THE OFFER SELF-IMAGE QUESTIONNAIRE: A FACTORIAL VALIDATION STUDY

SUSAN MARINA FRY, B.A.(Hons.)

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A FACTORIAL VALIDATION STUDY

By

Susan Marina Fry, B.A. (Hons.)

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ABSTRACT

The construct validity and the ability of the Offer Self-Image Questionnaire for Adolescents (OSIQ, Offer, Ostrov & Howard, 1982) to differentiate between clinical and normal groups were examined. Subjects were 197 students recruited from schools and 30 clinical subjects recruited from an outpatient adolescent counselling service in St. John's, Newfoundland. A factor analysis was conducted to assess the validity of the scale structure of the OSIQ. This analysis revealed that the 12 scales which are purported to make up the OSIQ could not be obtained from a factor analysis of the correlation matrix of items. Further analyses revealed that the secondary factors, originally reported by Offer (1969) were only partially replicated with the present sample. Specifically, these factors were closely matched in the analysis of the female subjects, but were not found in analyses of male subjects. Nor were these factors found in analyses of the clinical or school subjects. The ability of the OSIQ to predict clinical status of the subjects was also investigated. The Emotional Tone, F (1, 169) = 14.25, $p < .001$; Family Relations, F (1, 169) = 12.22, $p = .001$; and Psychopathology, F (1, 169) = 11.48, $p = .001$, scales were able to distinguish school subjects who sought counselling in the past year ("school/clinical") from those who did not ("normal"). As well, the Family Relations, F (1, 179) = 4.63, $p < .05$, and Idealism, F (1, 179) = 6.30, $p < .05$, scales were found to differentiate the "clinical" group and the "normal" group. However, the Idealism scale showed that those who had received counselling had higher self-image scores. No sex differences were found in any of the analyses. The results of the present study indicate that more work should focus on validation of the internal structure of the OSIQ, and that further examination of its abilities to differentiate between clinical and "normal" subjects and between males and females is necessary.

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TABLE OF CONTENTS

Page

ABSTRACT.....i

ACKNOWLEDGEMENTS.....ii

TABLE OF CONTENTS.....iii

LIST OF TABLES.....vi

LIST OF FIGURES.....viii

LIST OF APPENDICES.....iv

INTRODUCTION.....1

The Concept of Self-Image.....3
Adolescent Self-Image.....5

Issues in Self-Image Measurement.....7

Measurement of Self-Image: General Techniques.....9
Q-Sorts.....9
Social Ranking Procedures.....10
Free Response Methods.....11
Interviews.....11
Projective Techniques.....11
Behavioral Ratings.....12
Questionnaires and Rating Scales.....13

Measurement of Self-Image: Questionnaires for Adolescents.....14
Coopersmith Self-Esteem Inventory.....14
Piers-Harris Children's Self-Concept Scale.....15
Tennessee Self-Concept Scale.....16
Rosenberg Self-Esteem Scale.....18
Summary: Questionnaires.....18

The Offer Self-Image Questionnaire for Adolescents.....19
Construction of the OSIQ.....20
Description of the OSIQ.....22
Scoring and Interpretation of the OSIQ.....24
Psychometric Properties.....25
Reliability.....25
Validity.....28
OSIQ: Summary and Conclusions.....37

Page

Validity in Self-Image Research.....38

Factorial Validation of Self-Image Questionnaires.....43

The Present Study.....49
Hypotheses.....50

METHOD.....52

Subjects.....52

Measures.....52

Procedure.....53
School Sample.....53
Clinical Sample.....54
Scoring of the OSIQ.....54

RESULTS.....56

Initial Analyses: Hypothesis 1.....58

Hypothesis 2: Factor Analysis of the 130 items.....64

Hypothesis 3: Factor Analyses of Scales.....64
1) Analysis of 10 Scales obtained from the scores of Male Subjects.....66
2) Analysis of 10 Scales obtained from the scores of Female Subjects.....69
3) Analysis of 10 Scales obtained from scores of all subjects.....69

Exploratory Analyses.....73
1) Analysis of Scales without Sexual Attitudes Scale.....75
2) Analysis of all Scales.....75
3) Analyses based on sex.....77
4) Analyses based on Place of Recruitment.....80

Summary of Results.....87

DISCUSSION.....89

Predictive Validity.....90

Construct Validity: Item Analysis.....94

Construct Validity: Scale Analyses.....95

Page

Criticisms of the Present Study.....98

Conclusions and Recommendations.....100

REFERENCES.....102

APPENDICES.....111

L I S T O F T A B L E S

Page

TABLE 1: ROTATED FACTOR LOADINGS FOR THE FACTOR ANALYSIS OF THE OSIQ.....35

TABLE 2: MANOVA SOURCE TABLE FOR SCHOOL "NORMAL" (GP1, n =153) AND CLINICAL (GP2, n = 30).....59

TABLE 3: UNIVARIATE F-TESTS FOR GP EFFECT.....60

TABLE 4: MANOVA SOURCE TABLE FROM SCHOOL DATA (n = 197).....62

TABLE 5: UNIVARIATE F-TESTS FOR COUNSELLING EFFECT.....63

TABLE 6: MANOVA SOURCE TABLE FOR SCHOOL\CLINICAL AND CLINICAL SUBJECTS (n = 62).....65

TABLE 7: INTERCORRELATIONS AMONG OFFER SELF-IMAGE QUESTIONNAIRE SCALES FOR MALE SUBJECTS (n = 109).....67

TABLE 8: FACTOR LOADINGS, COMMUNALITIES AND EIGENVALUES FROM ROTATED FACTOR MATRIX OF 10 SCALE SCORES FROM MALE SUBJECTS (n = 109).....68

TABLE 9: INTERCORRELATIONS AMONG OFFER SELF-IMAGE QUESTIONNAIRE SCALES FOR FEMALE SUBJECTS (n = 118).....70

TABLE 10: FACTOR LOADINGS, COMMUNALITIES AND EIGENVALUES FROM ROTATED FACTOR MATRIX OF FEMALE SUBJECTS FROM 10 SCALES.....71

TABLE 11: INTERCORRELATION MATRIX OF ALL OSIQ SCALES FOR ALL SUBJECTS (N = 227).....72

TABLE 12: FACTOR LOADINGS, COMMUNALITIES AND EIGENVALUES FROM ROTATED FACTOR MATRIX OF 10 SCALE SCORES FOR ALL SUBJECTS (N = 227).....74

TABLE 13: FACTOR LOADINGS, COMMUNALITIES AND EIGENVALUES FROM ROTATED FACTOR MATRIX OF SCALES WITHOUT THE SEXUAL ATTITUDE SCALE FOR ALL SUBJECTS (N = 227).....76

TABLE 14: FACTOR LOADINGS, COMMUNALITIES AND EIGENVALUES FROM ROTATED FACTOR MATRIX OF ALL SCALES USING ALL SUBJECTS (N = 227).....78

Page

TABLE 15: FACTOR LOADINGS, COMMUNALITIES AND EIGENVALUES FROM ROTATED FACTOR MATRIX OF 12 SCALE SCORES FROM MALE SUBJECTS (n = 109).....79

TABLE 16: FACTOR LOADINGS, COMMUNALITIES AND EIGENVALUES FROM ROTATED FACTOR MATRIX OF 12 SCALE SCORES OF FEMALE SUBJECTS (n = 118).....81

TABLE 17: INTERCORRELATIONS AMONG OFFER SELF-IMAGE QUESTIONNAIRE SCALES FROM SCHOOL SUBJECTS (n = 197).....83

TABLE 18: FACTOR LOADINGS, COMMUNALITIES AND EIGENVALUES FROM ROTATED FACTOR MATRIX OF 12 SCALE SCORES OF SCHOOL SUBJECTS (n = 197).....84

TABLE 19: INTERCORRELATIONS AMONG OFFER SELF-IMAGE QUESTIONNAIRE SCALES FROM CLINICAL SUBJECTS (n = 30).....85

TABLE 20: FACTOR LOADINGS, COMMUNALITIES AND EIGENVALUES FROM ROTATED FACTOR MATRIX OF 12 SCALE SCORES FROM CLINICAL SUBJECTS (n = 30).....86

LIST OF FIGURES

Page

FIGURE 1: AVERAGE OSIQ SCORES FOR TOTAL SAMPLE.....57

LIST OF APPENDICES

Page

APPENDIX A: DEMOGRAPHIC QUESTIONNAIRE.....111

APPENDIX B: CLIENT SUMMARY SHEET.....112

APPENDIX C: INFORMATION SHEET.....113

APPENDIX D: SUMMARY STATISTICS.....114
1. CLINICAL SUBJECTS.....114
2. SCHOOL 1.....115
3. SCHOOL 2.....116
4. SCHOOL 3.....117
5. SCHOOL 4.....118

INTRODUCTION

Self-image and related constructs (e.g., self-esteem, self-confidence, self-concept) are often the concern of clinicians as an explanation and consequence of psychological disorders, and as a focus for treatment (Robson, 1988). These terms have been related to depression (Beck, 1967; Ingham, Kreitman, Miller, Sashidharan & Surtees, 1986; Wilson & Krane, 1980), anxiety (Ingham et al., 1986; Rosenberg, 1962), alcohol abuse (McCord & McCord, 1960), adolescent interpersonal problems (Kahle, Kulka & Klingel, 1980), physical abuse (Hjorth & Ostrov, 1982) and child sexual abuse (Alter-Reid, Gibbs, Lachenmeyer, Sigal & Massoth, 1986; Bagley & Young, 1987; Browne & Finkelhor, 1986; Orr & Downes, 1985). Studies have also shown that children and adolescents who have emotional and behavioral disturbances exhibit low self-image (Richman, Brown & Clark, 1984; Lund, 1987), and that adolescents with clinical diagnoses show particular patterns of self-image disturbance (Koenig, Howard, Offer & Cremerius, 1984). In fact, it has been said that different researchers have related self-image to almost every variable at one time or another (Wylie, 1979); although a number of reviews have pointed out fundamental problems with research of this nature (Demo, 1985; Robson, 1988; Wells & Marwell, 1976; Wylie, 1974).

One of the most important issues in research and clinical

practice is the choice of appropriate measurement devices. Within the area of self-image, measurement is characterized by the diversity of methods and instruments that can be utilized. The domain sampled and dimensionality of the construct varies with the type of technique used. As well, the age range of subjects is an issue (i.e., some techniques have been developed for use with children, others for use with adolescents, and still others for use with adults). The problem then for the researcher or clinician is to decide which method would best serve the purpose. In order to ascertain which measure is "best", issues of reliability and validity become central concerns. The measurement of self-image is a complex and problematic task primarily because of a lack of conceptual cohesiveness and the lack of one technique or device which is accepted by all as reliable and valid. Nonetheless, it is important to study self-image as it has been related to so many aspects of psychological functioning.

This research examines the measurement of self-image during adolescence. Specifically, the validity of the Offer Self-Image Questionnaire (OSIQ) is evaluated with adolescents in Newfoundland, Canada. The review that follows considers (i) a brief overview of self-image with special emphasis on adolescence; (ii) a review of issues in self-image measurement, (iii) a brief review of measurement techniques and instruments, (iv) a review of the Offer Self-Image

Questionnaire, (v) a consideration of the importance of validity in self-image research and statistical methods for demonstrating validity, and (vi) the use of factor analyses in determining validity of self-image questionnaires.

The Concept of Self-Image

In a broad sense, the term self-concept refers to our perception of ourselves (Burns, 1979; Byrne, 1984). This perception can be based on attitudes, feelings, abilities, skills, or appearance. However, a wide proliferation of labels has also been used (e.g., self-esteem, self-image, self-love, self-conscience). The definition of self-concept, self-image or self-esteem varies according to the theoretical approach of the author. Domino and Blumberg (1987) point out that there is a great deal of confusion with regard to the precise nature of self-image. For example, Maslow (1954) categorizes it as a need, Coopersmith (1967) refers to it as an attitude and as a necessary condition for achievement, and Fitts (1972c) cites it as an index of mental health.

As self-image is a hypothetical construct (i.e., it is not readily observable, but can only be inferred from behaviours), it is relatively easy for definitions to become confused. Wylie (1974) contends that "...it has recently become widely fashionable and acceptable to write about such hypothetical constructs as the self-concept and self-esteem

without seriously attempting to define terms..." (p.316). For this reason, she points out the necessity for authors to clearly define the concept under investigation, to allow readers to decide if this is in fact the concept in which they are interested.

Self-concept is typically defined as the "...perception one holds of oneself, totally and with regard to several dimensions and which is influenced by environmental interaction" (Beane & Lipka, 1980; p.1). Self-esteem, on the other hand, is described as the evaluative component (i.e., how good or bad you perceive yourself to be with regard to a particular dimension). However, it is impossible to consider one's self-concept independently of one's esteem, thus confusion has arisen, resulting in these terms being used interchangeably. [For the remainder of this thesis the term self-image will be used to indicate the construct described in the preceeding sections.]

It appears that regardless of how self-image is defined, most researchers assume that some component of self-evaluation or esteem plays a crucial role in determining behaviour. Most common is the belief that high self-image is related to "healthy behaviour" (i.e., behaviours which are considered to be socially and psychologically functional). Low self-image, in contrast, is associated with lack of confidence, with dependence, shyness, defensiveness, and proneness to deviance (see Wells & Marwell, 1976 for a more complete synopsis; as

well as Pope, McHale & Craighead, 1988).

Another position maintains that the relationship between self-image and adjustment is curvilinear (Block & Thomas, 1955; Combs, Soper & Courson; 1963; Weissman & Ritter, 1970). Proponents of this position suggest that high self-image is associated with narcissism and low self-image is associated with self-hate. Mecca, Smelser and Vasconcello (1989) note that it is difficult to put the understanding of self-image into words. In all, it may be valid to state that self-image (or any self-related construct) is easy to recognize, but difficult to define. However, since there seems to be a fundamental validity to the core concept of self-image, due to the fact that it is often related to many other concepts, it is important for more research to be focused on clarifying the nature of the term.

Adolescent Self-Image

Some researchers (e.g., Offer, 1987; Offer, Ostrov, Howard, & Atkinson, 1988; Offer, Ostrov & Howard, 1981a, 1984; Rosenberg, 1965) argue that the period of adolescence is a unique developmental period and that there are many differences between children and adolescents, and between adolescents and adults. The work of Hall (1904) pioneered the study of adolescents. Erik Erikson (1950), Anna Freud (1958) and Peter Blos (1961) continued in the tradition of Hall, and considered the importance of the developing self and

perception of the self. A vast amount of literature describing adolescent characteristics has accumulated since this early work was carried out. However, those studied have been primarily individuals in clinical or correctional settings. Offer and his co-workers (1981a) in particular have noted the lack of empirical studies of the normal adolescent. The adolescents most often studied displayed emotional turmoil similar to Hall's (1904) "storm and stress" (Blos, 1961; A. Freud, 1946; 1958). This type of research has resulted in many mental health professionals and others discussing turmoil during adolescence in terms of normal development (Offer, Ostrov & Howard, 1981b). However, studies of normal adolescents have shown that they are well adjusted and get along well with peers, teachers and families (Block, 1971; Csikszentmihalyi & Larson, 1984; Douvan & Adelson, 1966; Offer & Offer, 1975; Offer et al., 1981a; 1981b; Vaillant, 1977; Westley & Epstein, 1969).

Many researchers have pointed out that self-image is a particularly crucial personality dimension for adolescents (e.g., Block, 1971; Blos, 1961; Erikson, 1950; Masterson, 1967; Offer, 1969). Rosenberg (1965) points out that during adolescence individuals make major decisions about their lives (e.g., What am I going to be?; Whom am I going to marry?). Adolescence is also a period of major changes--physical, physiological, and psychological. It is during this period that new attitudes develop, peers become more important, and

there is a general move away from the family.

Empirically, self-image has been directly correlated with the mental health and adjustment of adolescents (Rosenberg, 1965; Offer & Howard, 1972; Offer, Ostrov & Howard, 1977). Rosenberg (1965) and Coopersmith (1967), who both advanced theories of the development of self-image during adolescence, have implied that high self-image is associated with better adjustment than low self-image. Published research has indicated fairly decisively that low self-image is linked with anxious and/or neurotic behaviours (see Fitts, 1972a, 1972b, 1972c; Wylie, 1961) and less effective performance under stress (Schalon, 1968; Shrauger & Rosenberg, 1970).

Issues in Self-Image Measurement

The earlier section pointed out briefly that the fundamental problem associated with the self-image literature is a conceptual one (i.e., the lack of a universal and operational definition). The confusion at the conceptual level is reflected in measurement difficulties of equal or greater magnitude. One such measurement dilemma which may be considered to be a result of conceptual ambiguity is the fact that there is considerable variation in the measurement procedures that are utilized by researchers. For example, Brookover, Erikson and Joiner (1967) noted that sometimes the only similarity between studies is the use of the term self-

image. Wylie's (1961; 1974; 1979) examination of studies related to self-image revealed that a wide array of instruments and techniques were used to measure the construct. Most interestingly, she noted that many instruments were developed for a particular study and were not checked for adequate reliability and validity. Such instruments may be poorly described and almost impossible to locate, further insuring that their psychometric properties are not studied. Once again, because there is a lack of a consensual definition, studies that claim to be investigations of the same concept may in fact be studies of different constructs altogether.

Another problem with research in the area of self-image derives from the fact that self-image is a subjective phenomenon--one that is not amenable to direct observation. Self-image can be inferred from behaviours, but ultimately each individual has the best vantage point from which to evaluate self-conceptions. The phenomenological nature of self-image poses many measurement problems. For example, the subject may deliberately distort the report or may lack the necessary verbal skills to communicate effectively.

Finally, the particular items included in the assessment affect the score that is obtained. For example, if all items concentrated on an area of life in which the subject displayed little competence (e.g., academic skills) then the self-image score would likely be low, whereas if all items reflected an

area in which the individual was very competent the score would be high. Therefore, a large range of items is necessary for an adequate assessment of general self-image. In practice, item selection appears to be based primarily on authors' judgements rather than on an empirical foundation. There are many instruments available which sample many areas of functioning, but there is no way of knowing to what extent each instrument limits the subject from providing a comprehensive and accurate report of self-image. The next section examines the various techniques that can be used in the assessment of self-image and related constructs.

Measurement of Self-Image: General Techniques

A wide variety of measurement techniques are available for the assessment of self-image. These techniques include Q-Sorts, social ranking procedures, free response methods, interviews, projective techniques, behavioral ratings and questionnaires. This section considers briefly the various techniques which are available. For a more detailed discussion of the various techniques see Wylie (1971) or Burns (1979).

Q-Sorts. The Q-Sort technique was developed in the early 1950's (Stephenson, 1953). The most extensively used Q-Sort for the assessment of self-image is the 100-item

protocol developed by Butler and Haigh (1954). Descriptive items are sorted into nine piles, arranged on a continuum according to the degree to which they are characteristic of the subject. The subject is asked to put a certain number into each pile to ensure a quasi-normal distribution. Items can be sorted a number of times to reflect ideal self, real self, or the self that others see. This technique yields comparative ratings (i.e., trait A is judged to be more characteristic than trait B). While Q-Sorts may be useful in providing detailed information about the subject, they have largely been abandoned in favour of the more pragmatic questionnaires.

Social ranking procedures. In this procedure the subjects are asked to compare themselves with some specific collection of other persons (i.e., ratings are made according to perceptions of the group standard). Another alternative of the social ranking procedure is for subjects to rank all group members, including themselves, on the basis of a trait. This technique assumes that the rank subjects assign themselves reflects their self-evaluation (esteem). The main argument against this procedure is that it assumes that self-image is dependent on group membership rather than on an internal personal standard. This technique may in fact be an accurate method of indexing a part of self-image, namely social self-esteem.

Free response methods. When using these types of methods in the assessment of self-image, the subject is required to provide a self-description. This description may be the result of completing sentences, writing an essay, listing adjectives or providing 20 statements. An example of this technique is the Twenty Statements Test (Kuhn & McPartland, 1954). These techniques may be valuable in that they remove the restrictions which are imposed by formal rating scales and allow the individual to respond freely. However, this freedom propagates problems with classification and scoring.

Interviews. There is little substantive research on the use of interviews as measures of self-image. Within clinical settings it is likely that counsellors make an informal judgement of self-esteem on the basis of interviews. However, this technique is rarely cited as yielding a measure of self-image.

Projective techniques. Based on an individual's interpretation and responses to projective stimuli, like those presented with the Rorschach, Thematic Apperception Test (TAT), or Draw A Person (DAP), hypotheses have been made about an individual's self-concept. Techniques of this type are often viewed as indirect and unobtrusive methods of tapping an individual's self-conceptions. The DAP, for example, assumes that the person drawn reflects the respondent's own self-image. This technique is often supplemented with a verbal description, an interview, or a rating task. The TAT assesses

self-image by making the assumption that respondents project themselves into the story by identifying with the central figure. Spitzer (1969) has developed a reliable scoring system for the TAT which results in two scores: "feelings of inadequacy" and "negative self-concept".

The disadvantages of using projective techniques, however, may often outweigh the advantages. Although these techniques allow the respondent to answer freely, the test administration is often time consuming and results are usually more difficult to score than other available measures of self-image. Moreover, it is difficult to decipher which information is self-evaluative rather than social, experiential, or stylistic.

Behavioral ratings. Observations of traits which are inferred to be indicative of self-image is another method of measurement. Some authors suggest that ratings made by peers or others who know the individual in a variety of settings are by far the most valid (Crandall, 1973; McCandless, 1961). One of the best known procedures is the Behavioral Rating Form used by Coopersmith (1967). In this procedure, teachers rate children's behaviours in fourteen different areas. The main advantages of this approach are that behavioral ratings may be unobtrusive and need not rely on an individual's self-description. Combs and Soper (1957) have argued that behavioral ratings should not only supplement, but in fact replace self-ratings. They argue that self-reports are

subject to many more sources of contamination than are behavioral observations. The fundamental concern, however, lies in the inference of self-image from observed behaviours. At issue is the question of whether or not an objective observer can assess a person's self-image on the basis of limited observations. This issue has not yet been resolved, nor is it likely to be resolved in the near future. In the meantime, many authors contend that both self-reports and behavioral observations are valid measurement techniques (see Wells & Marwell, 1976).

Questionnaires and rating scales. Use of questionnaires or rating scales is by far the most popular method of assessing self-image. Questionnaires enjoy popularity as they are generally easy to administer. However, as with all self-report measures (including all those discussed above, with the possible exception of behavioral ratings) there is one main issue. Combs, Soper and Courson (1963) have argued that many studies which claim to study self-image or other related constructs are in fact studies of self-report. Combs and Soper (1957) argue that the two are not synonymous--self-concepts are how individuals see themselves, while self-reports reveal what individuals are willing to say about themselves. Burns (1979) provides a detailed description of Combs and Soper's (1957) arguments, and a description of the factors which influence self-report including: individual awareness, ability to express oneself, willingness to

cooperate, social expectancy, and freedom from threat. Despite these problems, questionnaires and rating scales enjoy positions of prominence in the measurement of self-image. The following section reviews some of the most popular questionnaires which are available to assess self-image with special emphasis placed on those that span the adolescent years.

Measurement of Self-Image: Questionnaires for Adolescents

There are literally hundreds of questionnaires available for use in the assessment of self-image. This fact is evidenced by Wylie's (1961; 1974; 1979) reviews. This section highlights four of the more popular instruments used in the assessment of adolescent self-image: the Coopersmith Self-Esteem Inventory, the Piers-Harris Children's Self-Concept Scale, the Tennessee Self-Concept Scale, and the Rosenberg Self-Esteem Scale. It is beyond the scope of this thesis, however, to thoroughly review these measures. The reader is referred to the manuals of the instruments as well as to Wylie (1974) for more thorough reviews.

Coopersmith Self-Esteem Inventory (Coopersmith, 1967; 1981). This questionnaire is currently available in three forms: Form A (Long/School Form), Form B (Short/School Form), and Form C (Adult Form). The School Form A is designed for

use with children and adolescents, ages 8 to 15 years, and consists of 50 items measuring self-esteem and an 8-item Lie Scale. The scale can be broken down into five subscales: General Self, Social Self-Peers, Home-Parents, School-Academic, Total Self and the Lie scale. For each item subjects are asked to indicate "Like Me" or "Unlike Me."

A huge body of technical support is available for the Coopersmith SEI (e.g., Adair, 1984; Coopersmith, 1967; 1981; Crandall, 1973). Test-retest reliability studies are reported in the manual and range from .64 for older children and .42 for younger children (Coopersmith, 1981). Acceptable internal consistency values have also been reported (Spatz & Johnson, 1973). A split-half reliability of .90 was reported by Taylor and Reitze (1968) and a split-half reliability value of .87 was reported by Coopersmith (1967). A factor analysis (Kokenes, 1978) supported the multi-dimensionality of the SEI; and revealed four bipolar factors which supported the subscale division of the SEI. Convergent validity has also been demonstrated (see Crandall, 1973). Overall, the Coopersmith SEI is considered to be psychometrically sound and useful for measuring self-esteem in all populations.

Piers-Harris Children's Self-Concept Scale (Piers, 1969, 1984; Piers & Harris, 1964). The Piers-Harris Scale is a rating scale for use with children and teenagers in grades 4 through 12 (ages 8 to 18 years). The Scale consists of 80

yes-no items. Items reflect six areas: 1) behaviour; 2) intellectual and school status; 3) physical appearance and attributes; 4) anxiety; 5) popularity; and 6) happiness and satisfaction. It has been used for screening children in both clinical and research studies (Cosden, 1984). The Piers-Harris provides a global measure of self-concept, as well as evaluations within each of the six areas.

Adequate reliability and validity are reported (see Burns, 1979; Cosden, 1984; Wylie, 1974). For example, Wylie (1974) reports reliability coefficients ranging from .78 to .93. Cosden (1984) reviewed the psychometric properties of the Piers-Harris, and reported internal consistency alphas of between .90 and .91. Test-retest reliability has been reported as ranging from .62 to .96, based on either a 2 week or a 6 month retest (see Cosden, 1984). The manual (Piers, 1984) notes the limitations of the scale. These include problems with standardization and low test-retest reliability (stability) of the clusters. This scale is considered to be the most accepted and psychometrically sound tool for the assessment of children's self-concept. However, care must be taken not to use the scale for purposes other than those for which it was intended (i.e., as a screening device; Piers, 1984).

Tennessee Self-Concept Scale (TSCS) (Fitts, 1965; Roid, G. & Fitts, W., 1991). One of the more frequently used

instruments to assess self-concept, the TSCS consists of 100 items to be rated on five-point scales. It is suitable for subjects 12 years of age and older. It is intended to "...summarize an individual's feeling of self-worth, the degree to which the self-image is realistic, and whether or not that self-image is a deviant one" (Walsh, 1984, p. 663). The TSCS provides an overall measure of self-esteem, and in addition, measures five external aspects of self-concept (moral-ethical, social, personal, physical, and family) and three internal aspects (identity, behaviour, and self-satisfaction). Crossing of the internal and the external dimensions results in 15 "facets" of self-concept. Ten additional items are taken from the MMPI Lie scale and comprise a measure of defensiveness called the Self-Criticism scale. Two scoring systems are available for the TSCS: a Counselling Form, which is quicker and less complicated; or the Clinical and Research Form, which provides scores for several additional scales.

Reliability and validity data are presented in the manual (Fitts, 1965) and are reviewed by Walsh (1984) in a recent paper, who notes that "...reliability measures are inappropriate and inadequate" (p.671) and that studies of the structural validity of the TSCS have produced mixed results. Walsh (1984) concedes that the TSCS has utility as an instrument with which to distinguish between different groups, especially clinical and non-clinical, but further states that

it should be used "...primarily as a focal point for initiating discussion about a client's self-concept" (p.671), and that indepth counselling on the basis of internal and external dimensions of self-concept is unjustified. Wylie (1974) passes harsh judgement on this instrument and concludes that "...no justification can be offered, either from a priori analyses in terms of adequate methodological criteria or from a survey of empirical results to justify using this scale rather than certain others which are available..."(p. 236).

Rosenberg Self-Esteem Scale (Rosenberg, 1965). Rosenberg specifically designed this scale for his study reported in Society and the adolescent self-image (1965). Unlike many of the other scales available, this scale has attempted to achieve a unidimensional index of self-esteem. It consists of 10 items on which the subject responds from "Strongly Agree" to "Strongly Disagree". The scale has received very favourable reviews and is highly recommended as a quick index of adolescent self-esteem (see Burns, 1979; Wylie, 1974).

Summary: Questionnaires

As noted in previous sections, there are many techniques and hundreds of specific instruments which can be used to assess self-image and related constructs. However, to this author's knowledge, there are no instruments available which

are aimed exclusively at the assessment of self-image of adolescents, with the exception of the Rosenberg Self-Esteem Scale and the Offer Self-Image Questionnaire. As discussed earlier, the period of adolescence is a unique developmental period during which individuals undergo many changes which affect their perceptions and feelings about themselves. For this reason, it is important that an assessment of self-image be sensitive to particular issues relevant to adolescents. Both the Self-Esteem Scale and the Offer Self-Image Questionnaire focus solely on the measurement of adolescent self-image. Rosenberg chose to proceed along a unidimensional path. Offer, on the other hand, acknowledged that a number of areas were important in the development of self-image during adolescence. The following sections examine the Offer Self-Image Questionnaire and its psychometric properties in considerable detail.

The Offer Self-Image Questionnaire for Adolescents (OSIQ)

Interest in developmental psychology, and adolescent psychology in particular, began in the 1960's for Daniel Offer. It was at this time that he discovered that there was very little empirical work on "normal" adolescents. In fact he found that "...even though normal teenagers were not studied by clinical investigators, they were assumed to have the same basic conflicts as psychiatric patients or juvenile

delinquents" (Offer et al., 1981a; p. 5). Due to the lack of emphasis on the average teenager, Offer and his colleagues began a research project that has spanned two decades.

Offer and his associates at the Michael Reese Hospital, assert that research on normal adolescents is important in order to establish a baseline from which deviance can be assessed. An accurate portrait of the normal teenager is also helpful in facilitating treatment for those in distress. Although Offer and his colleagues (e.g., 1982) have developed an instrument to measure self-image, they do not provide a definition per se. They imply that self-image is the feelings and attitudes that individuals have about themselves, and further suggest, as evidenced by the 12 scales, that there are a number of components that make up these feelings. Further, they intimate that self-image is equivalent to adjustment. As previously discussed, this conceptual problem (i.e., the lack of a universal definition) is one that is not likely to be solved, and as Wylie (1974) pointed out, at this time it is sufficient that researchers outline their particular interpretation of the construct.

Construction of the OSIQ

The Offer Self-Image Questionnaire was developed in 1962 as a "...means of tapping the feelings and attitudes that teenagers have about themselves" (Offer et al., 1981a; p.30). The authors were interested in developing a reliable method of

selecting a representative sample of normal teenagers from a larger population. The instrument was designed to be used as an assessment device to differentiate between those possessing normal and deviant self-images using a normative baseline. The OSIQ was developed on the basis of two premises: first, it is necessary to evaluate many areas of functioning, as it is possible to "...master one aspect of [the] world while failing to adjust in another" (Offer & Howard, 1972, p. 529); and second, adolescents are sensitive enough to their world and their relationship to it, that their descriptions can be used as a basis for a valid measure of self-image.

The authors (Offer et al., 1982) used a variety of sources in the development of the questionnaire including Engel's (1959) Q-Sort and their own Q-Sort (Marcus, Offer, Blatt & Gratch, 1966). "Items were written to cover eleven areas of an adolescent's life that were believed, on the basis of theoretical proposition, clinical experience and a review of empirical findings, to be important to the psychological life of the adolescent" (Offer et al., 1981a, p. 31).

Once the questionnaire was constructed, the authors reviewed the questions with four teenagers to ensure that the items were understandable. Next, a pilot study was undertaken with 40 adolescent boys (10 psychiatric patients and 30 normal subjects) to check the reliability and validity of the questionnaire. Adequate reliability and validity were reported from this study (see section on Psychometric

Properties later in this thesis). However, as a result of the pilot testing, some items were rewritten (especially items from the Family Relations, Psychopathology, and Superior Adjustment scales) and others were replaced to generate the questionnaire as it appears today.

Description of the OSIQ

The OSIQ is currently a 130-item inventory which requires adolescents to rate, on a six point scale, how well each item describes them (1-describes me very well to 6-does not describe me at all). The questionnaire is designed for use with adolescents aged 13 to 19 years. It takes approximately 40 minutes to complete and requires at least a grade six reading level (Knoff, 1986). The OSIQ yields scores in 12 content areas which, according to the authors, represent important aspects of the "psychological world of the teenager" (Offer & Howard, 1972; p. 529). Five aspects of the self can be determined as a result of the first 11 content areas.

PSYCHOLOGICAL SELF (PS)

This area is defined as the concerns, feelings, wishes and fantasies of the individual. It is derived from:

Scale 1: Impulse Control: The ability to ward off various pressures.
Scale 2: Emotional Tone: The extent to which emotions fluctuate or are stable.
Scale 3: Body and Self-Image: The extent to which the adolescent has adjusted to his/her body.

SOCIAL SELF (SS)

This area measures the adolescent's perceptions of his/her interpersonal relationships, moral attitudes, and vocational and educational goals. It consists of the following scales:

Scale 4: Social Relationships: Assesses object relations and friendship patterns.
Scale 5: Morals: The extent to which the conscience is developed.
Scale 6: Vocational and Educational Goals: Measures how well the adolescent is accomplishing the task of planning for a vocation.

SEXUAL SELF (SxS)

This area measures how well the adolescent has integrated emerging sexual drives into his/her psychosocial life. It consists of the following scale:

Scale 7: Sexual Attitudes: Considers the adolescents' feelings, attitudes and behaviours towards the opposite sex.

FAMILIAL SELF (FS)

This self measures the adolescent's attitudes towards his/her family. It consists of the following scale:

Scale 8: Family Relationships: Measures how the adolescent feels about his/her parents and the relationships with mother and father.

COPING SELF (CS)

This self focuses on the ways adolescents cope with their world and measures any psychiatric symptoms the adolescent may report. It consists of the following scales:

Scale 9: Mastery of the External World: How the individual adapts to the immediate environment.
Scale 10: Psychopathology: Identifies overt or severe psychopathology.
Scale 11: Superior Adjustment: Measures how well the adolescent can cope with self, significant others, and the environment.

The twelfth content area is measured by six items and is referred to as Idealism. This scale, an experimental addition to the OSIQ, can be said to measure altruism in the adolescent. This scale is used in place of the total score (S. Dolan, personal communication, August ,1989).

Scoring and Interpretation of the OSIQ

The items of the OSIQ are written so that half are worded positively and half negatively. Scoring of the questionnaire requires that the wording of items be taken into account. Indication that a positive item describes the subject as very well, well, or fairly well are positive endorsements and are recorded as they appear. Positive responses to negatively written items must be adjusted by subtracting the given score from seven. The raw score for a scale is calculated by summing all the scores of the items in that scale, using the reflection method where applicable. A low raw score signifies a high self-image and a high raw score denotes poor self-image in that area.

Raw scores are converted to standard scores, calculated from age- (13-15 -younger or 16-19 -older) and sex-appropriate

norms (based on the 1970 normal sample; Offer et al., 1981a). The standard scores are computed by first subtracting the appropriate reference group mean from the raw score, then dividing this result by the relevant group standard deviation and finally multiplying by 15 and adding 50. The manual provides all the necessary conversion tables (Offer et al., 1982). At this point, a standard score of 50 denotes a score equal to the normal reference group mean. A score of 65 is one standard deviation above the mean and a score of 35 is one standard deviation below the mean. The authors provide a data analytic service and a computerized scoring package which graphically represents the results.

Psychometric Properties

Since its development, research using the OSIQ has been reported from over 15,000 teenagers in five countries (the United States, Ireland, Australia, Hungary and Israel). The authors have data from male and female, normal, physically ill, delinquent, disturbed, rural, urban and suburban teenagers. The majority of those who completed the questionnaire were from middle socioeconomic classes. Offer and his colleagues have collected an extensive library of technical support for the OSIQ (see Offer, 1969; Offer et al., 1981a; Offer et al., 1982).

Reliability. Reliability refers to the extent to which the scores are not due to chance or errors in measurement.

There are three main types of reliability that are considered when evaluating a psychological test: inter-rater reliability, internal reliability (consistency), and stability (test-retest reliability).

The OSIQ avoids the problem of inter-rater reliability as it is a structured questionnaire. The presentation of the items remains constant over subsequent administrations and scoring is based on an a priori system which allows for computerized scoring.

Internal consistency has been assessed using data from an initial pilot study (Offer, 1969) conducted during the construction of the questionnaire; subjects were thirty normal adolescents from three schools, and 10 psychiatric patients with a variety of diagnoses. The alphas ranged from .80 (Emotional Tone, Family Relationships, External Mastery) to .57 (Psychopathology), indicating that some scales display adequate internal consistency, while others do not.

Internal consistency was also assessed using Cronbach's alpha with 4 different normal adolescent samples from the Chicago area: 1) younger males (13-15 years) in 1962; 2) younger females in 1969; 3) older males (16-19 years) in 1966; and 4) older females in 1966. This data showed that the scales are adequately internally consistent (alpha's ranged from .80 to .38; mean alpha of .63; see Offer et al., 1982, Table II, p. 26).

Analysis of responses from American and Australian,

younger and older, males and females, normal and disturbed adolescent populations reported in Offer and Howard (1972) and collected from 1962 through 1971 also supported the internal consistency, and as Offer noted "...although the scales correlate significantly with each other, each scale does tap a somewhat different aspect of the self-image" (p. 530). This same analysis revealed that the Sexual Attitudes scale did not correlate with the others and it is therefore no longer used in the calculation of the total score.

A stability coefficient of .73 for the total score and coefficients ranging from .48 to .84 for the scales over a six month period are reported in the manual from a 1979 sample of normal teenagers in the Chicago area (Offer et al., 1982). These results indicate that some scales are more stable than others, a result which may be attributed to changes in self-image that are associated with adolescence (Offer, 1977). A longitudinal study by Offer (1969) and Offer and Offer (1975) found that OSIQ scores were consistent over an eight year period.

Overall, the OSIQ has been shown to have satisfactory stability coefficients. However, depending on the sample used, the internal consistency scores obtained may be lower than what would be expected. Intercorrelations between the scales indicate that they are tapping similar dimensions of self-image, but that they are also tapping somewhat different

aspects. All scales are highly correlated, with the exception of the Sexual Attitudes scale. The authors (Offer & Howard, 1972) conclude that attitudes toward sexuality are not related to general adjustment. As noted earlier, this scale is not used in the calculation of the Total Score.

Validity. The concept of validity refers to how appropriate, meaningful and useful are the conclusions or inferences made from the test scores. As will be discussed in more detail in a later section, there are a number of methods that can be used to verify the validity of an instrument. Basically the evidence for validity can be gathered from three areas: content related, construct related, and criterion related (i.e., concurrent and predictive).

In a 1981 study (Dudley, Craig & Mason), the OSIQ and the Minnesota Multi-phasic Personality Inventory (MMPI) were compared in terms of their usefulness as personality measurements of adolescent mental health patients. The purpose of the MMPI is to predict psychiatric categories of patients. The MMPI has been the subject of many factor analyses and generally, two to three factors are reported: neuroticism, psychotism, and psychopathy. Sixty-three adolescents (44 males, 19 females; ages 14-21) participated in the Dudley et al. (1981) study. All were given the OSIQ and the short form of the MMPI, and interviewed to gather relevant demographic information. Patterns of correlations were computed for each questionnaire and between questionnaires.

Intracorrelations of the MMPI revealed two clusters: Hs (Hypochondriasis), D (Depression), Hy (Hysteria) and Pd (Psychopathic deviate); and Pa (Paranoia), Pt (Psychasthenia), Sc (Schizophrenia) and Ma (Hypomania). In contrast, the OSIQ appeared to be characterized by one general factor, as 53 of the 55 correlations generated were significant at the .05 level. The only exception to the pattern of high positive correlations was that the Morals scale did not correlate with the Body and Self-Image scale or with the Sexual Attitudes scale.

All OSIQ scales, with the exceptions mentioned above, had high intracorrelations. Therefore, when one scale correlated with a MMPI scale, all tended to be related. All the OSIQ scales were found to be significantly correlated with the Pa (Paranoia), Sc (Schizophrenia), and F (Validity) scales of the MMPI. The conclusion drawn by the authors (Dudley et al., 1981) was that the OSIQ correlates significantly with the psychopathological scales of the MMPI, suggesting that the OSIQ is a measure of psychopathology rather than self-image or adjustment.

To further investigate the relationship between the questionnaires, Dudley et al. (1981) conducted a factor analysis of MMPI and OSIQ scores. This analysis revealed six factors, three of which contained OSIQ scales. The first factor was labelled a psychopathology factor with depressive components. It was represented by MMPI scales Pa, Pt, Sc, F,

and D and all the OSIQ scales. The second factor contained MMPI scales F, Sc, Ma and the OSIQ scales Impulse Control, Morals, Family Relationships, Vocational-Educational Goals, Psychopathology and Superior Adjustment. This factor seems to represent another dimension of psychopathology with a manic element. The third factor, which the authors labelled neuroticism, was represented by the MMPI scales F, Hs, D, Hy, Pd, and Pa and the OSIQ scale Body Image. The remaining three factors were independent of the OSIQ and indicated a psychopathy factor, and the influence of attitude and suspiciousness on outcome. These studies indicate that although the OSIQ has face validity, the scale itself appears to be highly related to psychopathology as measured by the MMPI. This result is not entirely surprising given that self-image has been correlated with mental health (e.g., Fitts, 1972a, b, & c). However, as Wylie (1974) argues, if test scores correlate too highly with scores from a measure of an allegedly different construct (even if they are expected to correlate modestly), there are insufficient grounds for inferring that two different constructs are being measured.

A similar study conducted by Coche and Taylor (1974) reported the correlations between the MMPI and the OSIQ. Fourteen male and 26 female adolescent psychiatric inpatients participated. One hundred and forty-four correlations were computed of which 27% were significant. These authors concluded that the OSIQ appeared to be "...measuring

depression, anxiety and self-devaluation..." (p. 151). This study supports the previous findings, in that it appears that the OSIQ may be tapping a clinical element rather than the more broad concept of self-image.

The results of three scales (Family Relationships, Social Relationships and Emotional Tone) were compared with conceptually similar scales from the Bell Adjustment Inventory (Offer, 1969) in an attempt to establish criterion (concurrent) related validity. Correlations were computed and found to be in the predicted direction, indicating that the three scales tap the same area but are not identical. From this study it would appear that the Family Relationships, Social Relationships and Emotional Tone scales each display acceptable concurrent validity.

The concurrent validity of the entire scale was the subject of the doctoral dissertation of Hjorth (1980, as cited in Offer et al., 1981a). He conducted a study comparing the OSIQ and the Tennessee Self-Concept Scale. This study reported moderate to high correlations between the OSIQ scales and the scales of the TSCS, a finding which indicates that both tap a similar underlying construct.

Studies of this nature raise questions concerning the concurrent validity of the OSIQ as it is highly correlated with measures of psychopathology (MMPI). While the concurrent validity of three scales of the OSIQ has been investigated, only one study has considered the validity of the

questionnaire as a whole. More studies of the concurrent validity of the OSIQ need to focus on comparisons to accepted and psychometrically sound measures of self-image (e.g., the Piers-Harris).

Another aspect of validity is predictive validity. That is, how accurately can one predict group memberships of various populations or differentiate between populations using test scores as a basis. As a part of the pilot study, the authors (Offer, 1969) computed the means and variances of the normal and disturbed groups for each of the scales. It was found that the variances for the disturbed group were two to three times larger than those for the normal group. The median was used to test the hypothesis that the normal subjects would score higher (i.e., be better adjusted) than the disturbed group. This prediction was confirmed for 8 of the 11 scales (Morals, Sexual Attitudes and Psychopathology showed no significant differences), thus indicating that the OSIQ can effectively differentiate between clinical and non-clinical groups. Since its development the OSIQ has been used extensively to distinguish various clinical groups from normal adolescents. For example, Brennan and O'Loideain (1980) conducted a study in Ireland using four groups of hospitalized adolescents: psychotic, adjustment reaction, miscellaneous disturbed, and "total disturbed less psychotic". Using the overall mean OSIQ score, the authors were able to differentiate each group from normal adolescents. As well,

they were able to distinguish the psychotic group from the adjustment reaction group, and the adjustment reaction group from the rest of the disturbed group. A similar study (Koenig et al., 1984) demonstrated that adolescents diagnosed with depression, conduct disorder, eating disorders, and psychosis displayed their own particular pattern of disturbance based on OSIQ mean scores. Casper, Offer and Ostrov (1981) have also found that adolescent girls diagnosed as having anorexia nervosa have unique OSIQ profiles. Another study conducted by Swift, Bushnell, Hanson and Logemann (1984) supported the findings of Casper et al. (1981). Orr and Downes (1985) found differences between OSIQ scores of adolescent sexual abuse victims and normal adolescent females. Thus, it is evident that the OSIQ has the ability to differentiate between clinical and non-clinical samples based on self-image scores. Further, particular patterns of OSIQ scores are evident for certain diagnostic groups.

Construct validity addresses the issue of whether or not an instrument measures what it is purported to measure (i.e., the psychological characteristic of interest, in this instance, self-image). Traditionally, there are two methods which are utilized to assess construct validity: a) interitem correlations, and b) factor analyses.

As reported earlier, the interitem correlations between the OSIQ scales range from .80 to .57 (Offer et al., 1982), indicating that the OSIQ scales are measuring some common

construct. The only factor analytic study that was found in the literature was that conducted by Offer (1969). Offer factor analyzed the correlation matrix of the 10 OSIQ scales (the Sexual Attitudes scale was not used because it was previously found to be unrelated to all other scales [Offer & Howard, 1972]) obtained from the norming sample (Offer, 1969). The subjects were 326 male high school students who were described by Offer (1969) as average teenagers. Using the principal components method, the matrix of correlations for this sample revealed four factors, accounting for 76.56% of the total variance. The fourth factor consisted of one scale, so the first three factors were rotated and this solution was retained (see Table 1). The first factor, labelled as Feeling State, consisted of Emotional Tone, Body and Self-Image, Social Relations, and Psychopathology. The second factor, Mastery, consisted of Vocational and Educational Goals, Superior Adjustment, and Mastery of the External World. The final factor consisted of Morals, Impulse Control, and Family Relationships and was labelled Interpersonal Relations. These results indicated that the OSIQ might best be described by three underlying factors on which the 10 scales load very highly. Factor loadings ranged from .74 to .80 for Factor 1, from .67 to .81 for Factor 2, and from .52 to .83 for the third factor. Supplementary to the factor analysis, the questionnaires were rescored for the three second-order scales. These second-order scales were used to describe the

TABLE 1

Rotated Factor Loadings for the Factor Analysis of the OSIQ

Scale Number	Loading		Communalities I	II	III
		Factor I: Feeling State			
2	.80	Emotional Tone		.12	.33
3	.78	Body and self-image		.32	-.04
4	.74	Social Relationships		.23	.26
9	.74	Psychopathology		.17	.34
		Factor II: Mastery			
8	.81	Vocational-educational goals	.13		.28
10	.77	Superior adjustment	.22		.25
7	.67	Mastery of external environment	.52		.13
		Factor III: Interpersonal Relations			
5	.83	Morals	.09	.29	
1	.71	Impulse control	.41	.16	
6	.52	Family relationships	.31	.39	

Note: From The psychological world of the teenager (p. 237) by Offer, D., 1969, New York : Basic.

results of Offer's (1969) study of teenage boys. The fact that the factor analysis reduced the OSIQ to three underlying factors suggests that the scales measure several elements of a construct. Offer refers to these elements as self-image; indicating some support for the construct validity and multidimensional nature of the scale.

In summary, evidence for the validity of the OSIQ is limited. While it appears, that some of the scales display adequate concurrent validity (Family Relationships, Social Relationships and Emotional Tone), evidence for the validity of the overall questionnaire is not apparent. That is, studies considering the concurrent validity of the entire questionnaire are lacking. Further, studies which use the MMPI as a criterion may not be appropriate as the MMPI is a measure of psychopathology rather than an index of self-image. Research using both the OSIQ and some other psychometrically sound measures of self-image (e.g., the Piers-Harris or the Coopersmith) should be undertaken in an effort to assess the concurrent validity of the OSIQ.

In contrast, the OSIQ has excellent predictive power (see Offer, Ostrov & Howard, 1984 for an excellent description of predictive studies). It can distinguish between many different groups of adolescents (i.e., young vs old, male vs female, disturbed vs normal). With regard to construct validity, interitem correlations indicate that the questionnaire is measuring some common factor. The one study

employing factor analysis (Offer, 1969) suggested that the questionnaire was in fact measuring some common construct which can best be described by three factors comprised of feeling states, mastery and interpersonal relations. However, to this author's knowledge, there is no empirical evidence available which supports the division of the OSIQ into the 12 scales.

OSIQ: Summary and Conclusions

From the above discussion it can be concluded that the OSIQ has a considerable number of strengths. First, it was designed specifically as a measure of adolescent self-image, as opposed to a measure designed for children or adults. For this reason, items reflect issues which are particulary relevant to teenagers. Second, the OSIQ is a multidimensional instrument which provides an assessment of how adolescents feel about themselves in a number of different areas. Third, the authors have accumulated a large base of norms using younger and older; male and female; normal and disturbed; and rural and urban adolescents. As well, the OSIQ has been used in cross-cultural research.

As well as positive points, however, the OSIQ has some limitations. At present the norms of the OSIQ are based, for the most part, on a sample of middle class, mid-western American teenagers. Although the authors have administered the questionnaire to huge numbers of teenagers, the

computerized scoring package uses norms based on the initial sample. In addition, evidence for the concurrent validity of the instrument is inconclusive, and the construct validity may be questioned.

Despite criticisms which can be levelled at the validity of the questionnaire, the OSIQ has received very favourable reviews in test critiques. For example, Adams (1986) comments that he believes the OSIQ to be "... superior to any other measure currently available" (p. 302) as a research measure of adolescent self-image. Research on the validity of the OSIQ is necessary to demonstrate that it is a useful tool for assessing the self-image of adolescents both in clinical settings and in research projects. The following section explores the issue of validity as it relates particularly to self-image research, and provides an overview of statistical methods used in the determination of validity.

Validity in Self-Image Research

According to the American Educational Research Association and the American Psychological Association's Standards for Educational and Psychological Testing (1985), validity is the most important consideration in test evaluations. The concept of validity refers to the "appropriateness, meaningfulness, and usefulness of the specific inferences made from test scores" (AERA & APA, 1985;

p. 9). Traditionally there are three methods of gathering evidence for the validity of a particular test: content related, criterion related, and construct related. Content related validity addresses the question of whether or not a test has sampled an appropriate domain. Criterion related validity, which can be divided into predictive and concurrent, demonstrates that test scores are systematically related to some outcome criteria. Predictive validity focuses on the accuracy of test scores in predicting future scores or group membership. Concurrent validity highlights the relationship between tests that measure similar constructs. Finally, construct validity addresses the issue of whether or not a test is measuring the characteristic (construct) that it purports to measure. These distinctions do not suggest that there are three discrete types of validity, but rather that there are a number of sources from which evidence of validity may come. The AERA and APA indicate that an ideal validation includes evidence which spans all three categories.

With regard to self-image, the issue of construct related validity may be the most important to establish. As there is no one definition of the term, it is especially important to demonstrate that an instrument is in fact measuring the construct for which it has been designed. Evidence may come from a number of sources, including intercorrelations among test items and a demonstrated relationship to other tests which are said to be measuring the same construct.

In terms of self-image, the first and fundamental problem in validation of self-image questionnaires is the fact that there is no one definition that is universally accepted as the definition of self-image or any other self related construct (e.g., self-esteem, self-confidence, self-concept, etc.). Many researchers attempt to overcome this problem by defining their own terms and developing their own theories (e.g., Coopersmith, 1967; Rosenberg, 1965). Due to the fact that there are as many definitions of self-image as there are instruments which purport to measure it, it is important to find a method of determining which instruments measure what they purport to measure (i.e., which instruments can demonstrate a high concordance between the definition and statistical findings). As mentioned previously, several statistical methods are often employed to determine construct validity. These methods include intercorrelations, factor analysis and multitrait-multimethod techniques.

Generally, when considering construct validation, intercorrelations are looked at in two ways. The first method involves examining the correlations between tests that allegedly measure the same thing. High intercorrelations suggest that the instruments are in fact measuring a similar construct. Low intercorrelations call into question the construct validity of one or both of the instruments. High intercorrelations do not definitively prove construct validity but suggest that the questionnaires have a common basis. Most

self-image questionnaires have been subjected to rigorous studies of cross-instrument correlation. The second use of correlations in the determination of construct validity involves examining inter-item correlations. This method assumes that if an instrument is measuring a particular construct, the inter-item correlations should be fairly high.

The use of factor analytic techniques has become one of the most common methods of assessing construct validity. Factor analysis refers to a variety of statistical techniques whose common objective is to represent a large set of variables in terms of a smaller number of variables (Kim & Mueller, 1978). In terms of construct validity, factor analysis can be used in a number of ways. For example, factor analysis can be applied to several types of correlation matrices: correlations between items within the same instrument; correlations between scales within an instrument; or correlations between total score and/or scale scores from two or more instruments. In the case of self-image questionnaires, factor analysis can be used to test the hypothesis that the scale is measuring a global self-image. If the scale is in fact measuring global self-image the factor solution should indicate one general factor on which all items in the scale load highly.

Another example of the use of the factor analytic technique, is the case where a questionnaire is alleged to measure several aspects of self-image. In this case, if the

scale is in fact measuring separate areas, the factor analytic solution should indicate the respective subscales. Wylie (1974) discusses this use of factor analyses and notes that:

> ...if an instrument is alleged to measure several self-concept factors with several respective scores, but no group-factor solution can be found in which the items or separate scales load appropriately on the respective factors, the use of separate labels and scores for the scales is misleading" (p.99).

She further notes that internal factor analyses of self-image questionnaires have generally not supported the separate scales. A later section will highlight how factor analyses are used in the validation of some of the more popular self-image questionnaires.

A multitrait-multimethod (MTMM) approach is advocated by Campbell and Fiske (1959). The MTMM approach pertains to the "...joint validation of a set of several different measures of several different traits" (Wells & Marwell, 1976; p. 184). The technique involves using at least two different methods to measure two different constructs. For example, questionnaire and behavioral ratings may be used to measure self-image and anxiety. The MTMM approach analyzes the resulting intercorrelation matrix. Three correlation coefficients result: 1) the correlation between different measures of the same trait, "heteromethod-monotrait"; 2) the correlation between measures of different traits using the same measurement method, "monomethod-heterotrait"; and 3) the correlation between different forms of measurement on

different traits, "heteromethod-heterotrait". In order to demonstrate construct validity, the correlation between measures of the same trait should be larger than the correlation between measures of different traits (monotrait-heteromethod correlations). Particularly, the monotrait-heteromethod correlation must exceed the heterotrait-monomethod correlation. If the latter is larger, there is an indication of a method effect. While this method is perhaps the most statistically sophisticated, it has been applied only sparingly to the validation of self-image measures (see both Wylie, 1974 and Wells & Marwell, 1976 for a more complete discussion of MTMM).

Despite the varieties of methods which can be used to show validity of an instrument, it appears that most researchers would agree that validity is the most important trait an instrument can possess. It is essential to know that an instrument is measuring the construct of interest. The following section highlights the use of factor analyses in the validation of some of more popular measures of self-image.

Factorial Validation of Self-Image Questionnaires

Wylie's (1974; 1979) thorough reviews of available measures of self-image lead her to the conclusion that most measures should be abandoned and that attention should be focused on the development of psychometrically sound

instruments. Nearly a decade after Wylie's (1974) original comments, Gecas (1982) observed that measurement was still a serious problem and Demo (1985) agreed with Wylie's comments, indicating that little research had actually addressed the measurement issue. Robson (1988) pointed out that there is still little consensus about what self-image scales actually measure. However, despite the bleak picture, factor analytic techniques have been applied to a number of popular measures of self-image in an attempt to demonstrate validity (Briggs & Cheek, 1986).

As noted previously, the factor analytic method begins with the basic premise that any number of test items can be reduced to a common factor or set of factors. In terms of test evaluation, the most common method employed involves entering item scores and subjecting the resulting correlation matrix to a factor analysis. The results are expected to produce the same number of factors as there are subscales within an instrument. This section focuses on how this technique has been applied to self-image questionnaires. This section is by no means a comprehensive review of all factor analyses, but rather it is meant as an overview of the techniques which are most commonly used and considers some of the most widely known measures of self-image.

The Piers-Harris Children's Self-Concept Scale has been the subject of many factor analyses. A factor analysis by Piers (1969) of the responses of 457 sixth grade students

identified six factors. These were labelled: "undesirable or bad" behaviour; intellectual and school status; physical appearance and attributes; anxiety; popularity; and happiness and satisfaction. These factors corresponded well to the scales of the Piers-Harris. A subsequent factorial analysis was conducted by Michael, Smith and Michael (1975) using three samples: 299 elementary school students; 302 junior high school students and 300 high school students. The principal components method with varimax rotation was used. These results indicated the existence of three of the original scales (Physical Appearance, "Bad Behaviour", and Intellectual and School Status) described by Piers (1969). In addition, the factors of Anxiety and Happiness were partially confirmed, as they were observed solely in the junior high sample. The factor referred to as Popularity was confirmed in the junior and senior high samples. These authors preferred to call these factors a "domain of emotionality", and suggested that the interpretation of these factors is more debatable than most of the items reflecting physical appearance or intellectual status. In a similar study, Wolf, Sklov, Hunter, Webber and Berenson (1982) administered the Piers-Harris to 406 students (8-17 years) in a bi-racial school. The intercorrelation matrix was subjected to a principal components analysis using varimax rotation. These results revealed 7 interpretable factors, six of which matched those described in the manual (Behaviour, Intellectual and School

Status, Physical Appearance and Attributes, Anxiety, Popularity, and Happiness and Satisfaction). The seventh factor represented an area the authors labelled Aggression. These two studies, using the principal components analysis with varimax rotation, provided some support for the original factors of the Piers-Harris. Other studies of the factorial validity of the Piers-Harris were conducted by Platten and Williams (1979; 1981). These studies showed that the factors were unstable from population to population, and even from administration to administration using the same population. The factorial structure of the Piers-Harris is therefore, to be questioned.

The Coopersmith SEI has accumulated a huge body of support with regard to its psychometric properties. A number of factor analytic studies have been reported in the literature. Kokenes (1974) investigated the construct validity of the questionnaire using a sample of 7600 school children from grades 4 through 12. Grade data was factor analyzed using orthogonal rotation. Each grade analysis produced six factors which accounted for more than 95% of the variance. Grades 4, 5 and 6 produced seven factors. These factors were similar to those described by Coopersmith (1967). An item analysis indicated that the items that loaded on these factors were highly congruent to those items that Coopersmith included.

Roberson and Miller (1986) also set out to investigate the construct validity of the Coopersmith by using the principal components factor analytic method. The subjects for this study were 1397 students in grades 6 through 8. The authors reported that as many as 10 factors emerged in the analyses but that the eight factor solution was the most meaningful. Of these eight factors, seven were well defined and tended to correspond to the hypothesized subscales of the SEI. Evidence for the construct validity of the Coopersmith is supported by the use of the factor analyses.

Of all the measures of self-image that are available, the Tennessee Self-Concept Scale has generated the most research, especially with regard to its validity. After a review of the literature found no adequate factor analyses, Bolton (1976) conducted a study using 312 rehabilitation patients. Principal components analysis was used, followed by principal axis factoring and finally, oblique rotation. Intricate analyses lead Bolton to conclude that the five self subscales received some support, but the Direction and Perspectives scales were not supported. A similar study attempted to derive the factor structure using a larger sample ($\underline{N}$ = 743) of graduate students (Hoffman & Gellen, 1983). These authors used the principal components method followed by varimax rotation. Ten factors emerged from the analysis accounting for 89% of the variance. Empirical support was found for the internal dimension of the TSCS, however the items comprising

this dimension were found to be different from those of the original scale. In general, more support was generated for the external scales than for the internal dimension. Two further factor analyses of the TSCS conducted by Hoffman, Davis and Nelson (1988) and Walsh, Wilson and McLellarn (1989) failed to support the multi-factorial structure of the scale. Tzeng and his colleagues (1985) also studied the factor structure of the TSCS. These researchers found little empirical support for the internal dimension, some support for the external dimension and a factor analysis of the items revealed no empirical support for the subscales. This particular study, details the inadeaquacies of the TSCS and points out clearly that scores generated by the TSCS should not be used in applied settings as there is no empirical support for the subscales delineated by Fitts (see Tzeng et al., 1985 pp 75-77 for an indepth discussion). In essence, factor analyses have failed to validate the structure of the TSCS. In summary, the most popular technique used by researchers in examining the construct validity of measures appears to be the principal component method with varimax rotation. The results of such analyses confirm that the structures of the Piers-Harris and the Coopersmith SEI are similar to those described by the test developer, and further, that the structures are consistently found by factor analyses. The findings related to the TSCS are more complex, but

generally fail to confirm the structure described by Fitts (1965).

The Present Study

The Offer Self-Image Questionnaire (OSIQ) was developed as a measure of adolescent self-image, as opposed to a measure of children's or adult's self-image. The OSIQ was devised on the basis of the authors' clinical experiences, theoretical supposition, and data obtained from various Q-sorts (Offer et al., 1982). The present review of the literature on the Offer Self-Image Questionnaire reveals that it enjoys a reputation of being one of the best available measures of adolescent self-image. Based on the research of Offer and his colleagues, the OSIQ is viewed as displaying acceptable reliability (Adams, 1986).

The construct validity of the OSIQ must be questioned as there are no factor analyses of the questionnaire available to support the validity of the scales. Only one factor analysis of the OSIQ was found in the literature (Offer, 1969). This study used the intercorrelations of 10 scales (the Sexual Attitudes scale was not used as it had been found not to correlate with any other scale) from a sample of 326 male high school students. The factor analysis yielded three unique factors: Feeling State; Mastery; and Interpersonal Relations. However, to this author's knowledge, there have been no

complete factor analyses using all items to validate the scales.

The present study attempts to replicate the findings of Offer (1969) with a sample of both male and female adolescents drawn from high schools and an outpatient clinic in St. John's, Newfoundland. In addition, this study expands the current literature available on the OSIQ by conducting a second factor analysis on all the items of the questionnaire, and by using a sample of both male and female adolescents.

Hypotheses

Based on the literature reviewed above, the following hypotheses will be tested:

1) Adolescents who are currently being seen at the outpatient clinic (Adolescent Health Counselling Service) will have lower self-image scores than will normal adolescents recruited from schools. As well, adolescents who are recruited from schools and report that they have sought counselling in the past year will have lower self-image scores than will those who have not sought counselling.

2) A factor analysis of the 130 items of the OSIQ will reveal 12 factors which correspond to the 12 scales reported in the manual: Impulse Control; Emotional Tone; Body and Self-Image; Social Relationships; Morals; Vocational and Educational Goals; Sexual Attitudes; Family Relationships;

Mastery of the External World; Psychopathology, Superior Adjustment and Idealism.

3) Based on the findings of Offer (1969), a factor analysis of the intercorrelations of scores of the 10 scales (Impulse Control, Emotional Tone, Body and Self-Image, Social relationships, Morals, Vocational and Educational Goals, Family Relationships, Mastery of the External World, Psychopathology, and Superior Adjustment) from the male subjects will reveal that there are 3 general factors that make up the OSIQ: Feeling State, Mastery, and Interpersonal Relations. In addition, the same analysis will reveal the three general factors using scores obtained from the female subjects and from the total sample.

METHOD

Subjects

A total of 227 subjects participated in this study. One hundred and ninety-nine students were recruited from three high schools in St. John's, Newfoundland. From the 199 questionnaires that were returned, 197 were completed and useable (> 99%). The 197 students represented 86.8% of the total sample. The remaining 30 subjects (13.2%) were clients from an outpatient adolescent counselling service. Fifty-two percent (n = 118) of the sample were female and 48% (n = 109) were male. The average age was 14.59 years (SD. = .933). Sixty-two subjects (27.3%) reported having sought counselling in the past year for a problem of a personal nature (including the 30 who were recruited the outpatient counselling service).

Measures

All subjects were asked to complete the Offer Self-Image Questionnaire (OSIQ). As previously discussed, the OSIQ is a 130-item inventory designed to assess the self-image of adolescents between the ages of 13 and 19 years. Subjects are asked to indicate on a six point scale how well an item describes them (1-describes me very well to 6-describes me not at all). Completion of the OSIQ requires between 15 and 45 minutes. The OSIQ yields scores in 12 areas: Impulse Control, Emotional Tone, Body and Self-Image, Social

Relationships, Morals, Vocational-Educational Goals, Sexual Attitudes, Family Relationships, Mastery of the External World, Psychopathology, Superior Adjustment and Idealism. A detailed description of the OSIQ and a review of it's psychometric properties can be found in the Introduction.

In addition to the OSIQ, the school sample filled out a Demographic Questionnaire (see Appendix A). Subjects were asked to indicate date of birth, sex, school, grade, and whether or not they had sought counselling in the past year for a personal problem. The counsellors of the clinical sample filled out a Client Summary Sheet (see Appendix B). The Client Summary Sheet provided information about birthdate, sex, name of counsellor, reason for referral and length of therapy to date.

Procedure

School sample. Permission to administer the Offer Self-Image Questionnaire was obtained from both the school board and the individual schools surveyed. Due to the large number of requests for students to be used as subjects, the school board allowed the researcher access to only three schools (one school contributed 2 classes) for a total of 197 students. The researcher attended grade nine and Level 1 classes to administer the questionnaire (i.e., in Newfoundland a number of courses are prerequisites for graduation but can be taken at any time within the three years of high school; Level 1

courses are the foundation courses and are usually taken during the first year of high school). All students received a copy of the questionnaire and an information sheet, and were asked to participate in the study. Students were informed that the questionnaires were anonymous and that no one individual's results would be considered separately. Subjects were also informed that they were not obligated to participate (see Appendix C for the Information Sheet). Following completion of the OSIQ, the students filled out the Demographic Questionnaire.

Clinical Sample. The clinical sample was obtained from an outpatient adolescent counselling service. At the outset of this research, the outpatient clinic agreed to routinely administer the OSIQ to all new clients between the ages of 13 and 19. The OSIQ was completed as part of the intake procedure prior to the client's first session with the assigned counsellor. Once completed, the OSIQ was scored and placed in the client's file. Approximately one month later the adolescent was asked if he/she would like to take part in a study of adolescent self-image. If the client agreed, a release of information form was signed and the OSIQ results and the Client Summary Sheet were turned over to the researcher.

Scoring of the OSIQ. The OSIQ was scored with the IBM-compatible computer program developed by Offer (1979). Raw scores are entered and the program transforms them to standard

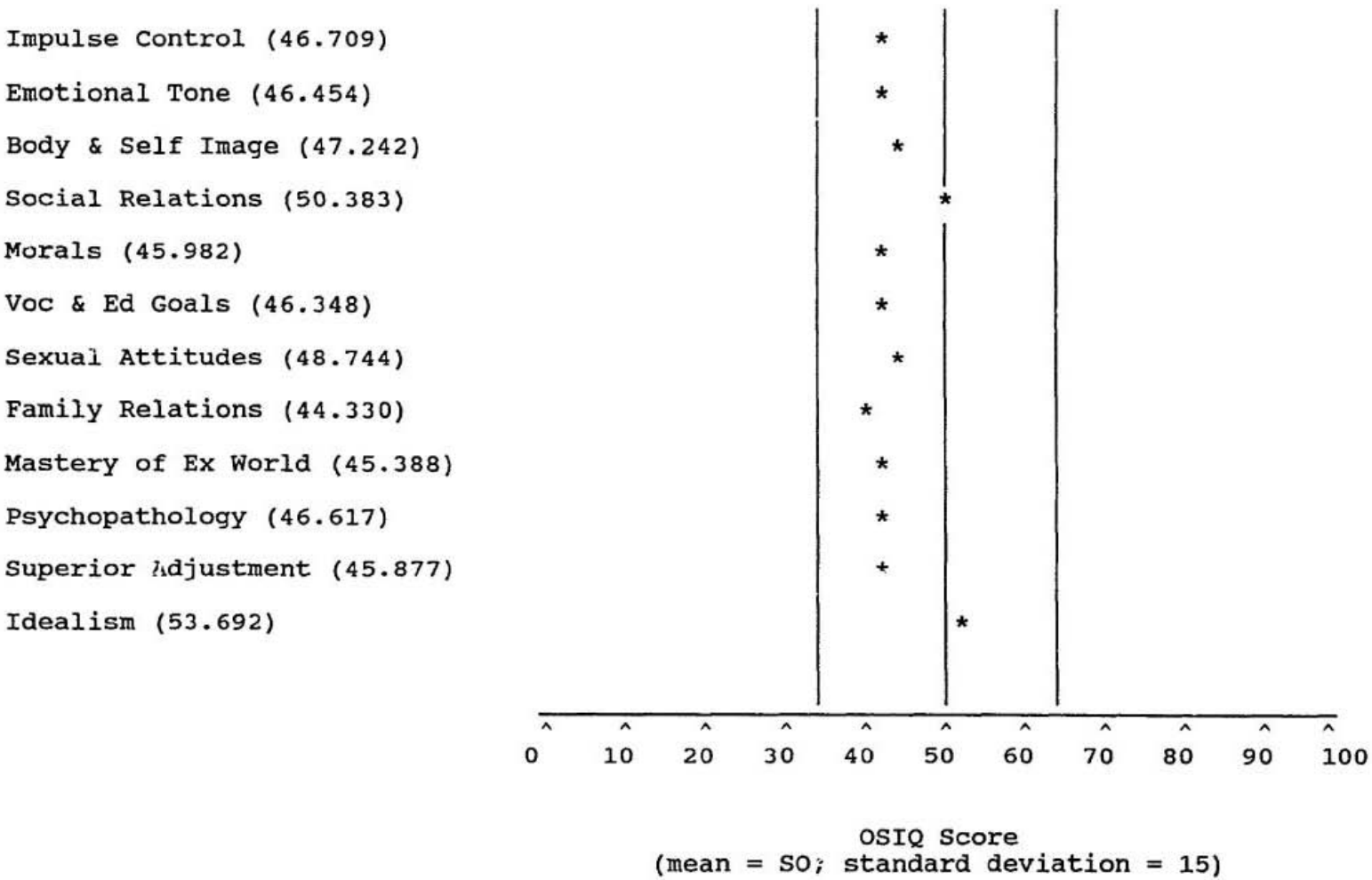
scores using the appropriate age and sex norms. Results are printed in a graph that indicates a subject's standard score on each of the 12 scales. The mean is a standard score of 50. The standard deviation is 15. A score within one standard deviation below or above the mean is considered within the "normal" range.

R E S U L T S

Data collected from the subjects was analyzed in a number of ways. First, to test the first hypothesis that clinical subjects and subjects who had sought counselling in the past year would display lower self-image scores than the "normal" subjects, a number of Multivariate Analyses of Variance (MANOVA) were calculated. Second, a factor analysis of item scores from the entire sample was conducted to test the hypothesis that 12 scales make up the structure of the 130-item OSIQ. Third, factor analyses of scale scores from the male and the female subjects were conducted separately to test the hypothesis that the OSIQ could be effectively reduced to the three factors reported by Offer (1969). These analyses were carried out separately so as to replicate the findings of Offer (1969). Finally, a number of additional factor analyses were conducted to explore the underlying scale structure of the OSIQ. Figure 1 displays the average OSIQ scores for the total sample ($\underline{N}$ = 227). Appendix D shows average OSIQ scores broken down by sex and place of recruitment.

For the purpose of the results and discussion the subjects will be labelled as follows. Those subjects who were recruited from the schools and did not report having sought counselling in the past year ($\underline{n}$ = 153) will be referred to as "normal". Those subjects who were recruited from the schools and reported having sought counselling ($\underline{n}$ = 32) will be

FIGURE 1. AVERAGE SCORES ON OSIQ FOR TOTAL SAMPLE (N=227)



referred to as the "school\clinical". Finally, the group recruited from the outpatient adolescent counselling service (n = 30) will be referred to as the "clinical" group.

Initial Analyses: Hypothesis 1

A number of MANOVAs were computed to test the hypothesis that "clinical" subjects and "school/clinical" subjects would have lower self-image scores than the "normal" subjects. The first analysis was conducted to compare the "normal" subjects (n = 153) to the "clinical" sample (n = 30). A significant main effect for Group was found, F (12, 168) = 2.68, p < .01 (see Table 2). Examination of the univariate F-tests revealed that the Group main effect was the result of significant differences on the Family Relations scale, F (1, 179) = 4.63, p < .05, and the Idealism scale, F (1, 179) = 6.30, p < .05 (see Table 3). Inspection of the group means showed that on the Family Relations scale "normal" subjects had an average score of 47.18 as compared to the average score of 39.87 for the "clinical" group. On the Idealism scale, the "normal" group had a mean score of 52.14 as compared to a mean score of 58.90 for the "clinical group". Thus, this hypothesis was only partially confirmed in that the group who sought counselling had lower scores on the Family Relations scale, but higher scores on the Idealism scale.

TABLE 2

MANOVA SOURCE TABLE FOR SCHOOL "NORMAL" (GP1, n = 153) AND "CLINICAL" (GP2, n = 30)

EFFECT	HYPOTH DF	ERROR DF	WILKS VALUE	F
GP X SEX	12	168	.978	.309
SEX	12	168	.905	1.47
GP	12	168	.839	2.68*

* $p < .01$
Note: GP = group (i.e., Group 1 was the "normal" subjects; group 2 was the "clinical" subjects).

TABLE 3

UNIVARIATE F-TESTS FOR GP EFFECT

VARIABLE	BSS[1]	ESS[2]	BMS[3]	EMS[4]	F
IC	463.70	48750.17	463.70	272.35	1.70
ET	938.68	45894.67	938.68	256.39	3.66
BSI	252.11	47488.03	252.11	265.29	.95
SR	5.38	54270.89	5.38	303.19	.02
M	547.54	59201.52	547.54	330.73	1.66
VEG	.14	49616.34	.14	277.19	.00
SA	63.78	52930.59	63.78	295.70	.22
FR	1304.14	50407.49	1304.14	281.61	4.63*
MEW	51.28	56887.00	51.28	317.80	.16
PSYCH	28.99	45541.14	28.99	254.42	.11
SUPA	1.69	56673.92	1.69	316.61	.00
IDEAL	1162.18	33005.33	1162.18	184.39	6.30*

* $p. < .05$

[1]BSS = Between sum of squares
[2]ESS = Error sum of squares
[3]BMS = Between mean square
[4]EMS = Error mean square
Note: All tests have 1 and 179 degrees of freedom.
IC=Impulse Control; ET=Emotional Tone; BSI=Body and Self-Image; SR=Social Relationships; M=Morals; VEG=Vocational-Educational Goals; SA=Sexual Attitudes; FR=Family Relationships; MEW=Mastery of External World; PSY=Psychopathology; SUP=Superior Adjustment; ID=Idealism. (These abbreviations will be used for the remainder of this thesis.)

A second analysis was conducted to determine whether there were significant differences among the four school groups (the group from the clinic was not included). This analysis revealed a significant main effect for Counselling, F (12, 158) = 2.82, $p < .01$. No other significant differences were found (see Table 4). A subsequent examination of the univariate tests of the Counselling effect revealed that the main effect was the result of significant differences on three of the OSIQ scales: Emotional Tone, F (1, 169) = 14.25, $p < .001$; Family Relations, F (1, 169) = 12.22, $p = .001$; and Psychopathology, F (1, 169) = 11.48, $p = .001$. The univariate source table is found in Table 5. Further examination of these results showed that on all three scales, the "school/clinical" subjects scored lower than the "normal" sample. This portion of the first hypothesis was also partially confirmed in that those who reported having sought counselling in the past year had lower scores on three OSIQ scales as compared to those who did not seek counselling.

A third analysis was conducted to examine whether or not there were significant differences between the "school/clinical" group and the "clinical" group. This analysis revealed no significant differences, indicating that there were no differences in the self-image of adolescents who report having sought counselling services

TABLE 4

MANOVA SOURCE TABLE FROM SCHOOL DATA (n = 197)

EFFECT	HYPOTH DF	ERROR DF	WILKS VALUE	F
SCHOOL X SEX X COUNSELL	36	467.56	.801	1.013
SEX X COUNSELL	12	158	.885	1.712
SCHOOL X COUNSELL	36	467.56	.769	1.20
SCHOOL X SEX	36	467.56	.804	.993
COUNSELL	12	158	.823	2.82*
SEX	12	158	.921	1.122
SCHOOL	36	467.56	.833	.829

* P < .01

TABLE 5

UNIVARIATE F-TESTS FOR COUNSELLING EFFECT

Variable	BSS[1]	ESS[2]	BMS[3]	EMS[4]	F
IC	915.42	42442.27	915.42	251.14	3.65
ET	2925.86	34691.47	2925.86	205.27	14.25**
BSI	565.77	43223.28	565.77	255.76	2.21
SR	360.23	45960.99	360.239	271.96	1.13
M	137.01	49823.24	137.01	294.81	.46
VEG	180.74	42935.12	180.74	254.05	.71
SA	8.96	48623.22	8.96	287.71	.03
FR	2963.53	40984.46	2963.53	242.51	12.22*
MEW	923.96	44510.45	923.96	263.38	3.51
PSYCH	2492.59	36690.89	2492.59	217.11	11.48*
SUPA	926.93	49042.57	926.93	290.19	3.19
IDEAL	668.68	29619.77	668.68	175.26	3.82

* p = .001
** p < .001
[1]BSS = Between sum of squares
[2]ESS = Error sum of squares
[3]BMS = Between mean square
[4]EMS = Error mean square
Note: All tests have 1 and 169 degrees of freedom.

and those currently being seen at an outpatient clinic. The source table can be found in Table 6.

Hypothesis 2: Factor Analysis of the 130 Items

In order to test the hypothesis that the 130 items of the OSIQ could be reduced to 12 factors which would correspond to the 12 scales, a correlation matrix was produced. First, raw scores for the items worded negatively were corrected using the formula provided by Offer et al. (1982). The correlation matrix was produced using the raw scores (reflected and non-reflected items) of the 227 subjects. This matrix was subjected to a principal components analysis using varimax rotation to test the hypothesis. This analysis revealed 40 factors. Contrary to expectations, the factors which emerged from the analysis were too many to be interpreted meaningfully and in no way corresponded to the 12 scales which make up the OSIQ. These results indicate that the second hypothesis was disconfirmed.

Hypothesis 3: Factor Analyses of Scales

A number of factor analyses were conducted in order to test the hypothesis that the OSIQ could be reduced effectively to the three factors found by Offer (1969). Three analyses were carried out: male subjects only (n = 109), female subjects only (n= 118), and finally, all 227 subjects. Factor analyses were based on the correlation matrices that were

TABLE 6

MANOVA SOURCE TABLE FOR SUBJECTS WHO SOUGHT COUNSELLING IN THE PAST YEAR (n = 62)

EFFECT	HYPOTH DF	ERROR DF	WILKS VALUE	F
SCHOOL X SEX	48	159.97	.389	.926
SEX	12	41.00	.817	.767
SCHOOL	48	159.97	.401	.893

produced based on scores on 10 of the 12 OSIQ scales. The Sexual Attitudes and Idealism scales were excluded so as to match the analysis of Offer (1969) as closely as possible.

1) Analysis of 10 scales obtained from the scores of male subjects

In an attempt to replicate the findings of Offer (1969), a principal components factor analysis was computed on the intercorrelation matrix of 10 OSIQ scale scores from the male subjects (n = 109). The correlation matrix of the OSIQ scales for the male subjects is presented in Table 7. Principal components factor analysis with varimax rotation produced two factors accounting for 61.3% of the total variance. Table 8 shows the factor loadings, eigenvalues and communalities. In order to facilitate interpretation, only factor loadings exceeding .40 were included. Factor I consisted of the following scales: Mastery of the External World, Psychopathology, Social Relations, Emotional Tone, Body and Self-Image, Superior Adjustment, Impulse Control, Vocational-Educational Goals, and Family Relations. Factor 1 accounted for 46.7% of the variance. Factor 2 accounted for 14.6% of the variance and consisted of the Morals scale. These factors fail to correspond to those found by Offer (1969).

TABLE 7
INTERCORRELATIONS AMONG OFFER SELF-IMAGE QUESTIONNAIRE SCALES FOR MALE SUBJECTS (n=109)

	1	2	3	4	5	6	7	8	9	10	11	12
IC	-	.44**	.31*	.40**	.19	.30*	.22	.37**	.43**	.51**	.40**	.15
ET		-	.59**	.61**	-.03	.29*	.48**	.36**	.62**	.68**	.33**	-.02
BSI			-	.55**	.05	.21	.55**	.24	.65**	.57**	.25*	.04
SR				-	.20	.44**	.63**	.25*	.60**	.66**	.49**	.16
M					-	.37**	-.09	.27*	.11	.09	.24	.46**
VEG						-	.22	.38**	.42**	.31*	.57**	.42**
SA							-	.10	.50**	.56**	.26*	-.12
FR								-	.46**	.39**	.40**	.28*
MEW									-	.63**	.44**	.08
PSY										-	.37**	.13
SUP											-	.30*
ID												-

Note: IC=Impulse Control; ET=Emotional Tone; BSI=Body and Self-Image; SR=Social Relationships; M=Morals; VEG=Vocational-Educational Goals; SA=Sexual Attitudes; FR=Family Relationships; MEW=Mastery of External World; PSY=Psychopathology; SUP=Superior Adjustment; ID=Idealism.

* $p < .01$
** $p < .001$

TABLE 8

FACTOR LOADINGS, COMMUNALITIES AND EIGENVALUES FROM ROTATED FACTOR MATRIX OF 10 SCALE SCORES FROM MALE SUBJECTS (n=109)

Variable	Factor I	Factor II	h^2
MEW	.82685		.710
PSY	.81061		.727
SR	.79856		.649
ET	.77236		.736
BSI	.69144	-.40806	.645
SUPA	.65216	.40263	.587
IC	.64152		.417
VEG	.59959	.53164	.642
FR	.58540		.444
M		.70250	.568
Eigenvalues	4.67	1.46	
Pct Variance	46.70	14.60	

Note: Blanks indicate that coefficients lower than .4 were suppressed in the analysis.

2) Analysis of 10 scales obtained from the scores of female subjects

A second factor analysis was computed using the intercorrelation matrix of the 10 scales from the female subjects (n = 118). The correlation matrix produced for the female subjects can be found in Table 9. A principal components analysis with varimax rotation revealed three factors accounting for 71.7% of the variance. Factor loadings, eigenvalues and communalities are presented in Table 10. The first factor accounted for 47.3% of the variance and consisted of the Emotional Tone, Social Relations, Body and Self-Image, and Psychopathology scales. The second factor accounted for 14.0% of the variance and consisted of the Vocational and Educational Goals, Superior Adjustment, Family Relations, and Mastery of the External World scales. Morals and Impulse Control made up the third factor, accounting for 10.4% of the total variance. These results are very similar to those reported by Offer (1969).

3) Analysis of 10 scales obtained from scores of all subjects

A third factor analysis was computed utilizing the intercorrelations of the 10 scales for all 227 subjects. The intercorrelation matrix of all OSIQ scales for the 227 subjects can be found in Table 11. A principal components factor analysis utilizing all scales with the exception of the Sexual Attitudes and Idealism scales with varimax rotation

TABLE 9
INTERCORRELATIONS AMONG OFFER SELF-IMAGE QUESTIONNAIRE SCALES FOR FEMALE SUBJECTS (N=118)

	1	2	3	4	5	6	7	8	9	10	11	12
IC	-	.37**	.25*	.19	.57**	.29*	-.28*	.35**	.32**	.36**	.17	.27*
ET		-	.60**	.64**	.25*	.34**	.12	.40**	.60**	.72**	.39**	.03
BSI			-	.43**	.11	.43**	.11	.29*	.57**	.54**	.32**	-.07
SR				-	.15	.31**	.41**	.16	.43**	.52**	.42**	.01
M					-	.40**	-.29*	.36**	.17	.21	.13	.39**
VEG						-	-.09	.51**	.58**	.46**	.63**	.19
SA							-	-.22	.10	.16	.08	-.26*
FR								-	.51**	.45**	.41**	.14*
MEW									-	.63**	.57**	.15
PSY										-	.55**	-.03
SUP											-	.20
ID												-

Note: IC=Impulse Control; ET=Emotional Tone; BSI=Body and Self-Image; SR=Social Relationships; M=Morals; VEG=Vocational-Educational Goals; SA=Sexual Attitudes; FR=Family Relationships; MEW=Mastery of External World; PSY=Psychopathology; SUP=Superior Adjustment; ID=Idealism.

*p < .01
**p < .001

TABLE 10

FACTOR LOADINGS, COMMUNALITIES AND EIGENVALUES FROM ROTATED FACTOR MATRIX OF FEMALE SUBJECTS FROM 10 SCALES

Variable	Factor I	Factor II	Factor III	h^2
ET	.85893			.829
SR	.79937			.650
BSI	.71841			.588
PSYCH	.71370	.42859		.721
VEG		.82040		.763
SUPA		.78870		.732
FR		.68220		.620
MEW	.56072	.62412		.713
M			.87189	.794
IC			.82943	.759
Eigenvalues	4.728	1.40	1.04	
Pct Variance	47.30	14.00	10.40	

Note: Blanks indicate that coefficients lower than .4 were suppressed in the analysis.

TABLE 11

INTERCORRELATIONS AMONG THE 12 OFFER SELF-IMAGE QUESTIONNAIRE SCALES FOR ALL SUBJECTS (N = 227)

	1	2	3	4	5	6	7	8	9	10	11	12
IC	-	.39*	.26*	.28*	.41*	.28*	-.87	.35*	.36*	.40*	.25*	.25*
ET		-	.59*	.63*	.11	.32*	.29*	.38*	.61*	.69*	.36*	.00
BSI			-	.49*	.06	.36*	.31*	.27*	.61*	.57*	.31*	.00
SR				-	.17**	.37*	.51*	.21*	.52*	.59*	.45*	.10
M					-	.36*	-.21**	.31*	.13	.15	.16	.42*
VEG						-	.06	.45*	.51*	.41*	.62*	.30*
SA							-	-.07	.29*	.34*	.17	-.19**
FR								-	.49*	.43*	.41*	.22**
MEW									-	.64*	.52*	.12
PSY										-	.48*	.06
SUP											-	.25*
ID												-

Note: IC=Impulse Control; ET=Emotional Tone; BSI=Body and Self-Image; SR=Social Relationships; M=Morals; VEG=Vocational-Educational Goals; SA=Sexual Attitudes; FR=Family Relationships; MEW=Mastery of External World; PSY=Psychopathology; SUP=Superior Adjustment; ID=Idealism.

* $p < .001$

** $p < .01$

revealed two factors. Factor loadings, communalities, and eigenvalues can be found in Table 12. The first factor accounted for 46.9% of the variance and was made up of Emotional Tone, Psychopathology, Body and Self-Image, Mastery of the External World, Social Relations, and Superior Adjustment. The second factor accounted for 13.4% of the variance and consisted of Morals, Vocational and Educational Goals, Family Relations, and Impulse Control. These factors failed to correspond to those documented by Offer (1969).

Exploratory Analyses

A series of additional analyses were computed on various subsets of the sample in order to explore the underlying structure of the OSIQ further, and in an attempt to derive factors which were similar to those reported by Offer (1969). These investigations included analyzing the correlation matrix of OSIQ scales derived from all 227 subjects without the Sexual Attitudes scale, analysis of all 12 scales from all subjects, and analyses of all 12 scales based on sex and place of recruitment.

TABLE 12

FACTOR LOADINGS, COMMUNALITIES AND EIGENVALUES FROM ROTATED FACTOR MATRIX OF 10 SUBSCALE SCORES FROM ALL SUBJECTS (N=227)

Variable	Factor I	Factor II	h^2
ET	.82871		.714
PSY	.80202		.720
BSI	.78708		.625
MEW	.76785		.701
SR	.74664		.586
SUPA	.50026	.48023	.481
M		.80913	.672
VEG		.66204	.578
FR		.64806	.516
IC		.60859	.436
Eigenvalues	4.687	1.342	
Pct Variance	46.90	13.400	

Note: Blanks indicate that coefficients lower than .4 were suppressed in the analysis.

1) Analysis of scales without the Sexual Attitudes Scale

A principal components factor analysis was computed on the intercorrelation matrix of the OSIQ scales from all 227 subjects with the exception of the Sexual Attitudes scale (see Table 11). The Sexual Attitudes scale was not included as Offer and Howard (1972) previously found that it was not related to the other scales. Principal components factor analysis with varimax rotation produced two factors accounting for 58.2% of the variance. Table 13 shows factor loadings, communalities, and eigenvalues. The following scales loaded highly on Factor 1 and accounted for 43.1% of the total variance: Emotional Tone, Psychopathology, Mastery of the External World, Body and Self-Image, Social Relationships, and Superior Adjustment. Factor 2 accounted for 15.1% of the variance and consisted of Morals, Idealism, Vocational-Educational Goals, Family Relationships, and Impulse Control. These factors fail to correspond to the three factors originally found by Offer (1969).

2) Analysis of all scales

The same factor analysis was computed using the intercorrelations of all 12 scales from all 227 subjects (see Table 11). This analysis using all scales was carried to further explore the factor structure of the OSIQ. This analysis produced three factors accounting for 65.2% of the variance. Factor loadings, communalities and eigenvalues are

TABLE 13

FACTOR LOADINGS, COMMUNALITIES AND EIGENVALUES FROM ROTATED FACTOR MATRIX OF SCALES WITHOUT THE SEXUAL ATTITUDES SCALE ALL SUBJECTS (N = 227)

Variable	Factor I	Factor II	h^2
ET	.84534		.718
PSY	.83415		.723
MEW	.80324		.701
BSI	.78176		.611
SR	.73856		.562
SUP	.54492	.43962	.490
M		.78277	.613
IDEAL		.75110	.575
VEG	.45570	.60331	.572
FR	.42298	.52716	.457
IC		.49594	.379
Eigenvalues	4.74	1.66	
Pct Variance	43.10	15.10	

Note: Blanks indicate that coefficients lower than .4 were suppressed in the analysis.

presented in Table 14. Factor 1 accounted for 40.3% of the total variance and consisted of the following scales: Emotional Tone, Psychopathology, Body and Self-Image, Mastery of the External World, and Social Relationships. Vocational-Educational Goals, Superior Adjustment and Idealism made up the second factor, which accounted for 16.6% of the variance. The third factor accounted for 8.4% of the variance and consisted of Impulse Control, Morals, Sexual Attitudes, and Family Relationships. These three factors were not consistent with the findings reported by Offer (1969).

3) Analyses based on sex

Two additional factor analyses were computed to examine the factors which might result from separate analyses of the responses of male and female subjects. The intercorrelations of the 12 scales based on scores of the 109 males who participated in this study were presented in Table 7. Principal components factor analysis with the varimax rotation yielded two factors accounting for 59.1% of the variance. Table 15 shows factor loadings, communalities, and eigenvalues. Factor 1 accounted for 42.4% of the variance and consisted of Emotional Tone, Psychopathology, Mastery of the External World, Body and Self-Image, Sexual Attitudes, Social Relationships, and Impulse Control. Idealism, Morals, Vocational-Educational Goals, Superior Adjustment and Family Relationships made up the second factor, which accounted for 16.7% of the variance. These factors failed to correspond to

TABLE 14

FACTOR LOADINGS, COMMUNALITIES AND EIGENVALUES FROM ROTATED FACTOR MATRIX OF ALL SCALES USING ALL SUBJECTS (N = 227)

Variable	Factor I	Factor II	Factor III	h^2
ET	.85043			.757
PSY	.82316			.731
BSI	.76608			.593
MEW	.75177			.689
SR	.74103			.635
VEG		.76150		.715
SUP	.41594	.73280		.712
IDEAL		.64287		.562
IC	.41756		.72331	.698
M		.67573	.66762	.585
SA	.54544		-.60089	.659
FR	.53245		.45706	.492
Eigenvalues	4.834	1.99	1.00	
Pct Variance	40.30	16.60	8.40	

Note: Blanks indicate that coefficients lower than .4 were suppressed in the analysis.

TABLE 15

FACTOR LOADINGS, COMMUNALITIES AND EIGENVALUES FROM ROTATED FACTOR MATRIX OF 12 SCALE SCORES FROM MALE SUBJECTS (n = 109)

Variable	Factor I	Factor II	h^2
ET	.82167		.682
PSY	.81658		.709
MEW	.79399		.696
BSI	.78045		.610
SA	.77925		.624
SR	.77765		.683
IC	.49613		.392
IDEAL		.76383	.595
M		.73157	.544
VEG		.70961	.593
SUPA	.40741	.60519	.532
FR		.56653	.431
Eigenvalues	5.08	2.01	
Pct Variance	42.40	16.70	

Note: Blanks indicate that coefficients lower than .4 were suppressed in the analysis.

those detailed by Offer (1969).

The same analysis (Principal Components with Varimax rotation) using the intercorrelations of scores of the female subjects (n = 118) revealed three factors accounting for 65.9% of the variance. The correlation matrix was presented in Table 9, and the factor loadings, communalities and eigenvalues are presented in Table 16. Factor 1 was represented by Emotional Tone, Social Relationships, Psychopathology, and Body and Self-Image, and accounts for 39.7% of the variance. The second factor accounted for 17.4% of the variance and consisted of Superior Adjustment, Vocational and Educational Goals, Mastery of the External World, and Family Relationships. The third factor consisted of Morals, Impulse Control, Sexual Attitudes, and Idealism, and accounted for 8.8% of the variance. These factors failed to concur with the findings of Offer (1969).

4) Analyses based on Place of Recruitment

Finally, two further analyses were computed to examine factors which might emerge on the basis of place of recruitment. Subjects were divided into "school" vs "clinical" samples on the basis of place of recruitment. The "school" sample were those recruited from the schools (n = 197) and the "clinical" sample were those recruited from the outpatient adolescent counselling service (n = 30).

The intercorrelations of scores of the school sample were computed and subjected to a principal components analysis.

TABLE 16

FACTOR LOADINGS, COMMUNALITIES AND EIGENVALUES FROM ROTATED FACTOR MATRIX OF 12 SCALE SCORES OF FEMALE SUBJECTS (n = 118)

Variable	Factor I	Factor II	Factor III	h^2
ET	.83752			.788
SR	.79746			.666
PSY	.71237	.45677		.723
BSI	.66226			.544
SUPA		.81923		.736
VEG		.79054		.725
MEW	.51663	.66284		.714
FR		.63590		.568
M			.81353	.706
IC			.76397	.735
SA	.43719		-.63560	.606
IDEAL			.56221	.395
Eigenvalues	4.762	2.089	1.055	
Pct Variance	39.700	17.400	8.800	

Note: Blanks indicate that coefficients lower than .4 were suppressed in the analysis.

The correlation matrix can be found in Table 17. The factor analysis produced three factors accounting for 64.3% of the variance. Factor loadings, communalities, and eigenvalues are presented in Table 18. Factor 1 accounted for 39.1% of the variance and consisted of Emotional Tone, Psychopathology, Mastery of the External World, Body and Self-Image, and Social Relationships. Factor 2 accounted for 16.3% of the variance and consisted of Vocational-Educational Goals, Superior Adjustment, and Idealism. The third factor accounted for 8.8% of the variance and consisted of Impulse Control, Morals, Sexual Attitudes, and Family Relationships. These factors somewhat correspond to those detailed by Offer (1969).

The intercorrelations of the OSIQ scores for the clinical sample is presented in Table 19. A principal components factor analysis revealed two factors accounting for 66.7% of the variance. Factor loadings, communalities, and eigenvalues are presented in Table 20. Factor 1 consisted of Mastery of the External World, Psychopathology, Social Relationships, Emotional Tone, Vocational-Educational Goals, Body and Self-Image, Superior Adjustment, Impulse Control, Idealism, and Family Relationships. Factor 1 accounted for 48.2% of the total variance. The second factor, consisted of Morals and Sexual Attitudes and accounted for 18.5% of the variance. These two factors do not correspond to Offer's (1969) original factors.

TABLE 17

INTERCORRELATIONS AMONG OFFER SELF-IMAGE QUESTIONNAIRE SCALES FROM SCHOOL SUBJECTS = (n = 197)

	1	2	3	4	5	6	7	8	9	10	11	12
IC	-	.39**	.24**	.24**	.36**	.25**	-.12	.34**	.36**	.39**	.21*	.13
ET		-	.58**	.63**	.11	.27**	.30**	.40**	.60**	.69**	.37**	-.04
BSI			-	.46**	.04	.32**	.31**	.31*	.58**	.54**	.31**	-.05
SR				-	.15	.37**	.50**	.22*	.48**	.55**	.43**	.08
M					-	.32**	-.21*	.27**	.10	.13	.11	.39**
VEG						-	.06	.42**	.50**	.39**	.62**	.27**
SA							-	-.06	.25**	.31	.13	-.22*
FR								-	.51**	.45**	.41**	.18
MEW									-	.62**	.52**	.07
PSY										-	.50**	.02
SUP											-	.21*
ID												-

Note: IC=Impulse Control; ET=Emotional Tone; BSI=Body and Self-Image; SR=Social Relationships; M=Morals; VEG=Vocational-Educational Goals; SA=Sexual Attitudes; FR=Family Relationships; MEW=Mastery of External World; PSY=Psychopathology; SUP=Superior Adjustment; ID=Idealism.

*p < .01

**p < .001

TABLE 18

FACTOR LOADINGS, COMMUNALITIES AND EIGENVALUES FROM ROTATED FACTOR MATRIX OF 12 SCALE SCORES OF SCHOOL SUBJECTS (n = 197)

Variable	Factor I	Factor II	Factor III	h^2
ET	.85660			.755
PSY	.81521			.709
MEW	.75803			.675
BSI	.75546			.572
SR	.71722			.614
VEG		.74773		.699
SUPA	.45616	.69084		.687
IDEAL		.67244		.591
IC	.43236		.70969	.692
M			.64257	.543
SA	.51529		-.63412	.668
FR	.44797		.44838	.508
Eigenvalues	4.696	1.96	1.061	
Pct Variance	39.100	16.30	8.800	

Note: Blanks indicate that coefficients lower than .4 were suppressed in the analysis.

TABLE 19

INTERCORRELATIONS AMONG OFFER SELF-IMAGE QUESTIONNAIRE SCALES FROM CLINICAL SUBJECTS (n = 30)

	1	2	3	4	5	6	7	8	9	10	11	12
IC	-	.48*	.29	.46	.64**	.39	.09	.49*	.40	.51*	.43	.58**
ET		-	.72**	.64**	.14	.49*	.23	.30	.64**	.80**	.34	.31
BSI			-	.63**	.13	.53*	.35	.15	.76**	.72**	.33	.17
SR				-	.25	.38	.57**	.15	.68**	.76**	.55*	.23
M					-	.57**	-.18	.52*	.27	.20	.39	.50*
VEG						-	.07	.58**	.57**	.49*	.64**	.53*
SA							-	-.11	.49*	.51*	.36	.02
FR								-	.42	.34	.44	.53*
MEW									-	.73**	.50*	.38
PSY										-	.41	.29
SUP											-	.44
ID												-

Note: IC=Impulse Control; ET=Emotional Tone; BSI=Body and Self-Image; SR=Social Relationships; M=Morals; VEG=Vocational-Educational Goals; SA=Sexual Attitudes; FR=Family Relationships; MEW=Mastery of External World; PSY=Psychopathology; SUP=Superior Adjustment; ID=Idealism.

*p < .01

**p < .001

TABLE 20

FACTOR LOADINGS, COMMUNALITIES AND EIGENVALUES FROM ROTATED FACTOR MATRIX OF 12 SCALE SCORES FROM CLINICAL SUBJECTS (n = 30)

Variable	Factor I	Factor II	h^2
PSY	.86385		.824
SR	.84645		.758
BSI	.82258		.702
MEW	.79841		.769
ET	.75555		.661
SA	.72160		.573
M		.83615	.700
FR		.80100	.647
IDEAL		.76396	.598
VEG		.72479	.672
IC	.40741	.71514	.599
SUPA	.44292	.55646	.506
Eigenvalues	5.789	2.218	
Pct Variance	48.200	18.500	

Note: Blanks indicate that coefficients lower than .4 were suppressed in the analysis.

Summary of Results

Analyses of the current data partially confirm the first hypothesis. That is, the "clinical" subjects were found to have lower scores on the Family Relations scale of the OSIQ as compared to the "normal" subjects; however, the "normal" subjects were found to have lower scores than the "clinical" subjects on the Idealism scale. In addition, a significant effect was found for Counselling. This effect indicates that the "school/clinical" subjects had lower self-image scores on the Emotional Tone, Family Relations and Psychopathology scales of the OSIQ as compared to those who did not seek counselling ("normal").

The second hypothesis was not borne out by the current data. That is, an analysis of OSIQ items failed to reveal 12 factors which corresponded to the 12 scales. Forty factors emerged from this factor analysis and these bore no resemblance to the twelve scales.

The third hypothesis predicted that a factor analysis of scale scores would produce three factors which were previously reported by Offer (1969). This hypothesis was partially supported. Results of the replication analysis (i.e., using only the male subjects data from 10 scales) indicated that the OSIQ could best be described by two factors which bore little resemblance to those reported by Offer (1969). However, an analysis of the same scales based on the scores of the female subjects revealed three factors that closely matched those of

Offer (1969).

Additional exploratory analyses based on subsets of the data: male, female, "clinical" and "normal", indicated that the underlying structure of the OSIQ could best be described by either two or three factors. The factor structure of the OSIQ varied according to portion of the sample used in the analysis.

DISCUSSION

This study has examined the construct validity of the Offer Self-Image Questionnaire as a measure of adolescent self-image in Newfoundland. The OSIQ has been frequently used by Offer and others in the United States and around the world. However, after the initial construction and validation, attempts to establish the construct validity of the questionnaire have been less than rigorous. Construct validity has been cited as one of the most important properties that an instrument can possess (American Educational Research Association and the American Psychological Association, 1985). Two methods are frequently used in efforts to demonstrate construct validity: inter-item analysis and factor analysis. This study has used factor analysis to examine the construct validity of the OSIQ.

Further, the ability of the OSIQ to distinguish between a "clinical" sample and a "normal" sample has been examined in this study. The OSIQ was originally designed for this purpose and demonstrating its predictive ability to differentiate between populations would further indicate its validity as a powerful tool for clinical practice and research purposes.

Predictive Validity

A series of MANOVA's were computed in an effort to demonstrate the ability of the OSIQ to differentiate between a clinical and normal sample. In order to demonstrate that the OSIQ has predictive validity, analyses should indicate that there are significant differences between the clinical and the school samples, and further that there are significant differences between those from the school sample who reported having sought counselling in the past year and those who did not seek counselling. Previous studies (e.g., Brennan & O'Loideain, 1980; Koenig et al., 1984; Offer, 1969) have demonstrated that the OSIQ can effectively differentiate between various clinical populations, and between clinical and normal populations. These hypotheses were tested with a series of analyses.

First, the school group was analyzed independent of the clinical group. A significant main effect was found for the counselling variable. That is, the "school/clinical" group exhibited lower scores on the following OSIQ scales: Emotional Tone, Family Relations, and Psychopathology. This result supports the validity of the OSIQ in that it was able to differentiate teenagers who reported having sought help for problems from those who were "normal". However, significant differences between the groups appeared only on a limited number of scales, and the difference was not represented in the scale which is used in place of the total score (i.e., the

Idealism scale).

An additional analysis investigated differences between the school ("normal") subjects and the "clinical" subjects. A significant main effect for Group was found, suggesting that the OSIQ was able to differentiate the "clinical" group from the "normal" group. Both the Family Relations and Idealism scales were able to differentiate the two groups. However, only on the Family Relations scale were the differences in the predicted direction. The results of the Idealism scale indicated that those who were being seen at an outpatient clinic had higher scores than did normal students.

A further analysis was carried out to determine whether or not the OSIQ would be able to differentiate the "school/clinical" subjects from subjects who were recruited from Adolescent Health Counselling Service ("clinical"). A MANOVA showed that there were no differences between the two groups who had both sought counselling, indicating that the two clinical groups of this study have similar OSIQ scores.

Offer, Ostrov and Howard (1977) have shown that OSIQ scores can be used to differentiate between adolescents from different cultures (American, Irish, Australian and Israeli), between younger (13-15 years) and older (16-19 years) adolescents, and between males and females. Gender differences in self-image as measured by the OSIQ have also been reported in Offer et al. (1988) and Offer and Howard (1972). Generally, males have been found to report that they

are in better control of their feelings and have more positive feelings about sexuality, while females report a greater degree of social awareness and a greater commitment to vocational and educational goals. In this study a series of MANOVA's were used to examine differences between groups, including sex differences. No significant sex differences in self-image scores were found in any of the analyses. Since the OSIQ has been shown in various studies to be consistently sensitive to sex differences in self-image during adolescence, the failure to detect such differences in the present study raises questions about the nature of self-image in Newfoundland. It may be that in Newfoundland, unlike the United States, the self-images of younger (13-15 years) males and females are relatively alike.

To reiterate, unlike the results reported in Offer et al. (1977) where all of the OSIQ scales with the exception of Sexual Attitudes differentiated between normal, delinquent, and emotionally disturbed adolescents, in the present study only the Emotional Tone, Family Relations and Psychopathology scales differentiated the "normal" subjects from the "school/clinical" subjects. Only the Family Relations scale was able to effectively differentiate the "normal" group from the "clinical" group. The Idealism scale, on the other hand, indicated that the "clinical" group had a higher self-image. In summary, the present results indicated that the OSIQ could differentiate between a "school/clinical" and a "normal"

school sample, and between a "clinical" and "normal" sample; however, the differences were not evident on all scales. These findings supported the basic notion that the OSIQ can be used to differentiate samples, but in the present study not as thoroughly as reported by Offer et al. (1982).

One of the purposes of the OSIQ as detailed by Offer and his colleagues (1982) is to identify "normal" adolescents on the basis of self-image scores. Offer's (1969) criteria for "normal" adolescents is a score between 35 and 65 (i.e., one standard deviation from the mean). This study failed to address the issue of correct classification. In order to demonstrate the clinical usefulness of the OSIQ, it would have been interesting to examine this issue by looking at the false positive and false negative classification rates in this sample. For example, how many of the "clinical" subjects would have been classified as within the normal limits (false negative), and how many of the "normal" subjects would have been classified as "clinical" (false positive)? From a clinical point of view, questionnaires with high false positive rates can be acceptable (although inefficient), wheras a high false neagtive rate is viewed as less acceptable. Examining the issue of classification would certainly have been beneficial for clinical purposes, and to further substantiate the validity of the scale.

In conclusion, this study has provided limited evidence for the predictive validity of the OSIQ. The OSIQ was able to

differentiate a "school/clinical" sample from a "normal" school sample. However, these differences are concentrated on only a small number of the OSIQ scales. In addition, the OSIQ was only able to differentiate a "clinical" and a "normal" sample on two scales, and only in the predicted direction on one scale. It appears from this study that the OSIQ may not be a powerful instrument which can be effectively used to distinguish adolescents who have psycho-social problems from those who appear to be functioning normally, as evidenced by lack of counselling. The results reported here indicate that the OSIQ is able to differentiate between clinical and normal samples, but not as comprehensively as reported by Offer and his colleagues. As well, the fact that the OSIQ fails to differentiate between males and females in this study is interesting as the questionnaire consistently has been found to do this in similar studies.

Construct Validity: Item Analysis

The OSIQ was developed on the basis of theoretical supposition and clinical judgement of the authors (Offer et al., 1982). The present study evaluated the construct validity of the OSIQ by determining whether the 12 scales can be produced via a factor analysis of the items which make up the questionnaire. That is, a factor analysis should produce 12 factors which roughly correspond to the 12 scales. Hypothesis 2 was not supported by the results of the factor

analysis. Forty factors emerged when the correlation matrix of items was submitted to a principal components analysis. These results suggest that the underlying rationale used in the development of the scales may not be valid, thus calling into question the construct validity of the scale structure of the questionnaire. Items which were chosen on the basis of clinical experience, Q-sorts and theoretical supposition did not in the present study correspond to the scales to which the authors have assigned them even though the items exhibit face validity. The present result indicated that although the OSIQ measures a multifaceted construct, that construct does not correspond to the present scale structure of the questionnaire, and therefore, according to Wylie (1974) the use of separate labels for the scales is misleading since the factor solution fails to indicate the existence of such scales. It would seem, on the basis of the present results, that the OSIQ may well join the TSCS, in that factor analyses fail to support the proposed structure of the questionnaire.

Construct Validity: Scale Analyses

A third purpose of this research was to examine the factors which are represented by the OSIQ scales. Offer (1969) found that the questionnaire could best be described with three underlying factors which he labelled as Feeling State, Mastery and Interpersonal Relations. In the original study, the Sexual Attitudes scale was not used as it was not

correlated with the other 10 scales. In this study hypothesis three predicted that three factors would result from a factor analysis of the data from the male subjects using only the 10 scales used by Offer (1969). This hypothesis was not supported. Replication of the original study (Offer, 1969), using the data from 109 male subjects and not using the Sexual Attitudes or the Idealism scales revealed two factors. The first factor consisted of Mastery of the External World, Psychopathology, Social Relations, Emotional Tone, Body and Self-Image, Superior Adjustment, Impulse Control, Vocational-Educational Goals and Family Relations. The second consisted of the Morals scale. These factors do not correspond with the three factors found by Offer (1969). The two factors that resulted from the current factor analysis suggest that the Morals scale is unique and not related to any of the other scales. This analysis implies that self-image in males, as measured by the OSIQ, is best described as a multi-dimensional construct, which, on the basis of this study, can be reduced to two factors. The first factor encompasses the three factors found by Offer (1969), while the second is represented by a single scale.

However, the validity of the three factors was partially supported via a factor analysis of the scores from the female subjects on the ten scales. This analysis resulted in the OSIQ being reduced to a three factor solution. The factors that resulted from the analysis of the female subjects closely

mirrored those reported by Offer (1969). Compare Table 1 and Table 10 of this thesis. The first factor described by Offer (1969) as Feeling State consisted of Emotional Tone, Social Relations, Body and Self-Image, and Psychopathology was replicated in this subset of the present sample. Factors two and three described by Offer (1969) were almost identical with the exception of the Family Relations scale. Factor 2 from the present data was represented by Vocational and Educational Goals, Superior Adjustment, Family Relations, and Mastery of the External World. This corresponds to Offer's (1969) factor of Mastery with the exception of the Family Relations scale, which in the original study was included in the third factor. The third factor, Interpersonal Relations, consisted of Morals, Impulse Control and Family Relations in the original study. In the present study, Morals and Impulse Control constituted this factor. This partial replication of the original study contributes somewhat to the credibility of Offer's results. However, the outcomes of the additional analyses presented here which indicated that depending on the subset of the population used in the analysis, the OSIQ can be characterized by either two or three factors, suggests that the underlying structure of the OSIQ may be more complex and inconsistent than detailed by Offer (1969).

A series of additional factor analyses revealed that, depending on the portion of the sample employed, either two or three factors emerged. Examination of these factors showed

that they were not consistent across the samples. For example, comparing the results from the factor analysis of male subjects and the analysis of female subjects showed that for the males, two factors best described the OSIQ, while for the females, three factors best described the questionnaire. Comparison of factors resulting from the "clinical" sample and those from the school sample, revealed that two factors best described the "clinical" sample, while three factors best described the school sample. There did not appear to be any consistency across samples in terms of the resulting factors. Thus, it would appear that, depending on the sample used for factor analysis, the factorial structure of the OSIQ can be described by either two or three factors.

An inspection of the correlation matrix produced from the 227 subjects revealed that 52 of the 65 correlations were significant at either the .01 or .001 level. This pattern was consistent with the findings of Dudley et al. (1981) who found that 53 of 55 generated correlations were significant. This pattern suggests that the OSIQ is best characterized by one general factor. However, this model is not reflected in the results of the factor analysis, which suggest that the OSIQ can best be described by either two or three factors.

Criticisms of the Present Study

Although this study has provided some support for the predictive powers of the OSIQ, it has failed to support the

underlying construct validity. The results of the present study must be interpreted with caution because of the small sample size employed in the study. In using factor analysis, Gorsuch (1974) suggests that the absolute minimum sample size is five individuals per variable examined. If one followed this rule of thumb, 650 subjects would be necessary to adequately evaluate the 130-item OSIQ. The number of subjects in this study (N = 227) fell well short of the recommended number. For this reason the research reported here should be considered as a pilot study.

Second, if the OSIQ is to be effectively used as a measure of self-image in Canada, Canadian norms should be established. It is possible that teenagers from the mid-western United States have patterns of responses that differ from those of the average teenager in Canada, or for that matter in St. John's, Newfoundland. The validity of the items and scales can be questioned. Connotations of phrases and words may vary considerably from culture to culture. Cultural differences in OSIQ scores have previously been documented (Offer et al., 1977) and similar cultural differences may well have affected self-image scores in this study.

Finally, this study failed to consider the classification rates of subjects. As pointed out earlier, it is useful to know whether or not adolescents are correctly identified as "clinical" or "normal" based on Offer's cutoff scores. This issue is especailly important as clinicians may be using the

OSIQ as a screening device or as a method of determing whether or not adolescents have problems with self-iamge. In addition, a demonstration of correct classification would further augment the validity of the scale.

Conclusions and Recommendations

The validity of the Offer Self-Image Questionnaire as a measure of adolescent self-image was examined with a sample of teenagers from St. John's, Newfoundland. The present results do not support the underlying scale structure of the OSIQ as detailed by Offer et al. (1982) or Offer (1969) as 40 uninterpretable factors emerged from a factor analysis of the 130 items. Some support is provided for the three factor solution described by Offer (1969), as this solution is apparent from an analysis of the data from the female subjects. These results do show that the OSIQ can be somewhat effective in differentiating between a "school/clinical" and "normal" school sample, and between "normal" and "clinical" samples.

However, while the OSIQ displays face and limited predictive validity, one has to question how useful a questionnaire is if the proposed factor or scale structure can not be empirically demonstrated. The OSIQ may or may not be a good measure of adolescent self-image; the small sample size employed in this study precludes a definite conclusion. The OSIQ has been shown in other studies to be an effective and

useful measure of adolescent self-image. Future research should focus on establishing the construct validity of the scales using factor analysis with the appropriate numbers of subjects. Norms should be established for the OSIQ in other countries. As well, more research should address the ability of the OSIQ to correctly classify adolescents. Finally, more research should focus on sex differences in adolescent self-image with a Newfoundland sample as the OSIQ has previously been found to consistently differentiate between males and females on the basis of self-image but fails to do so in this study.

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APPENDIX A

OSIQ # _____

DEMOGRAPHIC QUESTIONNAIRE

SEX MALE_____ FEMALE _____

DATE OF BIRTH _____
(date/ month/ year)

GRADE _____

SCHOOL _____

In the past year, have you ever sought counselling from a professional (i.e., psychiatrist, psychologist, social worker, school counsellor etc.) for a personal problem?

Yes _____ No _____

Thank you for completing this research project.

APPENDIX B

Client Summary Sheet

1. Date of birth _____

2. Sex of client M_____ F_____

3. Client number _____

4. Presenting Problem
_____
_____
_____
_____

5. Current Living Status:
   a) single parent _____
   b) intact _____
   c) divorced _____
   d) one parent deceased _____
   e) adopted child _____
   f) In care _____

6. Abuse Status:
   a) Physical _____
   b) Sexual _____
   c) Both physical and sexual _____
   d) None _____

7. Length of therapy to this point _____

8. Therapist _____

_____

APPENDIX C

INFORMATION SHEET

Self-esteem has long been of interest to researchers. Currently there are many different measures of self-esteem. This project focuses on one measure of self-esteem : the Offer Self-Image Questionnaire. This questionnaire was devised especially for teenagers, therefore the questions are thought to be more relevant to teenagers. This questionnaire has been given to thousands of teenagers since its development, however it has seldom been used in Canada. This study intends to look at how well the questionnaire measures what it was developed to measure.

Participation in this research project involves the completion of the Offer Self-Image Questionnaire (approximately 20-40 minutes), and a Demographic Information sheet (i.e., your date of birth, grade, sex, and a question regarding counselling). You are not required to participate in this project, all participants do so voluntarily. No one individual's results will be considered separately and all responses will remain anonymous and confidential. You are free to withdraw from this project at any time. If you chose not to complete the forms, please sit quietly.

I would like to take this opportunity to thank you for your participation.

APPENDIX D

SUMMARY STATISTICS BY PLACE OF RECRUITMENT

1. CLINICAL SAMPLE

	TOTAL	MALE	FEMALE
N	30	15	15
AVERAGE AGE		14.73 (1.16)	15.33 (1.77)
COUNSELL	30	15	15
AVERAGE OSIQ SCORES			
IC (S.D.)	52.56 (17.40)	55.67 (18.87)	47.67 (17.01)
ET (S.D.)	42.90 (21.98)	45.00 (22.27)	40.80 (22.26)
BSI (S.D.)	50.67 (18.56)	49.40 (19.55)	54.60 (13.96)
SR (S.D.)	50.37 (21.42)	52.67 (22.98)	48.87 (20.21)
M (S.D.)	50.17 (21.03)	52.73 (21.99)	47.60 (20.44)
VEG (S.D.)	47.83 (19.24)	44.53 (20.77)	48.20 (20.11)
SA (S.D.)	47.80 (19.36)	51.80 (21.25)	45.93 (15.07)
FR (S.D.)	41.37 (22.65)	42.00 (26.65)	37.73 (18.55)
MEW (S.D.)	44.90 (21.41)	46.06 (24.21)	43.73 (18.98)
PSY (S.D.)	47.67 (17.65)	51.27 (19.14)	47.33 (15.22)
SUP (S.D.)	46.70 (20.77)	45.87 (25.99)	47.53 (14.70)
IDEAL (S.D.)	58.90 (13.41)	58.47 (15.05)	59.33 (12.08)

2. SCHOOL 1

	TOTAL	MALE	FEMALE
N	66	31	35
AVERAGE AGE	14.25	14.45 (.624)	14.06 (.236)
COUNSELL	8	2	6
NOT AVAILABLE	4	2	2
AVERAGE OSIQ SCORES			
IC	47.85	48.81	45.83
(S.D.)	(16.86)	(13.57)	(20.32)
ET	48.58	46.29	50.49
(S.D.)	(17.11)	(19.95)	(14.13)
BSI	47.35	41.68	54.94
(S.D.)	(17.80)	(16.77)	(13.40)
SR	51.80	50.74	52.94
(S.D.)	(16.44)	(17.81)	(14.48)
M	46.20	47.09	45.77
(S.D.)	(19.09)	(18.46)	(19.33)
VEG	46.64	44.87	48.20
(S.D.)	(14.28)	(11.85)	(16.15)
SA	50.21	47.77	52.43
(S.D.)	(17.37)	(18.04)	(16.73)
FR	45.45	42.94	48.86
(S.D.)	(17.00)	(19.49)	(13.02)
MEW	45.47	40.39	49.86
(S.D.)	(18.42)	(16.21)	(19.25)
PSY	47.69	45.55	49.60
(S.D.)	(18.05)	(18.88)	(17.92)
SUP	45.55	44.68	46.69
(S.D.)	(16.46)	(12.65)	(18.82)
IDEAL	54.09	55.19	53.11
(S.D.)	(13.33)	(14.63)	(12.22)

3. SCHOOL 2

	TOTAL	MALE	FEMALE
N	51	23	28
AVERAGE AGE	14.31 (.583)	14.27 (.518)	14.39 (.518)
COUNSELL	9	4	5
AVERAGE OSIQ SCORES			
IC (S.D.)	47.22 (16.08)	48.69 (11.00)	46.75 (18.67)
ET (S.D.)	47.33 (15.94)	48.30 (18.15)	46.54 (14.16)
BSI (S.D.)	46.27 (14.18)	42.87 (14.09)	49.54 (11.26)
SR (S.D.)	51.02 (17.12)	55.26 (18.17)	50.25 (14.84)
M (S.D.)	48.10 (16.78)	50.61 (15.86)	46.04 (17.52)
VEG (S.D.)	49.19 (16.29)	47.74 (16.13)	52.04 (14.99)
SA (S.D.)	49.49 (15.75)	48.48 (13.54)	50.32 (17.25)
FR (S.D.)	47.57 (16.72)	48.83 (15.21)	46.54 (18.07)
MEW (S.D.)	50.19 (14.82)	50.35 (15.88)	50.07 (14.18)
PSY (S.D.)	48.82 (46.08)	46.04 (13.43)	51.39 (17.29)
SUP (S.D.)	46.08 (19.63)	43.08 (18.85)	48.54 (20.25)
IDEAL (S.D.)	54.29 (13.04)	52.61 (13.49)	57.68 (10.10)

4. SCHOOL 3

	TOTAL	MALE	FEMALE
N	40	19	21
AVERAGE AGE	15.53	15.58 (.769)	15.48 (.679)
COUNSELL	7	3	4
NA	5	3	2
AVERAGE OSIQ SCORES			
IC	45.08	48.58	41.90
(S.D.)	(16.39)	(13.61)	(18.29)
ET	44.13	43.11	45.05
(S.D.)	(12.70)	(11.02)	(14.26)
BSI	44.83	44.21	47.57
(S.D.)	(18.45)	(13.20)	(19.55)
SR	48.98	48.00	49.86
(S.D.)	(16.83)	(17.40)	(16.68)
M	43.73	44.84	42.33
(S.D.)	(16.70)	(18.30)	(16.22)
VEG	42.80	39.11	46.14
(S.D.)	(18.59)	(13.49)	(22.03)
SA	46.45	47.58	45.43
(S.D.)	(19.13)	(12.26)	(23.99)
FR	38.03	37.21	38.81
(S.D.)	(17.03)	(14.86)	(19.03)
MEW	39.55	37.11	41.76
(S.D.)	(15.40)	(13.20)	(17.18)
PSY	42.63	42.79	42.33
(S.D.)	(13.65)	(13.71)	(14.09)
SUP	43.48	38.47	48.00
(S.D.)	(17.12)	(13.07)	(19.30)
IDEAL	54.85	50.37	57.95
(S.D.)	(11.57)	(12.53)	(10.50)

5. SCHOOL 4

	TOTAL	MALE	FEMALE
N	40	20	20
AVERAGE AGE	14.18 (.594)	14.20 (.616)	14.15 (.590)
COUNSELL	8	6	2
NA	3	2	1
AVERAGE OSIQ SCORES			
IC	42.60	38.40	46.80
(S.D.)	(16.05)	(15.68)	(15.54)
ET	46.83	44.75	48.90
(S.D.)	(12.13)	(10.74)	(13.32)
BSI	47.50	44.60	49.45
(S.D.)	(15.36)	(15.80)	(17.14)
SR	48.38	44.25	52.50
(S.D.)	(13.63)	(14.42)	(11.72)
M	42.58	42.95	42.50
(S.D.)	(13.58)	(10.94)	(17.55)
VEG	45.78	38.40	55.10
(S.D.)	(16.60)	(17.59)	(6.99)
SA	48.33	42.00	54.65
(S.D.)	(16.47)	(13.38)	(17.13)
FR	47.98	43.95	54.65
(S.D.)	(13.30)	(9.02)	(13.69)
MEW	45.43	43.35	47.50
(S.D.)	(17.12)	(17.52)	(16.89)
PSY	45.33	38.60	52.95
(S.D.)	(14.54)	(10.30)	(13.22)
SUP	47.63	40.75	54.50
(S.D.)	(16.64)	(12.74)	(17.50)
IDEAL	47.80	49.35	46.25
(S.D.)	(13.79)	(16.46)	(10.71)