criticality rather than representativeness, the rationale for the relative emphasis given to critical factors in the universe should also be described carefully (p. 14).

In addition, Standard 1.7 indicates that "when subject-matter experts have been asked to judge whether items are an appropriate sample of a universe . . . the

relevant training, experience, and qualifications of the experts should be described" (p. 15). It is questionable whether either of these Standards have been adequately addressed in the development of the SF CDS.

Although the procedures and research results outlined by Fischer et al. (1991) are empirically based and suggest the SF CDS has satisfactory construct, concurrent, convergent and discriminatory validity, it is evident that shortfalls in methodology call their claims into question. Additional evidence to substantiate a claim of adequate validity is needed before the psychometric properties of this instrument are sufficient to warrant its use in the clinical assessment of codependency.

#### Individual outlook test (60IOT).

In 1991, Sim developed the 60-item Individual Outlook Test. The definition of codependency that initially guided the development of this instrument (Sim, 1991, p. 14) was based on Subby's (1987) work. Subby (1987) defines codependency as

an emotional, behavioral and psychological pattern which develops as a result of prolonged exposure to and practice of a dysfunctional set of family rules. In turn, these rules make difficult or impossible the open expression of thoughts and feelings. Normal identity development is thereby interrupted (p. 84).

Subsequent factor analysis of the 60IOT (Alexander, 1992) suggests that the definition of codependency measured by this instrument should be further delimited to " . . . a persistent, self-defeating pattern of intra- and interpersonal relationships characterized by poor self-worth, dependency, disturbed emotional development, and anxiety, and driven by an extreme external locus of control" (p. 39).

In order to provide descriptors for behavior patterns typically ascribed to codependent persons and to further operationalize the codependency construct, Sim systematically reviewed current codependency literature and identified 11 basic reference sources on which the major part of the literature was dependent (p. 15). These sources were content analyzed and 117 descriptors identified (p. 15). Subsequent analysis of the descriptors allowed them to be subsumed under 14 categories (p. 24). This portion of Sim's work clarifies the codependency construct within a conceptual framework that specifies its meaning and distinguishes it from other constructs and other definitions of codependency. In addition, the foundation for the creation of test items that sample a clearly delimited and defined universe is provided.

Sim constructed her test items using a systematic procedure that appears to embody the APA (1985) guidelines. 174 items were initially generated with the number of items allocated to each of the 14 categories being determined by the incidence of citation in the 11 basic reference sources (p. 25-26). Nineteen forced-negative items were included to control for a fixed response set (p. 26). Subject-matter experts in the field of codependency reviewed the 174 items and items " . . . unable to be categorized as representative of the 14 descriptor topics were rejected and/or modified with [their] assistance" (p. 26). This process resulted in a 100-item version of the IOT with 13 forced-negative items to combat agreement-response set (p. 26). Sim's procedure for item development outlines the criteria used to select items as representative of the codependency construct and the rationale for the relative emphasis given to critical factors in this universe (APA, 1985).

The initial 100-item IOT was subsequently administered to a sample of  $n = 178$ . This sample was composed of 110 females and 68 males ranging in age from 19 to 67 years. These individuals included an undergraduate class in educational psychology ( $n = 47$ ), a class of students at a private marketing and administration college ( $n = 24$ ) and non-students from rural and urban centers ( $n = 107$ ) (p. 27). To ensure a semi-stratified sample along socio-economic lines, data for the Blishen Socioeconomic Scale (Blishen & McRoberts, 1976) was collected and resulted in a mean and standard deviation that was "... found to be acceptably close to the figures ... for the City of Edmonton as reported by Elley (1961) for a random sample of 400" (Sim, 1991, p. 29). The data for the 100-item IOT was subjected to item-total correlations using the Pearson Product Moment Correlation and an item-response frequency analysis. Items with a correlation of greater than  $r = .3$  and a mean range on the Likert scale between 1.5 and 4.5 and a standard deviation range between 1.0 and 1.5 were retained. This resulted in 56 items. As insufficient items designed to control for response-set bias remained, four items, significant at the .05 level but below the .3 correlation cut-off were included (#2, 5, 18, 46) (p. 29). The final version of the IOT has 60 items with six of these designed to control for response bias (p. 29-30).

The 60IOT was administered to a sample of  $n = 107$ . This sample was composed of graduate students in an education psychology course ( $n = 17$ ) and random non-student contacts ( $n = 90$ ). These individuals ranged in age from 22 to 74 years, represented both rural and urban populations and females ( $n = 70$ ) and males ( $n = 37$ ) (p. 30). Blishen Scale results for socioeconomic status were acceptably close to the figures for the City of Edmonton as reported by Elley (1961) (Sim, 1991, p. 31).

Sim's (1991) answer and scoring protocol for both the 100-item and 60-item IOT calls for responses to be made on a five point Likert type scale and recorded on a separate, computer scanned answer sheet. Of the 60 items in the IOT, 54 have five weightings of 5, 4, 3, 2, and 1 from strongly agree to strongly disagree and 6 items have reverse weightings to control for response-set bias. The reverse weightings were accounted for at the time of scoring. The higher the total raw score derived from the addition of these two types of weightings, the higher the codependent orientation. However, Sim does not address the clinical implications of the raw scores.

Sim's (1991) procedure for the development of the two versions of the IOT appears to adhere to the APA guidelines. Content validity of the 100-item instrument and by extension, the 60IOT was established

1. through adherence [sic] to the specific content described in the literature [.]
2. through acceptance of only those items upon which three competent judges were in accord (p. 32).

Criterion validity was established by comparing the scores of professionally diagnosed codependents ( $n= 18$ ) and a matched sample along age, gender and socio-economic lines from the norm group ( $n= 18$ ) (p. 32, 34-35). The codependent group scored significantly higher ( $M= 179.83$ ,  $SD= 40.68$ ) than the matched sample ( $M= 156.0$ ,  $SD= 22.21$ ) (p. 37). The matched sample was not significantly different from the norming group ( $M= 158.15$ ,  $SD= 26.98$ ) (p. 35). In addition the codependent group was significantly higher than the norming group. Based on these results Sim concludes that the 60IOT is a valid measure of



codependency and that the results " . . . add to the construct validity network surrounding the 60IOT" (p. 37).

The issue of the reliability of the 60IOT was addressed in two ways. First, test-retest data was gathered using a sample of graduate students ( $n= 10$ ) in an education psychology class. The test-retest on the 60IOT at a three to four-week interval resulted in a Pearson Product Moment Correlation Coefficient of  $r= .89$  and Standard Error of Measurement of 8.90. Second, internal consistency for the  $n= 107$  sample resulted in a Cronbach Alpha Coefficient of  $r= .88$  (p. 32-33).

Construct validity " . . . focuses primarily on the test score as a measure of the psychological characteristic of interest" (APA, 1985, p. 9). This type of validity is also concerned with the clarity of definition of the constructs involved (Crocker & Algina, 1986). Factor analysis is one of the methods utilized in construct validation and is also an important tool for reliability as well as validity. Alexander's (1992) factor analysis of the 60IOT resulted in five factors which are congruent with codependency literature (Alexander, 1992, p. 42).

Factor I is Self-Esteem/External Referencing and suggests " . . . an emphasis on an externally derived sense of self-worth" (Alexander, 1992, p. 35) and accounted for 17.5% of the variance. Factor II is named Dysfunctional Relationships/External Locus of Control with the emphasis on " . . . behaviors which appear under the control of forces, such as the expectations of others, which are external to self" (p. 35). This factor accounted for 4.7% of the variance (p. 35). Factor III, Dependency within Relationships accounted for 4.2% of the variance. The focus in this factor is on " . . . self-definition through a relationship" (p. 35). Factor IV, Dysfunctional Family of Origin appears to probe an abusive and/or unhappy childhood. "It may be related to issues concerning emotional and

interpersonal development and thus may reflect some aspects of etiology" (p. 36). This factor is congruent with the codependency literature that describes children in dysfunctional families who cope by anticipating the needs of other (Black, 1982; Subby, 1987; Wegscheider, 1981; Wilson Schaef, 1986) and accounts for 3.5% of the variance. Factor V. Anxiety, appears " . . . to indicate a state of generalized anxiety over which the individual has little control. A sense of despair, which seemed to be related to locus of control issues, was inherent in this cluster of items" (p. 36). Factor V accounts for 3.1% of the variance.

According to Alexander (1992) the "principal axis factor analysis provided further evidence for content and construct validity, and indicated five factors underlying the test. These corresponded to five main characteristics of codependency" (p. 37). The total variance accounted for by the five factors is about 27 % (p. 35). As the variability of the data appears to be accounted for by factors unrelated to the five identified, this may suggest " . . . that some of the constituent parts of codependency are not probed by the IOT" (Alexander, 1992, p. 38). T. Rogers, as noted in Alexander (1992, p. 38), suggests " . . . that variance unaccounted for is of little practical concern, provided that the factors themselves are interpretable and sensible, and the items load cleanly on each factor" (p. 35). In addition, 14 of the 60 items were not easily assignable clearly to a single factor.

Convergent validity is examined via correlations between measures of the same construct using different measurement methods. Convergent validity was evaluated by comparing the IOT to another index of codependency, the Codependency Questionnaire (CAQ) (Potter-Efron & Potter-Efron, 1989) (Alexander, 1992). The sample consisted of clients ( $n = 18$ ) from a psychoeducational group for codependents at the Alberta Alcohol and Drug Abuse

Commission (AADAC) Downtown Treatment Center in Edmonton, Alberta. These subjects had been identified as codependent by AADAC personnel based on the characteristics of codependency observed in the spouses of chemical dependents and cited in the literature (p. 25). Ages ranged from 26 to 51 years with a mean of 36 years (p.25). The average socioeconomic level using the Blishen Scale (Blishen &McRoberts, 1976) was 48.0, with a standard deviation of 13.8 (p.25).

The Pearson Product Moment Correlation Coefficient was used to determine the association between the IOT and the CAQ. Alexander reported that "the extent of agreement between the IOT and the CAQ ( $r = .89, p \leq .05$ ) indicates that there is a strong positive and significant relationship between the two tests" (p. 33). As Alexander notes, the high correlation between the CAQ and IOT is not evidence that they are equally reliable and valid. Rather, since their development was based on close attention to the current codependent literature, it is assumed that both measure the same construct, that is codependency (p. 37).

Sim's (1991) and Alexander's (1992) research suggests that the 60IOT has many properties necessary for its preliminary acceptance as a valid and reliable instrument to measure and/or diagnose codependency. Nevertheless, this work constitutes only the initial stages in developing a psychometric tool. APA (1985) notes that when judging the short-term acceptability of a test under development there needs to be " . . . a clear indication of continuing and significant improvement in the research base directed toward observance of the standards" (p. 3). Further research is needed to extend the psychometric properties and validity network of the 60IOT prior to its acceptance and use in clinical assessment. The 60IOT does however have a sophisticated psychometric background such as to render it a very viable research tool.

### Conclusion

The conceptual, research and therapeutic value of codependency as a psychological construct is severely limited by the lack of quantitative research. In the literature review, various attempts at developing instruments to measure and/or diagnose codependency were described. Of the four attempts that have resulted in tools with varying degrees of psychometric soundness, the 60IOT more closely adheres to the APA (1985) guidelines and has preliminary evidence of construct, content and criterion validity and reliability.

Development of a test manual for the 60IOT that is based upon scientific methodology and directed towards adherence to the APA (1985) standards will encourage use of the 60IOT in a variety of contexts which, in turn, will provide further evidence of the validity and reliability of this instrument.

## CHAPTER III

### Methods and Procedures

#### Introduction

Inherent in a psychometric process of test development is the responsibility to provide empirically based evidence of validity and reliability. The preliminary validity network and reliability of the Individual Outlook Test (IOT) has been provided in the work of Sim (1991) and Alexander (1992). Construction of a test manual would serve to enhance use of the IOT as a research tool and in clinical assessment.

#### Rationale for Construction of a Test Manual for the IOT

The rationale for the construction of a test manual is twofold. First, it would provide a guide for the proper interpretation of test results and use of the instrument. Secondly, test developers have a responsibility to ". . . compile the evidence bearing on a test, decide which information is needed prior to test publication or distribution and which information can be provided later, and conduct any needed research" (APA, 1985, 3.1). The test manual would provide the vehicle to begin to address this objective.

Perusal of the APA Standards for Educational and Psychological Testing (1985), and manuals for published personality tests such as the Minnesota Multiphasic Personality Inventory-2 (Hathaway & McKinley, 1989), Sixteen Personality Factor Questionnaire (Institute for Personality and Ability Testing, 1972), the Personality Research Form (Jackson, 1984), California Psychological Inventory (Gough, 1975) and the Jackson Personality Inventory (Jackson, 1976) suggest that the manual for the IOT needs to address six major areas. These are : (a) purpose, uses and principles of use, (b) administration and scoring procedures,

(c) interpretation of IOT total score, (d) the rationale and theoretical background for the IOT including the item selection and standardization procedures, (e) psychometric properties, and (f) a reference list of literature central to the development of the IOT that would aid in the appropriate administration and interpretation of the scores obtained on the instrument.

As it is assumed that not all users of the manual and the IOT will have read the material contained in this thesis or Sim's (1991) original material and Alexander's (1992) work, the following test manual is written in a stand-alone format. This will necessitate iteration of some points previously presented. In addition, a limited amount of new data not previously considered in the preliminary development of the IOT will be included.

#### Summary

Further empirical evidence of the validity and reliability of the IOT as a valid and reliable instrument to measure codependent orientation will be provided through the construction of a test manual. The presentation of new data will provide additional quantitative evidence of codependency as a diagnostic entity and psychological construct.

## CHAPTER IV

### The Individual Outlook Test Manual

#### I. Introduction to the Individual Outlook Test

The **Individual Outlook Test (IOT)** is a self-report measure designed to assess codependent orientation in adults, 18 years and older. Development of the IOT was prompted by the lack of availability of a psychometrically derived instrument that was a valid and reliable measure of codependency.

Professional interest in the assessment and remediation of codependency is prominent in the psychological and chemical dependency literature. The use of the term codependency represents a relatively recent descriptor in the chemical dependency field. Although it has been suggested that codependency lacks legitimacy as a diagnostic entity (Cermak, 1986a; Potter-Efron & Potter-Efron, 1989), there has been a proliferation of self-help books, workshops, journal articles and treatment strategies (Beattie, 1987; Cermak, 1984, 1986a, 1986b, 1991; Gomberg, 1989; Mendenhall, 1989; Wilson Schaef, 1986). The lack of quantitative research and consensus on an operational definition of codependency has resulted in a bewildering array of differing conceptualizations of its nature, symptomatology, etiology, treatment and prognosis. There is an urgent need for a valid and reliable psychometrically derived instrument to assess codependency (Alexander, 1992; Cermak, 1984, 1986a, 1986b, 1991; Friel, 1985; Potter-Efron & Potter-Efron, 1989; Sim, 1991). Although a limited number of instruments have been developed to diagnose and/or measure codependency, many of these fail to meet the minimum standards for reliability and validity, and few have gained general acceptance by clinicians. The IOT developed by Sim (1991) has a

sophisticated psychometric background such as to render it valid and reliable in the measurement and/or diagnosis of codependency.

### General Description of the IOT

The IOT is a 60-item, pencil and paper, self-report measure that aids in assessing codependent orientation in adults. Test-takers are asked to respond to statements which pertain to general outlook on life and include items related to subjective experiences, past and present behaviors, attitudes and feelings. Responses are recorded on a 5-point Likert type rating scale from "Strongly agree" to "Strongly disagree". The responses are then hand-scored to evaluate degree of codependent orientation. An overall assessment of codependent orientation is reflected in a total score with increasing magnitude of score indicating an increasing codependent orientation.

The IOT is easy to administer, score and interpret and can be used as a screening instrument. Although administration times vary for individual clients, the entire test can usually be administered, scored and interpreted in less than 50 minutes. In addition, the IOT may be administered either individually or to a group of clients. The IOT should prove useful in a variety of settings where an assessment of the degree of codependent orientation is required.

### Purpose and Uses

The IOT measures self-reported attitudes, feelings and behaviors that have bearing on degree of codependent orientation. The IOT is intended to be utilized as an adjunct to psychotherapy and/or counselling and not for self-assessment.

The IOT can also be used to monitor changes in codependent orientation over time. For example, it could be used to examine the degree of codependency before interventions such as group therapy or one-to-one counselling and after a



specific number of sessions. The IOT could also be used to explore individual response patterns which may help to suggest directions for further exploration in psychotherapy and assist clinicians in choosing among alternative interventions.

### Principles of Use

#### Respondent population.

The IOT is intended for use with adults, 18 years and over, who have been or are currently exposed to a dysfunctional family system which may include, but is not limited to, chemical dependency in a family member. As codependent characteristics exist in varying degrees in most people, the degree of functional impairment or subjective distress reported by or observed in an individual should be used to guide the appropriate administration and clinical use of the IOT. The reading difficulty of the IOT is approximately at a sixth-grade level.

#### User qualifications.

Appropriate administration and interpretation of the IOT requires some knowledge of psychological testing and related fields such as statistics, individual differences and the psychology of personality and codependency. Minimum qualifications would normally include a master's degree in psychology/counselling psychology or in a related field with appropriate background in psychological testing or a combination of some formal training as a counsellor or therapist and clinical experience.

The IOT may also be used by persons not meeting any of the above qualifications if they are under the supervision of a person who is qualified. When important decisions are based on IOT scores, such as those related to treatment programs or termination of therapy, such applications must be closely monitored by qualified personnel.

### Ethical and legal issues.

Use of the IOT in both research and clinical settings should adhere to the guidelines contained in the Canadian Code of Ethics for Psychologists (1986) or the American Psychological Association (1981) professional and ethical standards. As with any test instrument, the IOT should not be used without informed consent of the client. In addition, test users should ensure confidentiality of the test results. Discussion of test results with individual clients should focus on the qualitative aspects or the meaning for day-to-day living rather than merely reporting the test score. Whenever possible, the person interpreting the test should enlist the aid of the client in understanding and exploring the implications of the test results.

## II. Administration and Scoring

### Administering the IOT

Material needed to administer the IOT include a pen or pencil and the IOT Test Form. The Test Form has three pages with carbon placed between the 2nd and 3rd pages. The top page asks for identifying demographic data including name, gender, age, marital status, education, occupation and date of completing the test. Items 1-29 are contained on the 1st page (Figure 1) with items 30-60 on the second page (Figure 2) along with instructions and spaces for responding to each item. The 3rd page (Figure 3) is intended for use by the person administering the test. It includes the demographic data and responses from the client as well as space for calculating the total score and instructions for classifying the resultant score.

After ensuring that the demographic information is completely filled in at the top of the 1st page of the Test Form, the examiner should give the following directions:

Here are some statements which will help me to better understand your outlook on life and how you feel and act. There are no right or wrong answers. I want you to read each statement and decide how much you agree or disagree with the statement as it relates to you. Then circle the response in the appropriate column. For example, consider the statement " I like warm, sunny days". Do you "strongly disagree", "disagree", "sometimes agree and sometimes disagree", "agree" or "strongly agree" with this statement ?

While giving these directions aloud, the examiner points to the item and each of the five answer columns. After the client has responded, the examiner circles the letter(s) in the appropriate box and says:

Now, I want you to complete the rest of the items in the same way.

Make sure that you mark an answer for each statement. If you have any questions, please let me know.

Items that the client has difficulty understanding should be explained by the examiner as neutrally as possible. As with any psychological test, establishing and maintaining rapport is essential to help facilitate valid responses to test items.

### Scoring the IOT

To score the IOT, open the Test Form by tearing along the perforated edges and remove the examiner's version of the test form. Then add the individual item values in the boxes which the client has marked and place the total score in the box in the middle of the Test Form. Next, look up the classification of the total score on the left-hand side of the Test Form. Enter this classification in the middle box in the appropriate space.

Figure 1

IOT Test Form: Client's Version - Page 1

**INDIVIDUAL OUTLOOK TEST (IOT)**

Name: \_\_\_\_\_ Sex: F M Age: \_\_\_\_\_ Marital Status: \_\_\_\_\_  
 Education: \_\_\_\_\_ Occupation: \_\_\_\_\_ Date: \_\_\_\_\_

<p>Listed below are a series of statements that some people might use to describe their outlook on life. Please read each statement and decide how much you agree or disagree with the statement as it relates to you. Then circle the letter(s) in the box that indicates the degree to which the statement applies to you.</p>	<p><b>EXAMPLE:</b> SD = Strongly Agree                  D = Disagree                  A/D = Sometimes Agree, sometimes Disagree                  A = Agree                  SA = Strongly Agree</p> <p>1. I like warm, sunny days.      S D A/D A SA                  D</p>
--	---

1. I sometimes feel that I'm not good enough to associate with the people I meet.	SD	D	A/D	A	SA
2. I never try to help people unless I'm asked.	SD	D	A/D	A	SA
3. I have often done things without thinking them through properly and later regretted my decision.	SD	D	A/D	A	SA
4. I feel anxious or tense about something or someone almost all the time.	SD	D	A/D	A	SA
5. I had a happier childhood than most other people.	SD	D	A/D	A	SA
6. I have had partners who didn't treat me very well.	SD	D	A/D	A	SA
7. It seems to me I have spent my whole life trying to please others.	SD	D	A/D	A	SA
8. Although I appear strong and capable to others, there is a part of me that isn't strong at all.	SD	D	A/D	A	SA
9. I have been close to people who did illegal things and I found excuses for what they did.	SD	D	A/D	A	SA
10. Often when asked for my opinion, I find out what other people think before I say what I think.	SD	D	A/D	A	SA
11. I often feel there is something bad about me.	SD	D	A/D	A	SA
12. I am not ashamed of my childhood.	SD	D	A/D	A	SA
13. I can't remember the last time I felt totally carefree and relaxed.	SD	D	A/D	A	SA
14. Sometimes I don't know who the real me is.	SD	D	A/D	A	SA
15. I have on many occasions, checked up to see where my partner is when he or she is not with me.	SD	D	A/D	A	SA
16. I tend to believe things people say and often find out later that they have lied.	SD	D	A/D	A	SA
17. I have trouble thinking of the right things to say when in a group of people.	SD	D	A/D	A	SA
18. I feel I fit in at most social gatherings.	SD	D	A/D	A	SA
19. I feel best about myself when I'm having a romantic relationship.	SD	D	A/D	A	SA
20. Often, others find things amusing that I don't consider funny.	SD	D	A/D	A	SA
21. Even a small kindness from a person I've had a problem with makes me forgive and forget.	SD	D	A/D	A	SA
22. I don't undertake any project unless I'm pretty sure I'll succeed.	SD	D	A/D	A	SA
23. There are things I have done or had happen to me in the past that I am ashamed to talk about.	SD	D	A/D	A	SA
24. I have often said hurtful things to people I love in order to get them to listen.	SD	D	A/D	A	SA
25. I am embarrassed when people give me compliments but secretly I feel good.	SD	D	A/D	A	SA
26. I can be easily swayed from doing something if others criticize it.	SD	D	A/D	A	SA
27. When things go wrong for others, I often blame myself even when I shouldn't.	SD	D	A/D	A	SA
28. I don't worry very much about what the future holds for me.	SD	D	A/D	A	SA
29. When I am in a relationship, I am totally involved in it and expect the same from my partner.	SD	D	A/D	A	SA

IOT Developed by: L.A. Sim  
 Form Design: M.J. Worth

Figure 2

IOT Test Form: Client's Version - Page 2

INDIVIDUAL OUTLOOK TEST (IOT)

Name: \_\_\_\_\_ Sex: F M Age: \_\_\_\_\_ Marital Status: \_\_\_\_\_

Education: \_\_\_\_\_ Occupation: \_\_\_\_\_ Date: \_\_\_\_\_

Listed below are a series of statements that some people might use to describe their outlook on life. Please read each statement and decide how much you agree or disagree with the statement as it relates to you. Then circle the letter(s) in the box that indicates the degree to which the statement applies to you.

SD = STRONGLY DISAGREE  
 D = DISAGREE  
 A/D = SOMETIMES AGREE, SOMETIMES DISAGREE  
 A = AGREE  
 SA = STRONGLY AGREE  
 IOT Developed By: L.A. Sim (Form Design: M.J. Worth)

30. Quite often I lose sleep worrying about people who are important to me.	SD	D	A/D	A	SA	46. I am never concerned about whether people like me or not.	SD	D	A/D	A	SA
31. I quite often feel as if something dreadful is going to happen.	SD	D	A/D	A	SA	47. I have often gone to see a doctor about my depression.	SD	D	A/D	A	SA
32. When I feel I have insulted a person, I feel ill until I make the matter right.	SD	D	A/D	A	SA	48. I don't let people get to know the real me.	SD	D	A/D	A	SA
33. I sell myself short and settle for less than the best in romantic partners.	SD	D	A/D	A	SA	49. There have been times when my life seemed so depressing that I have thought of ending it.	SD	D	A/D	A	SA
34. I have lied to protect people who are important to me.	SD	D	A/D	A	SA	50. As a child, my parents seldom listened to what I had to say or how I felt.	SD	D	A/D	A	SA
35. I was raised in a family where physical abuse occurred.	SD	D	A/D	A	SA	51. I do not like people criticizing me even if they may be right.	SD	D	A/D	A	SA
36. I need a lot of reassurance that people like me.	SD	D	A/D	A	SA	52. When I am alone, I often feel desperate to have company.	SD	D	A/D	A	SA
37. It is hard for me to ask for help from someone unless I know I can return the favor.	SD	D	A/D	A	SA	53. Most people cannot be truly trusted.	SD	D	A/D	A	SA
38. When even little things go wrong, I usually get very upset and stay upset until everything is fine again.	SD	D	A/D	A	SA	54. It bothers me if my romantic partner wants to go out or do something without me.	SD	D	A/D	A	SA
39. Often I feel so nervous and tense that I feel dizzy.	SD	D	A/D	A	SA	55. If someone criticizes me, I tend to believe them and then try to change myself.	SD	D	A/D	A	SA
40. I rarely go out or do anything without my partner.	SD	D	A/D	A	SA	56. My feelings and behavior are mostly controlled by the people around me.	SD	D	A/D	A	SA
41. I am envious of most of the people I meet.	SD	D	A/D	A	SA	57. One of my greatest worries is that some of the people I care about may leave me.	SD	D	A/D	A	SA
42. If I am embarrassed or feel foolish, I worry about it for days.	SD	D	A/D	A	SA	58. I have done things I am not very proud of in order to keep a relationship together.	SD	D	A/D	A	SA
43. Some days there seem to be so many things going wrong that life seems hopeless.	SD	D	A/D	A	SA	59. I often feel as if I haven't begun to live yet.	SD	D	A/D	A	SA
44. Sometimes I have so many thoughts racing through my head that I can't make sense out of them.	SD	D	A/D	A	SA	60. I often feel anxious and uptight and can't figure out why.	SD	D	A/D	A	SA
45. When I meet someone who has a problem, I often try to help them even before they ask.	SD	D	A/D	A	SA						

Figure 3

IOT Test Form: Examiner's Version - Page 3

**INDIVIDUAL OUTLOOK TEST (IOT)**

Name: \_\_\_\_\_ Sex: F M Age: \_\_\_\_\_ Marital Status: \_\_\_\_\_  
 Education: \_\_\_\_\_ Occupation: \_\_\_\_\_ Date: \_\_\_\_\_

<b>TEST SCORE</b> _____	<b>CLASSIFICATION</b> _____
-------------------------	-----------------------------

<b>TOTAL SCORE</b>	<b>CLASSIFICATION</b>
96 or less	Clinical Alert
97 - 156	not of clinical significance
157 - 186	MILD
187 - 216	MODERATE
217 +	SEVERE

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### III. Interpretation of the IOT

The following discussion presents an overall strategy for the interpretation and clinical use of the IOT. Interpretation should be based on the total score on the IOT in conjunction with data from other sources including clinical interviews, psychological testing and clinical judgement. These interpretive findings can then be utilized to plan appropriate therapeutic strategies, treatment plans and interventions.

#### Determining the Validity of the Results

As the IOT is a self-report instrument, responses on the items are subject to both unconscious and conscious distortions by the respondent. When interpreting results, the first step is to determine whether or not the responses appear to be valid indicators of the respondent's attitudes, feelings and behaviors that have bearing on degree of codependent orientation. An extremely high score, 217 and over, should alert the examiner to the possibility of the respondent having intentionally answered the items in a manner which accentuates codependent orientation and indicates the need to corroborate the results through an indepth clinical interview. Conversely, extremely low scores, 96 and below, should also be examined in relationship to other clinical data as lack of awareness of feelings and thoughts and denial of problems to self and others are major characteristics of codependency (Sim, 1991).

#### Total IOT Score

The next level of interpretation involves the total IOT score. Table 1 presents a stem and leaf representation of the IOT scores obtained by the normative sample ( $n = 300$ ). The distribution of IOT scores, while slightly skewed to the

right, approximates a normal curve distribution. Due to the relatively small non-random nature of the present normative sample, interpretation of the IOT is presently based on a classification system derived from the mean (157.10) and standard deviation (30.16) of this sample. Further research is required to determine if a more sophisticated scoring and interpretation procedure need be implemented.

Based on the results from the normative group ( $n = 300$ ) and the codependent criterion group ( $n = 45$ ), scores 96 and below are classified as "clinical alert" because of the need to examine the score in relationship to other clinical data while scores between 97 and 156 are classified as having "little clinical significance". Scores between 157 and 186 indicate a mild codependent orientation, 187 to 216 moderate, 217 and above, a severe codependent orientation. As codependent characteristics exist in varying degrees in most people, the degree of functional impairment or subjective distress reported or observed in an individual is also important clinical data. Clinical judgement may dictate that a score for a client that is 156 or below warrants exploration within a therapeutic context.

For the IOT score and the concomitant classification to have clinical utility and meaning for the examiner and the client, discussion of the test results should focus on the qualitative aspects of the score, that is, the meaning of the score in terms of day-to-day living. Sim's (1991) 14 descriptor categories (see Table 3 in "Content Validity", p. 42) from which the test items for the IOT were developed can be utilized to guide this discussion and to formulate hypotheses about issues that could be addressed in therapy and/ or to generate treatment strategies.



**Table 1**

**Stem and Leaf Representation of IOT Scores for the Normative Group**

8	
8	9
9	
9	
10	1 1 4 4
10	5 7 7 7 8
11	0 0 1 2 2 3 4
11	5 6 7 8 8 9
12	0 0 0 1 1 2 2 2 2 3 3 3 3 3 4 4 4 4
12	5 6 6 7 7 8 8 8 8 8 9 9 9 9
13	0 0 0 0 0 1 1 2 2 2 3 3 3 3 3 3 3 4 4 4 4 4
13	5 5 5 5 6 6 6 7 7 7 7 9 9 9 9 9 9
14	0 1 1 1 1 1 1 2 2 2 3 3 3 3 3 3 3 4 4 4 4
14	5 5 5 5 6 6 6 7 7 8 8 8 9 9 9 9 9 9
15	0 0 0 0 0 0 1 1 1 1 2 3 3 3 3 3 3 3 4 4 4 4 4 4
15	5 5 5 5 5 5 6 6 6 7 7 7 7 8 8 8 8 8 9 9
16	0 1 1 2 2 2 2 2 3 3 3 4 4 4 4
16	5 5 5 5 6 6 6 7 7 7 7 8 9 9 9
17	0 0 0 1 1 2 2 3 3 3 3 3 3 4 4 4
17	5 5 5 5 5 5 6 6 6 7 9 9 9 9
18	0 0 0 2 2 2 3 3 3 4
18	5 5 5 6 6 6 7 7 9
19	0 0 0 0 0 0 1 1 1 2 2 3 4
19	5 6 7 7 7 8
20	0 1 1
20	5 5 5 6 6 6 7 7 8 8
21	0 4
21	9
22	2 2 2 4
22	
23	2 4 4
23	5 8 9
24	
24	
25	
25	
26	
26	
27	
27	9

#### IV. Rationale and Theoretical Background

##### Overview

Construction and use of the IOT is based on the belief that an individual with a high degree of codependent orientation will experience a generalized sense of poor self-worth, anxiety and depression that is manifest in persistent self-defeating patterns of intra-personal and inter-personal relationships and is driven by an external locus of control. It is also assumed that item responses which successfully discriminate between individuals with a high degree of codependency and others, will be relevant in the clinical setting.

These assumptions are based on a variety of theoretical notions about the nature of codependency. Although many definitions of codependency and a concomitant theory of etiology have been proposed, including a behavioral approach (Whitfield, 1984), a personality disorder model (Cermak, 1984, 1986a, 1986b, 1991), an ego psychology paradigm (Friel & Friel, 1988; Subby, 1987), a sociological perspective (Wilson Schaef, 1986) and a combined behavioral intrapsychic view (Wegscheider Cruse, Cruse & Bougher, 1991), the IOT was developed based on the characteristics and behavior patterns associated with codependency, regardless of theoretical model.

The historical and conceptual development of codependency as a psychological construct is rooted in the field of chemical dependence treatment and research. Initially, terms such as "co-alcoholism", "co-addiction", "enabler" and "co-dependency" were used interchangeably to describe the personality traits and behaviors associated with the wives of alcoholics as a function or causative agent of their husband's alcoholism (Ballard, 1958; Clifford, 1960; Corder, Hendricks & Corder, 1964; Edwards, Harvey & Whitehead, 1973; Price, 1944; Rae & Forbes,

1966). Contemporary literature has seen a broadening of this definition from dysfunctional traits and behaviors arising in the spouse as a consequence of alcohol/chemical dependence in their partner (Gierymski & Williams, 1986; Asher & Brissett, 1988), to include other family members (Black, 1981; Wegscheider, 1981; Woititz, 1983) and finally to a view that codependent behaviors arise out of any dysfunctional family system (Beattie, 1987; Gierymski & Williams, 1986; Subby, 1987; Whitfield, 1989, 1991).

The assumption underlying the IOT is that a codependent orientation can arise out of any dysfunctional family system which may include, but is not limited to, chemical dependency in a family member. The operational definition of codependency for the IOT is:

**a persistent, self-defeating pattern of intra- and interpersonal relationships that arises out of a dysfunctional family system and is characterized by poor self-worth, dependency, disturbed emotional development, anxiety, and driven by an external locus of control (Alexander, 1992, p. 36).**

The IOT is designed to measure these major behavioral and intra-psychic characteristics.

### Item Selection

In order to provide descriptors for behavior patterns typically ascribed to codependent persons and to operationalize the codependency construct, Sim (1991) systematically reviewed current codependency literature and identified 11 basic reference sources on which the major part of the literature was dependent. These sources were content analyzed and 117 descriptors identified. Subsequent analysis of the descriptors allowed them to be subsumed under 14 categories.

Initially, 174 items were generated with the number of items allocated to each of the 14 categories being determined by the incidence of citation in the 11 basic reference sources. Nineteen forced-negative items were included to control for a fixed response set. Subject-matter experts in the field of codependency reviewed the 174 items and items unable to be categorized as representative of the 14 descriptor topics were rejected and/or modified. This process resulted in a 100-item version of the IOT with 13 forced-negative items to combat agreement-response set.

The initial 100-item IOT was subsequently administered to a sample of  $n=178$ . This sample was composed of 110 females and 68 males ranging in age from 19 to 67 years. These individuals included an undergraduate class in educational psychology ( $n=47$ ), a class of students at a private marketing and administration college ( $n=24$ ) and non-students from rural and urban centers ( $n=107$ ). To ensure a semi-stratified sample along socio-economic lines, data for the Blishen Scale was collected and resulted in a mean and standard deviation that was found to be acceptably close to the figures for the City of Edmonton as reported by Elley (1961) for a random sample of 400. The data for the 100-item IOT was subjected to item-total correlations using the Pearson Product Moment Correlation and an item-response frequency analysis. Items with a correlation of less than  $r=.3$  were omitted. The final version of the IOT has 60 items with six of these designed to control for response bias.

#### Standardization Procedures

The 60-item IOT was standardized on a sample of 300 individuals (189 females and 111 males) who were selected using a nonprobability sample of

convenience from a variety of urban and rural settings in Alberta. Table 2 presents selected demographic characteristics for this sample.

**Table 2**  
**Demographic Characteristics of the Standardization Sample and the Codependent Criterion Group**

Variable	Group	
	Norm <sup>a</sup>	Codependents <sup>b</sup>
<b>Gender</b>		
Female	189	38
Male	111	7
<b>Age</b>		
18-19	3	0
20-29	101	10
30-39	106	19
40-49	64	9
50-59	9	6
60-69	12	1
70-74	5	0
<b>Marital Status</b>		
Single	79	4
Married	187	30
Divorced	26	3
Widowed	2	0
Separated	4	7
Common-in-law	2	1

<sup>a</sup> $n=300$  ( $n=107$  (Sim, 1991);  $n=168$  (Alexander, 1992);  $n=25$  (author)).

<sup>b</sup> $n=45$  ( $n=18$  (Sim, 1991);  $n=18$  (Alexander, 1992);  $n=9$  (author)).

To ensure a semi-stratified sample along socio-economic lines, data for the Blishen Socioeconomic Scale (SES) (Blishen & McRoberts, 1976) was collected. The socioeconomic index for occupations in Canada is a composite of the prevailing income and education levels in each occupation and is based on 514 occupations reported in the 1976 census. Occupations are ranked from lowest to highest score (1-101) (Blishen & McRoberts, 1976). Analysis of this data resulted in a mean and standard deviation ( $M = 48.00$ ,  $SD = 13.69$ ) that was found to be acceptably close to the figures for the City of Edmonton ( $M = 51.63$ ,  $SD = 11.0$ ) as reported by Elley (1961) for a random sample of 400 and to Sim's (1991)  $n = 178$  ( $M = 48.51$ ,  $SD = 14.03$ ) nonprobability sample of subjects from Edmonton, Calgary, Crooked Creek, Millet and Ponoka (p. 29).

As Table 2 shows, the normative sample over-represents married individuals and those between 20 and 30 years of age. It under-represents males, and those under 19 years of age and middle-aged and elderly persons of both sexes. In addition, the normative sample comes from a restricted geographic area.

#### Characteristics of the Codependent Criterion Group

During the development and validation of the IOT, the standardization sample was compared to a codependent criterion group. This group consisted of 45 individuals (38 females and 7 males) identified by Alberta Alcohol and Drug Abuse Commission (AADAC) personnel as codependent. Demographic characteristics for the codependent criterion group are also presented in Table 2.

## V. Psychometric Properties

### Reliability

#### Internal consistency.

Internal consistency reliability is based on scores obtained during one test administration. Measures of internal consistency reflect the extent to which items represent the same characteristic or content and the interrelationships among all items in the same test.

Cronbach's alpha coefficient, a general reliability coefficient based on the variance of the test scores and the variance of the items scores, is used when a test has no right or wrong answers as is the case for the IOT. Cronbach's formula provides a general reliability estimate that simultaneously considers all the ways of splitting test items.

Cronbach's alpha coefficients were computed for the norm group ( $n = 300$ ) and for the codependent group ( $n = 45$ ). The resultant coefficients,  $r(300) = .91$  and  $r(45) = .94$ , indicate a high level of internal consistency of the items comprising the IOT. These results are consistent with Sim's (1991) findings,  $r(107) = .88$ , during the initial development of the IOT.

#### Test-Retest reliability.

Test-retest reliability is an index of the stability of a test. It measures the extent to which scores for an individual are consistent across different test settings and over time.

To determine test-retest reliability, a sample of graduate students ( $n = 13$ ) in an education psychology course were administered a test-retest on the IOT at a three to four-week interval. The resultant reliability coefficient (Pearson Product Moment Correlation) was  $r(13) = .98$  with a Standard Error of Measurement of 4.26 score

points. This coefficient suggests that the IOT has a high level of test-retest reliability. However, these results may be somewhat spurious. The small sample size utilized, the test-taking sophistication of the sample, and the similarity in educational background of the subjects could be contributing to the high reliability coefficient. Further studies of the test-retest reliability of the IOT using a larger and more heterogeneous sample are required.

#### Standard error of measurement.

The standard error of measurement (SEM) is an estimate of the amount of error usually attached to the obtained score of an individual. It is directly related to the reliability of a test: the smaller the SEM, the higher the reliability and conversely, the larger the SEM, the lower the reliability.

For the IOT the SEM is 9.09 score points computed from the overall reliability estimate of  $r = .91$  and a standard deviation of 30.16 ( $n = 300$ ). This means that given a very large number of observations for the same individual, 68% of the total scores obtained should fall within 9 score points above or below the theoretical true score. The SEM can be used when evaluating pre-treatment and post-treatment changes in scores for an individual in terms of codependent orientation. For example, a client prior to entering group therapy or one-to-one counselling had a score of 217 and 202 after 8 weeks of therapy. Because this represents a difference of 15 score points, it is reasonably certain that a change in the client's true score is occurring, rather than a random fluctuation in scores that is attributable to error variance.

#### Summary.

Computed internal consistency reliability coefficients resulted in Cronbach's alphas of  $r(300) = .91$  for the norm group and  $r(45) = .94$  for the codependent



group. Test-retest procedures yielded a reliability coefficient (Pearson Product Moment Correlation Coefficient) of  $r(13) = .98$ . These results suggest that the IOT is a reliable instrument.

### Validity

#### Introduction.

Content, criterion-related and construct validity estimates of the IOT have been obtained by a series of quantitative methods. These estimates of the validity of the IOT have been explored through item-total correlation analysis, item-response frequency analysis, factor analysis and comparison of the responses of the normative group and the codependent criterion group. The IOT has also been compared to another instrument designed to measure codependency. In addition, the divergent validity of the IOT is evaluated in relationship to IQ and to moderator variables such as gender, age and socioeconomic status.

#### Content validity.

Content validity is concerned with the degree to which the items on a test are representative of some defined universe or domain of content. As the domain of interest for the IOT is codependency, a qualitative study of the literature in this area was used as the basis for generating test items.

A systematic review of codependency literature was conducted by Sim (1991) as the first step in the development of test items for the IOT. Extracted from this literature were 11 basic reference sources on which the major part of the literature was dependent. Content analysis of these 11 sources resulted in the development of 14 categories of descriptors. Table 3 illustrates the descriptor categories utilized by Sim in the development of test items. The number of test

items initially generated for each category was determined by the frequency with which it was mentioned in the literature.

**Table 3**

Descriptor Categories for Codependency<sup>a</sup>

---

**1. Etiology**

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>- alcohol/chemical dependent family</li> <li>- sick, disturbed or troubled family members</li> <li>- repressive, oppressive family systems</li> <li>- physically abusive family system</li> <li>- sexually abusive family system</li> <li>- rigid, dogmatic family system</li> <li>- compulsive gambling in family system</li> <li>- compulsive sexual activities in family system</li> <li>- eating disorders</li> </ul> | <ul style="list-style-type: none"> <li>- existence of chronic diseases: schizophrenia, diabetes, Alzheimers, mental retardation</li> <li>- existence of workaholic family members</li> <li>- existence of professionals who work with addictions</li> <li>- existence of neurosis</li> <li>- families that do not foster autonomy</li> <li>- families that reward learned helplessness</li> <li>- presence of codependent behavior patterns</li> <li>- cultural institutions: advertising, media, church, schools</li> <li>- gratification of unmet physiological needs</li> <li>- existence of family secrets</li> </ul> |
|--|---|

**2. Little Individual Growth**

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>- socially isolated existence</li> <li>- loss of reality checks</li> </ul> | <ul style="list-style-type: none"> <li>- uncertain of what "normal" behavior is</li> <li>- feeling of differentness from others</li> </ul> |
|---|--|

**3. External Locus of Control**

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>- external referenting</li> <li>- rely on others to give sense of identity</li> <li>- express opinion after determining - what others want to hear</li> <li>- lack emotional and/or behavioral independence</li> <li>- rely on others to supply emotional needs</li> <li>- do not trust their perceptions</li> </ul> | <ul style="list-style-type: none"> <li>- hypervigilant of others to confirm/deny their views</li> <li>- procrastinators</li> <li>- lead a reactive, rather than proactive lifestyle</li> <li>- obtain sense of value from others</li> <li>- need to be needed by others</li> <li>- need to feel indispensable to others</li> <li>- constant need for approval and affirmation from others</li> </ul> |
|---|--|

**4. Low Self-Esteem**

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>- feel lack of personal worth</li> <li>- role of caretaker</li> <li>- inability to accept criticism</li> </ul> | <ul style="list-style-type: none"> <li>- feelings of insecurity</li> <li>- perfectionistic</li> <li>- judgmental of self and others</li> </ul> |
|---|--|

**Table 3 (continued)****Descriptor Categories for Codependency<sup>a</sup>**

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**5. Relationship Addict**

- have multiple, dysfunctional partners, personality disordered, chemically dependent, codependent, impulse disordered
- need to recreate old negative feelings learned in originating family
- become consumed with relationships
- become involved in all aspects of lives of others
- have a distorted view of quality of relationships
- have partners whom they view as weaker than themselves
- attempt to change their partner
- gullible
- feel responsible to meet the needs of others to the exclusion of their own
- loyal to the point of foolhardy

**6. Fear of Abandonment**

- fear of letting go of relationships
- rely on controlling individuals to avoid abandonment

**7. Intimacy Difficulties**

- incapable of healthy, intimate relationships
- demand unconditional love
- refuse to commit themselves
- desire, yet fear, closeness

**8. Control**

- concentrate on control of self and others
- helplessness
- guilt
- coercion
- threats
- advice-giving
- manipulation
- domination
- compulsive behavior patterns
- attempt to avoid conflict
- worry about unimportant issues
- play psychological and power games
- give appearance of being strong individuals
- surface maturity

**9. Limited Range of Emotions**

- unable to identify their feelings
- express them
- confused thinking
- serious
- intense
- mood swings
- unhappiness
- excessive over- and under- reaction
- despair
- helplessness
- anger phobic or anger addicted
- feel unappreciated and used
- shame
- guilt

Table 3 (continued)

Descriptor Categories for Codependency<sup>a</sup>**10. Morality Issues**

- |  |   |
|--|---|
| - compromise values in order to maintain relationships | - tolerance for inappropriate behavior        |
|  | - denial of problems, both to self and others |

**11. Lack of Personal Boundaries**

- |  |                                  |
|--|----------------------------------|
| - unaware of personal boundaries             | - take on others emotions        |
| - lack of awareness of feelings and thoughts | - actually feels others emotions |

**12. Physical Illnesses**

- |              |                             |
|--------------|-----------------------------|
| - anxiety    | - anorexia nervosa, bulimia |
| - depression | - overeating                |

**13. Addictions**

- |   |                 |
|---|-----------------|
| - food                                  | - work          |
| - licit drugs                           | - illicit drugs |
| - intolerance for delayed gratification | - spending      |
| - boredom if no crisis                  | - excitement    |

**14. Miscellaneous**

- |                   |                    |
|-------------------|--------------------|
| - sadomasochistic | - physical abusers |
| - sexual problems | - mental illness   |
| - suicidal        |                    |

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<sup>a</sup>(Sim, 1991, p. 49-52).

The 174 Items generated by Sim (1991) using this procedure were submitted to a panel of three judges familiar with the concept of codependency. Items which the judges were unable to categorize as being representative of the 14 descriptor categories were rejected and/or modified with the judges' assistance. An initial 100 item test was prepared. After administration to a normative sample ( $n = 178$ ) (Sim, 1991), two criteria were utilized to develop a parsimonious valid version of 60 items. Items included had an item-total correlation of  $r \geq .3$  and a

mean range on the Likert scale between 1.5 and 4.5 and a standard deviation range between 1.0 and 1.5. This resulted in 56 items. As insufficient items designed to control for response-set bias remained, four items, significant at the .05 level but below the .3 correlation cut-off were included (#2, 5, 18, 46) (p. 29).

The data from the  $n = 300$  normative sample using the 60-item IOT was subjected to an item-total correlation analysis (Pearson Product Moment Correlation Coefficient) and an item-response frequency analysis. These analyses were based on the expectations that each of the 60 items should contribute to the total score and have a mean range on the Likert scale between 1.5 and 4.5 and a standard deviation range between 1.0 and 1.5. Item-total correlations and the mean and standard deviation range on the Likert scale for each of the 60 items are presented in Table 4. As may be seen from visual inspection of the data, some divergence from the expected outcomes occur with this analysis. This difference from Sim's (1991) results is reflective of a change in the sample (Sim,  $n = 107$  vs. Worth,  $n = 300$ ) and does not imply that changes are required in her original analysis.

**Table 4**

Item-Total Correlations and Item Means and Standard Deviations<sup>a</sup>

Item	Item-Total $r$	Mean	SD
1	.55	2.10	1.20
2	-.04	4.17	1.09
3	.35	3.16	1.21
4	.54	2.53	1.38
5	.32	2.67	1.27
6	.31	2.68	1.47
7	.50	2.92	1.23
8	.33	3.58	1.24
9	.30	2.11	1.35
10	.40	2.42	1.18
11	.58	2.21	1.26
12	.38	1.78	1.26
13	.47	2.59	1.50
14	.56	2.48	1.36

Table 4 (continued)

Item-Total Correlations and Item Means and Standard Deviations<sup>a</sup>

Item	Item-Total $r$	Mean	SD
15	.46	1.84	1.24
16	.24	2.78	1.16
17	.46	2.74	1.29
18	.39	2.30	1.20
19	.25	3.06	1.31
20	.21	2.82	1.22
21	.12	3.39	1.19
22	.24	2.96	1.24
23	.43	3.32	1.37
24	.36	2.76	1.42
25	.33	3.26	1.31
26	.48	2.59	1.19
27	.47	2.36	1.32
28	.24	3.34	1.35
29	.27	3.81	1.26
30	.43	3.06	1.36
31	.45	2.24	1.34
32	.25	3.52	1.19
33	.45	2.29	1.37
34	.37	2.97	1.34
35	.22	1.73	1.35
36	.54	2.81	1.27
37	.38	3.17	1.34
38	.57	2.58	1.25
39	.50	1.73	1.14
40	.34	2.26	1.31
41	.52	1.79	1.04
42	.57	2.36	1.23
43	.57	2.31	1.29
44	.51	2.57	1.29
45	.22	3.24	1.28
46	.24	3.45	1.18
47	.36	1.47	1.05
48	.42	2.51	1.32
49	.42	1.88	1.39
50	.35	2.51	1.39
51	.33	3.23	1.19
52	.49	2.13	1.14
53	.36	2.24	1.17
54	.39	2.17	1.24
55	.39	2.72	1.07
56	.51	2.21	1.13
57	.41	2.46	1.30

**Table 4 (continued)****Item-Total Correlations and Item Means and Standard Deviations<sup>a</sup>**

Item	Item-Total $r$	Mean	SD
58	.46	1.92	1.23
59	.52	2.58	1.39
60	.70	2.29	1.29

<sup>a</sup>  $n = 300$ .

**Criterion-Related validity.**

Further evidence for the validity of the IOT was established by studies of the ability of the total score of the IOT to discriminate between the normative group ( $n = 300$ ) and a codependent group ( $n = 45$ ) and a matched sample drawn from the normative group ( $n = 45$ ) and the codependent group.

Matching procedures for the  $n = 45$  were performed manually by the author who was unaware of the IOT scores. Demographic characteristics for the normative sample ( $n = 300$ ) was grouped according to gender, age, Blishen Socioeconomic Scale (SES) and marital status. Subjects ( $n = 45$ ) were then selected from this group by matching the codependent data first for gender, age and SES and lastly for marital status.

A dependent t-test comparing the IOT score means for the matched sample from the normative group and for the codependent group was calculated. Significance was set at  $p \leq .01$ . It is shown in Table 5 that the codependent groups' mean score on the IOT was found to be significantly higher than the matched sample drawn from the normative group.

**Table 5**  
Comparison of Mean Scores of the Codependent and Matched Sample (Normals)

Variable	N	Mean	SD	T Value	Degrees of Freedom	2-tail Probability
<b>IOT</b>						
Codependent	45	189.02	39.57	5.48	44	.0001
Matched	45	153.60	27.15			

To determine the representativeness of the matched normal sample ( $n = 45$ ) with the normative group ( $n = 300$ ), single sample t-tests were used. Significance was set at  $p \leq .01$ . The matched sample was not significantly different from the normative group on mean IOT scores, SES or age (Table 6) and may therefore be assumed to be representative of the normative group.

**Table 6**  
Comparison of Mean Scores of the Normative Group and the Matched Sample

Variable	N	Mean	SD	T Value	Degrees of Freedom	2-tail Probability
<b>IOT</b>						
Normative	300	157.10	30.16	.865	44	.3915
Matched	45	153.60	27.15			
<b>Age</b>						
Normative	300	35.21	11.37	.338	44	.7371
Matched	45	34.82	7.76			
<b>SES</b>						
Normative	300	48.00	13.69	.952	44	.3463
Matched	45	46.13	13.22			



Finally, single sample t-tests were used to compare the mean IOT score, age and SES between the total normative group and the codependent sample (Table 7). Significance was set at  $p \leq .01$ . The mean IOT scores for the codependent group was significantly higher than the normative group but was not significantly different from this group in terms of age or SES.

**Table 7**  
Comparison of Mean Scores of the Normative and Codependent Groups

Variable	N	Mean	SD	T Value	Degrees of Freedom	2-tail Probability
<b>IOT</b>						
Normative	300	157.10	30.16	5.412	44	.0001
Codependent	45	189.02	39.57			
<b>Age</b>						
Normative	300	35.21	11.37	1.994	44	.0524
Codependent	45	37.87	8.93			
<b>SES</b>						
Normative	300	48.00	13.69	.337	44	.7377
Codependent	45	47.31	13.85			

### Summary.

In establishing the criterion validity of the IOT it was predicted that the total score would permit successful discrimination between those individuals with a high degree of codependency and others with a low degree of codependency. This prediction was confirmed: the criterion group of codependents ( $n = 45$ ) had significantly higher IOT scores than either the matched sample ( $n = 45$ ) drawn from the normative group or the total normative group ( $n = 300$ ). These results provide evidence of the criterion validity of the IOT total score.

### Construct validity.

Construct validity is concerned with the extent to which a test measures a psychological construct. Three strategies were used to investigate the construct validity of the IOT. First, factor analysis was used to examine the factor structure of the IOT as it was anticipated that the factor structure of the IOT would reflect the areas cited in the literature as characterizing codependency. Second, the relationship of the IOT to another instrument designed to measure codependency was examined to evaluate convergent validity. Third, the relationship between IOT and IQ score was examined to evaluate divergent validity. As well, several moderator variables were examined to determine their impact on IOT score.

### Factorial composition.

Two factorial studies were conducted using the IOT. Alexander (1992) conducted a factor analysis on a subject pool derived by combining data from Sim's (1991) study ( $n = 107$ ) and extended by 168 subjects for a total of  $n = 275$ . A second factorial study, using the combined Sim and Alexander data plus an additional 25 subjects ( $n = 300$ ), was conducted by the author. These studies were done to document the content dimensions of the IOT item pool and to provide evidence that response consistency exists for clusters of items that have psychological meaning in terms of codependency. As noted by Kerlinger (1973), factor analysis is one of the most powerful methods of construct validation.

Alexander's (1992) factor solution using a principal axis factor analysis with an oblimin (oblique) rotation extracted five factors with eigenvalues  $\geq 1.0$ . Of primary importance in choosing this factor solution was interpretability and a preference for items to have high loadings on only one factor (p. 29). This solution accounted for approximately 27% of the variance. The factor pattern structure is

illustrated in Table 8 with the item composition of the factors presented in Table 9. Using this method of factor analysis and a cut-off point of  $r \geq .3$ , Alexander eliminated fourteen items (Table 10) that did not contribute significantly to the test as a whole (p. 35). Factor designations were based on suggestions from a panel of five judges familiar with codependency literature and factor analysis techniques (p. 35).

**Table 8**

Alexander's Factor Structure of Principal Axis Analysis-Oblimin Rotation, Kaiser

Normalization<sup>a,b</sup>

Item	Pattern Matrix				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
36	.62153				
26	.53848				
42	.52906				
55	.47819				
46	.42018				
56	.40013				
17	.39826				
10	.39047			-.31712	
51	.37921				
1	.36484				
59	.35238				
37	.33605				
14	.31637				
8	.31502				
21					
52					
23		-.46897			
49		-.46532			
58		-.46274			
9		-.44200			
6		-.42240			
48		-.35779			
34		-.35559			
3		-.34031			
33					

Table 8 (continued)

Alexander's Factor Structure of Principal Axis Analysis-Oblimin Rotation, KaiserNormalization<sup>a,b</sup>

Item	Pattern Matrix				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
40			.51990		
29			.43870		
15			.43505		
24			.40574		
19			.38912		
54			.38142		
20			.35267		
16			.34466		
22					
32					
25					
53					
35				-.52712	
12				-.45225	-.30339
5				-.37909	
2				.31638	
11					
18					
50					
45					
31					-.61877
60					-.53747
39					-.52951
7					-.49513
4					-.47193
30			.43810		-.45227
41					-.41954
44					-.39559
27					-.38032
38	.35014				-.36139
43					-.33446
47				-.31299	-.32556
28					
13					
57					

<sup>a</sup> Alexander, 1992, p. 57-58.<sup>b</sup><sub>n</sub> = 275.

Table 9

Alexander's Five Factor Item Composition<sup>a,b</sup>**Factor 1: Self-Esteem/External Referencing**

- 36. I need a lot of reassurance that people like me.
- 26. I can be easily swayed from doing something if others criticize it.
- 42. If I am embarrassed or feel foolish, I worry about it for days.
- 55. If someone criticizes me, I tend to believe them and then try to change myself.
- 46. I am never concerned about whether people like me or not.
- 56. My feelings and behavior are mostly controlled by the people around me.
- 17. I have trouble thinking of the right things to say when in a group of people.
- 10. Often when asked for my opinion, I find out what other people think before I say what I think.
- 51. I do not like people criticizing me even if they may be right.
  - 1. I sometimes feel that I'm not good enough to associate with the people I meet.
- 59. I often feel as though I haven't begun to live yet.
- 37. It is hard for me to ask for help from someone unless I know I can return the favor.
- 14. Sometimes I don't know who the real me is.
  - 8. Although I appear strong and capable to others, there is a part of me that isn't strong at all.

**Factor 2: Dysfunctional Relationships/External Locus of Control**

- 23. There are things I have done or had happen to me in the past that I am ashamed to talk about.
- 49. There have been times when my life seemed so depressing that I have thought of ending it.
- 58. I have done things I am not very proud of in order to keep a relationship together.
  - 9. I have been close to people who did illegal things and I found excuses for what they did.
  - 6. I have had partners who didn't treat me very well.
- 48. I don't let people get to know the real me.
- 34. I have lied to protect people who are important to me.
  - 3. I have often done things without thinking them through properly and later regretted my decision.

**Factor 3: Dependency within Relationships**

- 40. I rarely go out or do anything without my partner.
- 29. When I am in a relationship, I am totally involved in it and expect the same from my partner.
- 15. I have on many occasions, checked up to see where my partner is when he or she is not with me.
- 24. I have often said hurtful things to people I love in order to get them to listen.
- 19. I feel best about myself when I'm having a romantic relationship.
- 54. It bothers me if my romantic partner wants to go out or do something without me.
- 20. Often, others find things amusing that I don't consider funny.
- 16. I tend to believe things people say and often find out later that they have lied.

**Table 9 (continued)****Alexander's Five Factor Item Composition<sup>a,b</sup>****Factor 4: Dysfunctional Family of Origin**

35. I was raised in a family where physical abuse occurred.  
 12. I am not ashamed of my childhood.  
 5. I had a happier childhood than most other people.  
 2. I never try to help people unless I'm asked.

**Factor 5: Anxiety**

31. I quite often feel as if something dreadful is going to happen.  
 60. I often feel anxious and uptight and can't figure out why.  
 39. Often I feel so nervous and tense that I feel dizzy.  
 7. It seems to me I have spent my whole life trying to please others.  
 4. I feel anxious or tense about something or someone almost all the time.  
 30. Quite often I lose sleep worrying about people who are important to me.  
 41. I am envious of most of the people I meet.  
 44. Sometimes I have so many thoughts racing through my head that I can't make sense of them.  
 27. When things go wrong for others, I blame myself even when I shouldn't.  
 38. When even little things go wrong, I usually get very upset and stay upset until everything is fine again.  
 43. Some days there seems to be so many things going wrong that life seems hopeless.  
 47. I have often gone to see a doctor about my depression.

<sup>a</sup> Alexander, 1992, p. 60-61.

<sup>b</sup> Underlined items are reversed weighted for scoring and interpretation.

**Table 10****Items Eliminated Using Principal Axis Analysis-Oblimin Rotation<sup>a,b</sup>**

21. Even a small kindness from a person I've had a problem with makes me forgive and forget.  
 52. When I am alone, I often feel desperate to have company.  
 33. I sell myself short and settle for less than the best in romantic partners.  
 22. I don't undertake any project unless I'm pretty sure I'll succeed.  
 32. When I feel I have insulted a person, I feel ill until I make the matter right.  
 25. I am embarrassed when people give me compliments but secretly I feel good.  
 53. Most people cannot be truly trusted.  
 11. I often feel there is something bad about me.  
 18. I feel I fit in at most social gatherings.  
 50. As a child, my parents seldom listened to what I had to say or how I felt.  
 45. When I meet someone who has a problem, I often try to help them even before they ask.

Table 10 (continued)

Items Eliminated Using Principal Axis Analysis-Oblimin Rotation<sup>a,b</sup>

- 
28. I don't worry very much about what the future holds for me.  
 13. I can't remember the last time I felt totally carefree and relaxed.  
 57. One of my greatest worries is that some of the people I care about may leave me.
- 

<sup>a</sup> Alexander, 1992, p. 59.

<sup>b</sup> Underlined items are reversed weighted for scoring and interpretation.

As the items that comprise the final 60-item IOT were selected to enhance the internal consistency reliability of the test, not to maintain the criticality of the original item pool, it would be expected that a number of items would not be easily assignable clearly to a single factor. Although items that load on a single factor aid in interpretability of the test, the items that Alexander (1992) proposes to eliminate represent important aspects of the characteristics of codependency in the literature. Thus it was decided to conduct a factorial study using other methods of factor analysis.

A principal components analysis with a varimax rotation was performed on the normative sample ( $n = 300$ ) which included Alexander's subjects ( $n = 275$ ). Five factors accounting for approximately 33 % of the variance and with eigenvalues of  $\geq 1.0$  were extracted. The factor structure is illustrated in Table 11 with the item composition of the factors presented in Table 12. Although this factor solution results in items with loadings across factors which could make interpretation of the IOT a more complex task, it represents the complexity of the symptomatology of the codependency construct and the inter-relatedness of the characteristics associated with codependency in the literature. The clusters of items using this type of solution are very similar to Alexander's analysis, except for the number of items that load on more than one factor. Because of this similarity, the

factor designations and the following discussion regarding factor interpretation is based primarily on Alexander's work (1992).

**Table 11**

Worth's Factor Structure of Principal Components Analysis-Varimax Rotation. Kaiser Normalization<sup>a</sup>

Item	Rotated Factor Matrix				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
36	.68220				
42	.62385				
26	.62242				
10	.54256				.31720
17	.51046				
55	.50172				
46	.47274				
56	.46915				
11	.46204		.35957		
1	.45969				
38	.44431	.41157			.30153
51	.41768				
18	.41765		.31416		
14	.41691			.32247	
59	.39732			.34162	
37	.37611				
52	.32573				
21	.28614				
33	.28337				
31		.62947			
39		.55345			
60	.35930	.55095			
7		.53087			
30		.52885			.42030
4	.30200	.50738			
44		.48377		.31223	
41	.36179	.39907			
43		.39797			



Table 11 (continued)

Worth's Factor Structure of Principal Components Analysis-Varimax Rotation, Kaiser Normalization<sup>a</sup>

Item	Rotated Factor Matrix				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
27	.36418	.39013			
28		.33385			
57		.31605			
45		.29521			
13		.29397			
35			.59003		
5			.56877		
12			.56865		
50			.47041		
49			.45614	.36495	
47		.36391	.44395		
48			.37016	.33457	
53			.31352		.30808
23				.56826	
34				.53393	
58				.50584	
6				.50377	
3				.47214	
9				.46709	
8	.30355			.40762	
40					.59878
15					.52235
54					.50752
24				.34249	.43374
29					.42252
20					.41878
19					.38009
32					.37562
22					.37185
2			-.30634		-.31376
16					.30870
25					.28291

<sup>a</sup>  $n = 300$ .

Table 12

Worth's Five Factor Item Composition<sup>a,b</sup>**Factor 1: Self-Esteem/External Referencing**

- 36. I need a lot of reassurance that people like me.
- 42. If I am embarrassed or feel foolish, I worry about it for days.
- 26. I can be easily swayed from doing something if others criticize it.
- 10. Often when asked for my opinion, I find out what other people think before I say what I think.
- 17. I have trouble thinking of the right things to say when in a group of people.
- 55. If someone criticizes me, I tend to believe them and then try to change myself.
- 46. I am never concerned about whether people like me or not.
- 56. My feelings and behavior are mostly controlled by the people around me.
- 11. I often feel there is something bad about me.
  - 1. I sometimes feel that I'm not good enough to associate with the people I meet.
- 38. When even little things go wrong, I usually get very upset and stay upset until everything is fine again.
- 51. I do not like people criticizing me even if they may be right.
- 18. I feel I fit in at most social gatherings.
- 14. Sometimes I don't know who the real me is.
- 59. I often feel as if I haven't begun to live yet.
- 37. It is hard for me to ask for help from someone unless I know I can return the favor.
- 52. When I am alone, I often feel desperate to have company.
- 21. *Even a small kindness from a person I've had a problem with makes me forgive and forget.*
- 33. *I sell myself short and settle for less than the best in romantic partners.*

**Factor 2: Anxiety**

- 31. I quite often feel as if something dreadful is going to happen.
- 39. Often I feel so nervous and tense that I feel dizzy.
- 60. I often feel anxious and uptight and can't figure out why.
  - 7. It seems to me I have spent my whole life trying to please others.
- 30. Quite often I lose sleep worrying about people who are important to me.
  - 4. I feel anxious or tense about something or someone almost all the time.
- 44. Sometimes I have so many thoughts racing through my head that I can't make sense out of them.
- 41. I am envious of most of the people I meet.
- 43. Some days there seem to be so many things going wrong that life seems hopeless.
- 27. When things go wrong for others, I often blame myself even when I shouldn't.
- 28. I don't worry very much about what the future holds for me.
- 57. One of my greatest worries is that some of the people I care about may leave me.

**Table 12 (continued)****Worth's Five Factor Item Composition<sup>a,b</sup>****Factor 2: Anxiety (continued)**

45. *When I meet someone who has a problem, I often try to help them even before they ask.*  
 13. *I can't remember the last time I felt totally carefree and relaxed.*

**Factor 3: Dysfunctional Family of Origin**

35. I was raised in a family where physical abuse occurred.  
 5. I had a happier childhood than most other people.  
 12. I am not ashamed of my childhood.  
 50. As a child, my parents seldom listened to what I had to say or how I felt.  
 49. There have been times when my life seemed so depressing that I have thought of ending it.  
 47. I have often gone to see a doctor about my depression.  
 48. I don't let people get to know the real me.  
 53. Most people cannot be truly trusted.

**Factor 4: Dysfunctional Relationships/External Locus of Control**

23. There are things I have done or had happen to me in the past that I am ashamed to talk about.  
 34. I have lied to protect people who are important to me.  
 58. I have done things I am not very proud of in order to keep a relationship together.  
 6. I have had partners who didn't treat me very well.  
 3. I have often done things without thinking them through properly and later regretted my decision.  
 9. I have been close to people who did illegal things and I found excuses for what they did.  
 8. Although I appear strong and capable to others, there is a part of me that isn't strong at all.

**Factor 5: Dependency within Relationships**

40. I rarely go out or do anything without my partner.  
 15. I have on many occasions, checked to see where my partner is when he or she is not with me.  
 54. It bothers me if my romantic partner wants to go out or do something without me.  
 24. I have often said hurtful things to people I love in order to get them to listen.  
 29. When I am in a relationship, I am totally involved in it and expect the same from my partner.  
 20. Often, others find things amusing that I don't consider funny.  
 19. I feel best about myself when I'm having a romantic relationship.  
 32. When I feel I have insulted a person, I feel ill until I make the matter right.

Table 12 (continued)

Worth's Five Factor Item Composition<sup>a,b</sup>

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**Factor 5: Dependency within Relationships (continued)**

22. I don't undertake any project unless I'm pretty sure I'll succeed.  
2. I never try to help people unless I'm asked.  
16. I tend to believe things people say and often find out later that they have lied.  
25. *I am embarrassed when people give me compliments but secretly I feel good.*
- 

<sup>a</sup> Items in italics have factor loadings of  $\geq .28$  but  $< .3$ .

<sup>b</sup> Underlined items are reversed weighted for scoring and interpretation.

The first factor extracted was the most substantial and accounted for 17.6% of the variance. The configuration of items suggested an emphasis on an externally derived sense of self-worth. As with Alexander's (1992) first factor, low self-esteem appears to result from the reliance on others for self-definition and validation. In addition, the items that double load suggest that this arises as a consequence of a dysfunctional family background, can result in anxiety and despair and would be manifested in self-defeating patterns of inter-personal relationships.

The second factor accounted for 4.8% of the variance. As with Alexander's fifth factor, the clustered items indicate a state of generalized anxiety and despair over which the individual feels little sense of control. These affective states are related to an externally derived sense of self-worth and would likely contribute to increased dependency and dysfunction within relationships.

Factor three items relate to the etiology of codependent behaviors and accounted for 4.2% of the variance. The items appear to probe an abusive and/or unhappy childhood as does factor four from Alexander's study. The items also

appear to reflect the role of the "perfect" child, described in codependency literature (Black, 1982; Subby, 1987; Wilson Schaef, 1986; Wegscheider, 1981), who copes with a dysfunctional family system by anticipating the needs of others. Anxiety and depression are the long-term consequences of such compulsive caretaking behaviors (Subby, 1987; Friel & Friel, 1988; Riley, 1991).

The items in the fourth factor, like Alexander's second factor, seemed to describe a pattern of interpersonal relationships in which the individual, whether knowingly or otherwise, is manipulated into guilt-producing behaviors to protect a significant other. Actions performed for the sake of another compromise an individual's values and result in shame and/or guilt (Cermak, 1986a; Horowitz, 1983; Norwood, 1985). The emphasis is also on behaviors that appear to be under the control of forces, such as the expectations of others, which are external to self (Alexander, 1992). This factor accounts for 3.5% of the variance.

The fifth factor, accounting for 3.0% of the variance, is very similar to Alexander's (1992) third factor, Dependency within Relationships. The pattern of items loading on this factor suggest self-definition is through a relationship (p. 35). Item 2, which because of the reverse weighting is interpreted as "I try to help people whether or not I'm asked", does not appear to be related to the others in this factor or to factor three, etiology of codependency. However, it may be related to issues concerning emotional and personal development and thus may reflect some aspects of etiology (p. 36) and behaviors associated with dependency in relationships. In addition, this cluster of items suggests boundary issues that are manifest in a lack of internal direction and sense of self and the need to fill this void by exclusive involvement with a significant other (Alexander, 1992; Cermak, 1986b; Subby, 1987).

These two factorial studies provide some parameters for interpreting the IOT along separate subscales that measure five main characteristics of codependency. However, the complexity of codependency as a construct and the variability unaccounted for by unique factors suggest that the most valid, reliable and meaningful score to use in interpreting the IOT is the total score. This score reflects the complex symptomatology and inter-relatedness of behaviors associated with codependency as a psychological construct.

#### Convergent validity.

Convergent validity is examined via correlations between measures of the same construct using different measurement methods. Convergent validity was evaluated by comparing the IOT to another index of codependency, the Codependency Questionnaire (CAQ) (Potter-Efron & Potter-Efron, 1989). The following discussion is based on research by Alexander (1992).

The sample consisted of 18 clients (17 females and 1 male) from a psychoeducational group for codependents at the Alberta Alcohol and Drug Abuse Commission (AADAC) Downtown Treatment Center in Edmonton, Alberta. These subjects had been identified as codependent by AADAC personnel based on the characteristics of codependency observed in the spouses of chemical dependents and cited in the literature. The age range was from 26 to 51 years with a mean age of 36 years. The average socioeconomic level using the Blishen Scale (Blishen & McRoberts, 1976) was 48.0, with a standard deviation of 13.8.

The Pearson Product Moment Correlation Coefficient was used to determine the association between the IOT and the CAQ. The extent of agreement between the IOT and the CAQ ( $r = .89, p \leq .05$ ) indicates that there is a strong positive and significant relationship between the two tests. The high correlation between the two

instruments may have been influenced by the small sample size, and to a lesser extent, by social desirability factors which the literature suggests codependents are particularly prone to (Alexander, p. 37).

As Alexander (1992, p. 37) notes, the high correlation between the CAQ and IOT is not evidence that they are equally reliable and valid. Rather, since their development was based on close attention to the current codependent literature, it is assumed that both measure the same construct, that is codependency.

#### Divergent validity.

Divergent validity is concerned with the extent to which a test can distinguish one psychological construct from another. Sim (1991) noted that it is important to reduce the possibility that the IOT is measuring a construct that is not of interest, for example intelligence. Therefore divergent validity was evaluated by comparing the IOT, an index of codependency, to the Otis Quick-Scoring Mental Ability Tests, GAMMA: Form BM, For Senior High Schools and Colleges (Otis) (Otis, 1965), a measure of IQ.

The sample consisted of 29 subjects (20 females and 9 males) in an undergraduate class in education psychology. The Pearson Product Moment Correlation Coefficient was used to determine the association between the IOT and the Otis. The extent of the correlation between the IOT and the Otis ( $r = -.141$ ) indicates that there is not a significant relationship between the two tests. This establishes the divergent validity of the IOT in terms of its ability to distinguish the separateness of the codependency and intelligence constructs.

#### Moderator variables.

In assessing the psychometric properties of the IOT it is important to consider the extent to which the total score needs to be interpreted differently as a

function of subject characteristics such as age, gender, socioeconomic and marital status. An attribute of the respondent which interacts with the test score is referred to in psychometric literature as a moderator variable (Smith & Glass, 1987, p. 15-16). It is important to evaluate the effects of possible moderator variables both to protect against test bias and to identify interaction patterns which reflect valid group differences.

The Pearson Product Moment Correlation Coefficient was used to determine the relationship between age and IOT score and socioeconomic status and IOT score in the normative sample ( $n = 300$ ). The extent of the correlation between IOT score and age ( $r = .0341$ ) and IOT and socioeconomic status ( $r = -.1053$ ) indicates that the relationships are not significant. Thus, IOT score is not significantly affected by either the age or socioeconomic status of the respondent.

An independent t-test comparing the IOT mean scores for females ( $n = 189$ ) and males ( $n = 111$ ) who comprised the normative sample ( $n = 300$ ) was calculated. Significance was set at  $p \leq .01$ . It is shown in Table 13 that the mean IOT scores for females and males were not significantly different. This suggests that IOT score is not significantly affected by the gender of the respondent.

**Table 13**

Comparison of Mean Scores of Females and Males

Variable	N	Mean	SD	T Value	Degrees of Freedom	2-tail Probability
<b>IOT</b>						
Females	189	156.83	30.45	.21	298	.835
Males	111	157.58	29.79			



An independent t-test comparing the IOT mean scores for those individuals not living with a partner ( $n = 111$ ), that is single, divorced, widowed and separated, and those living with a partner ( $n = 189$ ), that is those married or in a common-in-law relationship, who comprised the normative sample ( $n = 300$ ) was calculated. Significance was set at  $p \leq .05$ . It is shown in Table 14 that mean IOT scores for these two groups were not significantly different. This suggests that IOT score is not significantly affected by marital status when defined as living or not living with a partner.

Table 14

Comparison of Mean Scores of Respondents Living With a Partner and Without a Partner

Variable	N	Mean	SD	T Value	Degrees of Freedom	2-tail Probability
IOT With Partner	189	158.94	30.05	1.38	298	0.169
Without Partner	111	153.97	30.22			

As the IOT is intended for use with a broad population, it should have a low level of reading difficulty yet be sufficiently complex to be able to reflect the particular nature of a respondent's behavior, feelings and attitudes that have bearing on degree of codependent orientation. Level of reading difficulty was assessed using the Fry Graph (Fry, 1968). This yielded an estimated reading level of sixth grade. The readability level of the IOT appears to be low enough to limit the interaction of reading ability with IOT score.

### Summary.

In establishing the construct validity of the IOT it was predicted: (a) that factorial studies would identify an underlying factor structure for the IOT that would reflect the characteristics of codependency cited in the literature, (b) there would be a significant correlation between the IOT and another indices of codependency, (c) that the IOT test can discriminate between the codependency construct and IQ, and (d) that moderator variables such as age, socioeconomic and marital status would not interact with a test score on the IOT. These predictions were confirmed. The two factorial studies indicated five factors underlying the test that correspond to five main characteristics of codependency. There is a strong positive and significant relationship ( $r = .89, p \leq .05$ ) between the IOT and the Codependency Assessment Questionnaire. There is not a significant correlation ( $r = -.141$ ) between codependency as measured by the IOT and IQ as measured by the Otis. As well, age gender, socioeconomic status and marital status, defined as living with or without a partner, do not significantly affect IOT score.

### VI. References

Appendix A contains a list of references that were used in the preparation of this test manual and/or could facilitate the appropriate administration and interpretation of the IOT and aid in understanding the codependency construct as it relates to the IOT.

## CHAPTER V

### Discussion and Implications

Development of a psychometric test instrument is a complex undertaking. In this research, construction of a test manual for the Individual Outlook Test (IOT) has provided a framework within which to delineate the preliminary evidence of the reliability and validity of the IOT based on the work of Sim (1991) and Alexander (1992). This initial validity and reliability network has been further extended through the consideration of new data and analyses conducted by the author.

Inherent in any psychometric process of test development is the need to be cognizant of the shortfalls of the instrument including the limitations of the available quantitative studies. The following discussion focuses upon future directions for research as they arise out of instrument limitations and the present state of the reliability and validity network, which will of necessity dictate revision of the test manual presented in this project. Following this section is a consideration of the implications for the use of the IOT in clinical practice.

### Future Directions for Research

#### Standardization

The present normative sample ( $n = 300$ ) was selected using a nonprobability sample of convenience. Individuals who were selected using this method may not be representative of the population and limit the generalizability of results obtained (Smith & Glass, 1987). Future studies might focus on providing a larger normative group for the IOT that is derived from probability sampling and that eliminates the representativeness concerns over particular groups within the present norm sample along age, gender and socioeconomic and marital status characteristics.

### Reliability

As noted previously, the limited size of the test-retest sample ( $n = 13$ ), education and test taking sophistication of this group may be contributing to the high reliability coefficient ( $r = .98$ ). Increasing the size of the sample for test-retest as well as having a normal group and a codependent group, would assist in determining more satisfactorily the stability of the IOT across different test settings over time, and for both of these groups. As well, an internal consistency reliability analysis based on a larger probability normative sample and a codependent group could be used to evaluate whether the findings of the present research are upheld and similar for the two groups.

### Validity

#### Content validity.

In the present research, item-total correlations and item-response frequency analysis suggest that some items on the IOT may need to be modified and/or eliminated. However, as this may be in part a function of the nonprobability nature of the normative group, item-total correlations and item frequency analysis using a probability sample would provide further information regarding the content validity of the IOT and allow for a more informed modification of the IOT test items.

#### Criterion-related validity.

The criterion group of codependents ( $n = 45$ ) utilized to evaluate the the criterion validity of the IOT had several limitations. Future studies could be aimed at increasing the sample size to provide further support for the conclusion that the IOT can discriminate between those with a high degree of codependent orientation and others. As well, an attempt should be made to provide a criterion group comprised of recovering codependents, that is those who have been actively

involved in some form of recovery process, to examine whether this group would score lower on the IOT when compared to a second group of codependents who are just beginning some form of intervention and/or treatment, who would therefore be expected to score higher on the IOT.

Construct validity.

Sim's (1991) 14 descriptor categories for codependency derived from the literature suggest that there are number of constructs potentially related to codependency. Depression, anxiety and external locus of control should be positively related to codependency and self-esteem negatively related. Masculine and feminine sex roles may be related to codependency as well (Wilson Schaefer, 1986) such that masculinity and codependency are expected to be negatively related and femininity and codependency positively related. Concurrent administration of the IOT and tests for the aforementioned constructs could assist in evaluating the factor structure for the IOT identified in this research.

Since it is possible that the nonprobability sample of convenience used for the normative group may have influenced variability within the test, future studies might include an examination of response frequencies and include a factorial study of IOT results using a codependent population and a probability normative sample to compare the stability of factor across these two groups. Once this is completed, it may be feasible to consider dividing the IOT into subscales which should then undergo reliability testing and further validation procedures to substantiate conclusions based on these scales and on total scores.

Future divergent validity studies might include reducing the probability that the IOT is measuring English language abilities. Convergent validity could be examined through the concurrent administration of other tests purported to measure

codependency, such as the Friel Codependency Assessment Inventory (Friel, 1985) and the Spann-Fischer Codependency Scale (Fischer, Spann & Crawford, 1991).

Finally, construct validity of the IOT could be examined through a correlational study of therapist's ratings of codependency and measurements of codependency using the IOT.

### Implications for Practice

The construction of a test manual for the IOT leads to the establishment of the validity and reliability of the IOT as a measure of codependency. At this stage in the development of the IOT, there is preliminary evidence of a level of psychometric sophistication that would enhance its use as a diagnostic and research tool and provide for a more accurate diagnosis of codependency. This in turn could reduce the possibility of misdiagnosis, which is an important ethical and professional consideration for therapists.

The IOT may be used to assist in the identification of persons whose scores place them at risk for psychological and interpersonal dysfunction. As well, the 14 descriptor categories of codependency delineated by Sim (1991) can provide subject matter for exploring, in a therapeutic setting, the meaning of an individual's score on the IOT in terms of day-to-day living and could assist therapist's in generating appropriate and effective treatment strategies.

### Conclusion

The IOT manual provides a guide for the proper interpretation of test results, use of the instrument and delineates a sophisticated psychometric background as to render the IOT a very viable research and clinical tool. As well, the manual is a consolidation of the quantitative support for codependency as a recognizable and measurable construct. Essentially also, the collated data of the

manual depicts the Individual Outlook Test as a valid and reliable measure of codependency. The author believes that future research with the IOT and subsequent revisions of the manual will enhance the conceptual, research and therapeutic value of codependency as a psychological construct.

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