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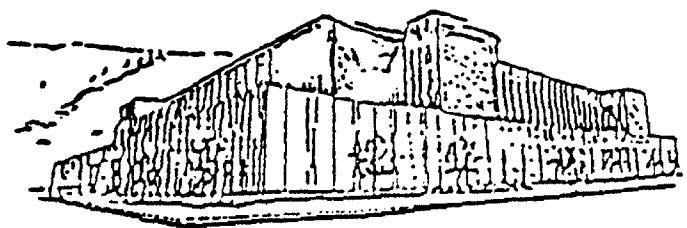
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A Multidimensional Tool for the Evaluation of Mental Health Services

by

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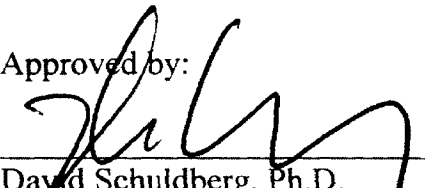
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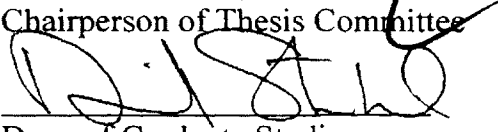
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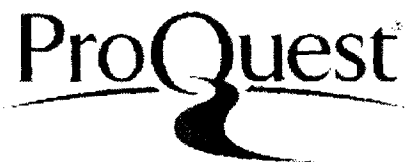


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A Multidimensional Tool for the Evaluation of Mental Health Services

Director: David Schuldberg, Ph.D.



Measurement of outcomes has become an important aspect of evaluating mental health services, yet there is little agreement on the best method for doing so. The various domains that are used in outcome measurement and the accompanying measures are reviewed, and their importance in evaluating outcomes is discussed. A “suite” of measures from these domains was constructed and then completed by a sample of undergraduate students and by consumers of mental health services. The psychometric properties of the measures was examined using both the consumer and student data. The internal consistency, computed with Cronbach’s alpha, was found to be acceptable for all measures. Pearson product moment correlations indicated that the measures are moderately correlated yet include some independent components. The Principal Components Analysis suggested that the group of measures consists of at least four, if not five dimensions. These dimensions are Work Adjustment, Satisfaction with Services, Psychological Health, Self-actualization, and Physical Health and Satisfaction with Living Environment. The intercorrelations of the subscales highlighted areas of redundancy of subscales that could be eliminated to create a more streamlined instrument. Discriminant validity was found with the significant differences between the consumer and student subjects on all measures. These findings indicate that this “suite” of measures is a psychometrically sound instrument appropriate in the assessment of mental health services; in addition, as a set of outcome measures, it provides a comprehensive picture of an individual’s important life domains, such as functioning, satisfaction, and mental health.

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A Multidimensional Tool for the Evaluation of Mental Health Services

Managed care has become the predominant service delivery system of medical care, and to a slightly lesser degree, mental health care, in the United States. This pattern has led to concern about accountability, and there has been increased focus on ensuring that the system achieves the goals of provision of adequate services and cost-effectiveness. With the advent of this new service delivery system, the measurement of the effectiveness of treatment for persons with serious mental illness has become increasingly important. The focus has moved towards “outcomes,” in which the therapy or treatment is expected to achieve some result or some change, whether in behavior, affect, or some other subjective experience. There is much discussion about what is the best way to measure these outcomes. Success in treatment may simply consist of a decrease or absence of symptoms, increase in overall functioning, or decrease in use of services such as hospitalization. Methods less commonly used to measure outcome relate to the subjective experience of the client, such as measures of Quality of Life, life satisfaction, and the consumer’s satisfaction with services.

Rather than choosing one method to evaluate the outcome, such as using a measure of functioning to determine the effectiveness of services provided, a combination of measures from the different areas should provide a more global, broad-band, and potentially useful evaluation. This does not mean choosing one measure from each of the domains that are currently discussed in the outcome measure arena. There is overlap

among some areas, and each domain continues to have some ambiguous definitions and includes numerous terms that are used interchangeably. Each of the domains that are currently used in measuring outcome will be discussed and distinctions between measures and overlap in what they tap will be elucidated. Each area and some of its measures will be criticized. A review of the psychometric properties of each measure will be discussed. The measures most widely used will be examined.

This project entails the creation of a “suite” of measures designed to be used for evaluation of mental health services. Each of the included measures was selected from the collection of measures currently in use for outcome research in the different domains. Each of these measures is in self-report format, making it easy for consumers to complete on their own with little or no staff assistance. This quality will make the group of measures desirable as an evaluative tool of mental health services.

To gain information about the psychometric properties of the measures, the measures were also completed by a sample of undergraduate students and then analyzed for reliability and validity of the facets of the combined measures. In addition, a sample of consumers of mental health services completed the measures. These responses were compared with the undergraduate sample.

The Importance of Outcome Measurement

The increased concern with outcomes is directly related to managed care’s arrival onto the medical care scene. Managed care was implemented within the past several decades to control the rising costs of medical care. To achieve the goal of reducing costs, a managed care organization must make decisions about what services to reimburse.

Services that are shown to be cost-effective and efficacious are likely to be reimbursed. Making these decisions is complicated and involve answering questions such as 1) at what cost is “wellness” pursued? and 2) what is the desired effect of treatment whereby the service is determined as effective?

Because managed care was created to control costs, a concern is that reducing costs is or will become the major consideration in providing treatment. The provision of quality care is a necessary concern for health care providers. By measuring the outcomes of services, the focus, hopefully, will shift to the quality of the services and the consumers themselves rather than cost only (Barlett, 1997).

Boston (1994) aptly captured this concern with outcome measurement in his title, “Destiny is in the Data.” Boston was writing for speech pathologists and audiologists, but the points he raises are applicable for all health care providers, especially those who provide services in which the medical necessity is questionable. Outcome measurement is necessary to make the argument that these questionable services are necessary and effective, and therefore the services should be reimbursed by managed care organizations. Furthermore, some states have passed legislation that requires health care service providers to collect client outcomes data. Indeed, the measurement of outcomes serves many purposes and is increasingly important to both consumers and treatment providers.

The measurement of outcomes of health services is not a fleeting trend, yet an agreed upon method of doing so is unclear. A review of the types of outcome measurement currently in use follows. Hunter, Higinson, and Garralda (1996) described three types of outcome measures: population, specific, and performance.

Population outcome indicators, such as reduction in mental health problems, suicide and self-harm behavior, and homelessness, are measures of changes in the health status of an entire population. This type is so broad, however, that it is impossible to determine causality of the treatment.

Specific outcome measures are more focused and provide more information about the results of the services. Specific measures evaluate the outcome of a specific case and these main categories, as defined by Hunter, Higinson, and Garralda, are clinical change, compliance and satisfaction, and met and unmet needs. The disadvantage of specific outcome measures is just that, they are too specific, focusing only on one of these areas, such as satisfaction or symptomology. To remedy this problem, the authors recommend using a combination of several different measures to create a complete picture of clinical change.

The third type of outcome measurement consists of performance indicators, such as structure (building, equipment, staffing), processes (admission and readmission rates, length of hospital stay), and output (discharge rates, number of referrals). These performance indicators are limited in their usefulness because they only provide an indirect measure of the quality of care. Also, performance indicators may be ambiguous in their effectiveness; for example, length of hospital stay may be interpreted as good or as bad care.

Despite their disadvantages, both population and performance indicators are used as measures of outcome. Although these indicators may provide information suggesting that services are achieving the desired objectives, the indicators do not provide detailed

information about how consumers are affected by the services they receive. For these reasons, specific outcome measures were used in this study, and, as recommended, a combination of focused measures that allow one to examine the effects of treatment on broad areas of consumers' lives were employed. First, however, each of these focused areas of clinical change will be examined.

Domains of Outcome Measurement

Absence of Symptoms

The absence of psychiatric symptoms is perhaps the intuitively most sensible measure of outcomes with persons with psychological disorders. The absence of symptoms is sometimes called psychological well-being, although this label is often also considered to include positive aspects of psychological functioning, such as positive evaluations of oneself and growth and development (Ryff & Keyes, 1995). Well-being will be discussed in detail in a later section. The absence of symptoms does not necessarily imply a positive aspect of mental health, but it is a primary goal of mental health treatment. Individuals seek mental health services because of their psychiatric symptoms and generally seek relief of these symptoms. While it may also focus on positive aspects of adjustment (e.g. community adjustment), mental health treatment generally focuses on the reduction of symptoms or the reduction in distress that is caused by symptoms.

Symptom Measures

Psychiatric symptom measures have either broad or specific focuses. Specific measures assess the prevalence of symptoms for a single psychiatric disorder or type of

symptoms. Examples of these are the Beck Depression Inventory (BDI; Beck & Beck, 1960), the Hamilton Rating Scale for Depression (HRSD; Hamilton, 1960), and the Hamilton Anxiety Rating Scale (HARS; Hamilton, 1959). Each of these scales is self-report and commonly used for a quick assessment of an individual's current experience of psychiatric symptoms for a specific disorder.

The broad measures assess the prevalence of symptoms of common psychiatric disorders. These instruments request information about the experience of symptoms related to thought, mood, and anxiety disorders and other psychiatric symptoms. One such measure is the Brief Psychiatric Rating Scale (BPRS; Overall & Gorham, 1962), a clinician-report instrument designed to assess individuals on psychiatric symptoms and behaviors. The clinician rates the individual on each item after performing a clinical interview. The ratings are based on both the individual's responses and behavior in the interview. In performing the clinical interview, the clinician must be familiar with the scale to ask some specific questions to complete each item of the BPRS. There are several versions available, with a recent version involving 18 items and "anchors" (Woerner, Mannuzza, & Kane, 1988) to make the rating scale easier to use. Each item is rated on a 7-point scale with behavioral descriptions for each point on the scale. An "expanded version" (Lukoff, Nuechterlein, & Ventura, 1986) contains the same 18 items with an additional six items. This version also has behavioral descriptions for each of the seven points on the scale although the behavioral descriptions are slightly different from the anchor version.

Mueser, Curran, & McHugo (1997) performed a factor analysis of the BPRS used in the assessment of symptoms of subjects with schizophrenia. They found that the BPRS appeared to consist of four factors. These factors were thought disturbance, anergia, affect, and disorganization. Previously, the BPRS was commonly thought to have a five-factor structure with the factors of Anxiety-Depression, Anergia, Thought Disturbance, Activation, and Hostile-Suspiciousness. The different findings in factor structure may indicate that the BPRS may have a different factor structure when used with patients with a schizophrenic disorder compared to other psychiatric disorders.

The Symptom Checklist-90 is a 90-item self-report checklist of psychiatric symptoms. It is widely used and has been found to have good reliability and validity, and is sensitive to change. This measure will be described in greater detail later in the paper; it will be used in this study as a self-report measure of symptoms.

The absence of symptoms is an important feature in measuring the effectiveness of services with persons with psychiatric disorders. However, with many mental disorders, suffering from psychiatric symptoms is but one aspect of mental illness. Focus on the symptoms themselves ignores the effect that the symptoms have on a person's life. Mental disorder, such as schizophrenia or major depression, can affect a person's relationships, ability to find and keep work, and affects how others in the community view them. For these reasons, a measure of psychiatric symptoms is an important component of an outcome measure but does not tap into the other life domains that are affected by the disorder.

Level of Functioning

How a person functions within the environment can be an indicator of wellness. A serious mental illness can severely interfere with a person's ability to manipulate and maneuver within his or her environment and maintain aspects of everyday life such as personal hygiene, social contacts, and finances. Mental health services often aid consumers in these areas by helping to find housing, teaching social skills, and assisting in money management. For example, social skills training for persons with schizophrenia has become an important method of treatment to improve their functioning socially and in the community and improve their mental health in general. Liberman, Mueser, and Wallace (1986) found that improving the social skills of persons with schizophrenia through a training program reduced their report of psychiatric symptoms and their use of psychiatric hospitalization.

These findings suggest that there may be a reciprocal or inverse relationship between functioning and psychiatric symptoms. Thus, a reduction in symptoms could improve an individual's functioning. Improving an individual's functioning may lead to a reduction in psychiatric symptoms. Regardless of the direction of this causal relationship, improved functioning of the consumer is an important goal for mental health services. Ideally, the mental health system works to encourage the greatest level of independence for the consumer while assisting in the areas of need.

Level of Functioning Scales

Scales measuring level of functioning assess the ability of the individual to adapt to the requirements of daily living. This ability can be measured as a global, single

indicator of functioning, or as a multi-dimensional assessment. The majority of level of functioning scales not only examine the individual's functioning but also the psychiatric symptoms that the individual is experiencing at that time.

The Global Assessment Scale (Endicott, Spitzer, Fleiss, & Cohen, 1976) was one of the early measures of level of functioning. A single rating is determined by a clinician based on the overall functioning of the individual during a specific time. Overall functioning involves presence of symptoms, quality of interpersonal relationships, quality of leisure activities and interests, and ability to function independently. The GAS was modeled after the Health-Sickness Rating Scale (HSRS; Luborsky, 1962), which is a global assessment of mental health rated on a 100-point scale. The GAS is different from the HSRS in that the ranking is based solely on behavior and does not consider the individual's diagnosis. The GAS is organized into ten equal intervals, each with accompanying behavioral descriptions. The equal intervals were created for easier use than the eight anchor points in the HSRS. Endicott et al. (1976) found the GAS to be quite reliable; however, others found that the interrater reliability was lower among clinicians than researchers (Clark & Friedman, 1983).

The Global Assessment of Functioning Scale (GAF) is used in the DSM-IV as Axis V. It is a modified version of the GAS with changes in the number of anchors, the scale range, and some of the wording of the anchor points. The GAF is a measure of an individual's psychological, social, and occupational functioning. Neither the GAS nor GAF rate the individual solely on functioning because symptoms are also considered.

The scales mentioned are examples of instruments that measure an individual's overall functioning referring to several areas using a single score. Another method of measuring functioning is the multi-dimensional approach that provides ratings for several areas of the individual's life. This approach provides more detailed information about the individual's functioning in different areas of his or her life.

One example of a multi-dimensional approach is the Short Form- 36 Health Survey (SF-36) developed by Ware & Sherbourne (1992). The SF-36 is a 36-item short-form measure of physical and mental health status and its effect on physical activities and normal role activities. It is also considered an overall "functional status" indicator. It was created to be used with medical, mental health, and general populations. The measure will be described in greater detail later, including its psychometric properties.

The Strauss-Carpenter Level of Functioning Scale (Strauss & Carpenter, 1972) is a clinician-rated instrument designed for research purposes (primarily via chart review) to be used to assess outcome status for persons with schizophrenia. The measure was created to be multi-dimensional, with well-defined criteria. This format was more sophisticated than previous methods that evaluated functioning by using single ratings of "improved" or "unchanged." The subject is evaluated in the areas of social contacts, employment, absence of symptoms, and duration of non-hospitalization. For each critical item, the behavior is rated from 0 to 4. The measure provides specific definitions of the behavior corresponding with the rank number.

Intercorrelation of these four critical items revealed that they are only moderately correlated. This suggests that outcome is not a single measure but a complex

phenomenon. Because there is variance not accounted for by the other dimensions of functioning, there are other factors that play a part in determining functioning. Strauss and Carpenter (1972) argued that outcome is a linked, open system in which each dimension is partly affected by the other, yet also affected by factors more specifically related to it. For example, employment outcome would likely be affected by presence or absence of symptoms, but also factors such as job availability.

The Multi-Function Needs Assessment (Weiner, 1993) is another example of the multi-dimensional approach that examines both symptoms and level of functioning. The revised version consists of 118 items divided into the following areas of functioning: physical self-maintenance, physical health, substance abuse, motor behavior, psychiatric symptoms, attitude and motivation, attention and memory, verbal communication, family interaction, social interaction, independent living skills, public behavior, and work/school/leisure. The MFNA is completed by a clinician, who rates the individual on the level of assistance needed for each area, and for some of the behaviors the rater notes the frequency of occurrence. The measure was originally created by Angelini (1982) to assess service needs and general level of functioning for patients at a state psychiatric hospital. Weiner and Michaels (1987) revised it for use in an inpatient psychosocial rehabilitation program and made modifications for easier administration. The MFNA is able to differentiate between patients with different functioning levels. The scales that had the greatest ability to differentiate among patients were the areas of complex functioning (independent living skills and public behavior). Moreover, the scale was

found to have concurrent validity, based on the high correlations with the dependent measure, the Colorado Level of Functioning instrument.

The Behavior and Symptom Identification Scale (BASIS-32; Eisen, Dill & Grob, 1994) was created for use in inpatient settings. It is brief and easy to use, allowing the patients to complete the scale themselves. The 32 questions can be divided into five subscales: relation to self and others, daily living and role functioning, depression and anxiety, impulsive and addictive behavior, and psychosis. The scale was found to have good internal consistency and test-retest correlations ranging from .65 to .81. In an examination of its discriminant validity, BASIS-32 was found to discriminate patients who had positive outcomes (living in the community) and negative outcomes (continued or re-hospitalization) six months after the first admission. This measure is now widely used in inpatient settings.

The Colorado Client Assessment Record (CCAR) is a multi-dimensional checklist and Level of Functioning measure created to measure outcomes for consumers of public mental health services (Ellis, Wilson, Foster, 1984). A clinician completes the scale by indicating where the client has problems in the nine areas covered in the measure and then ranks the level of functioning for each of the areas. These areas are as follows: socio-legal, substance use, medical/physical, thinking, personal distress, personal behavior, interpersonal relations, role performance, meeting basic needs.

The Multnomah Community Ability Scale (MCAS; Barker, Barron, McFarland, & Bigelow, 1994a) is a 17-item clinician-report instrument designed to measure the functioning of seriously mentally ill persons who live in the community. It was created

by clinicians and program planners to match effectively and provide needed services for consumers, although it can also be used to measure consumers' progress. The items measure functioning in the areas of interference with functioning, adjustment to living, social competence, and behavioral problems. The scale measures both impairment and symptoms (sub-sections one and four) and ability (sub-sections two and three). With regard to reliability, the total MCAS score was found to be superior to the subscales, although the latter were in the good range for inter-rater and test-retest reliability. Scores were highly correlated with utilization of the state psychiatric hospital and could be used as a predictor of hospitalization.

The instruments described above assess an individual's functioning in the various aspects of daily living. However, these measures also do assess psychiatric symptoms. Each of these measures stresses the importance of psychological functioning in the assessment of overall functioning. Of these measures, none were created to be used as a self-report measure of functioning for mental health consumers living in the community. The BASIS is an excellent self-report measure, yet it was designed for use in inpatient settings. Those measures that are clinician-rated have limited usefulness. Using self-report to gather information in these domains would be a simpler method than the clinician rated format.

The SF-36 is a well-designed measure that has been used with psychiatric populations. It provides specific information regarding physical and mental functional status. For these reasons, it was chosen for use in this study and will be described in greater depth. However, because the functioning is specific to physical and mental

health, it does not capture the areas of functioning that are a central concern in the treatment of persons with psychiatric disorders. Because psychiatric disorders affect social functioning, employment and leisure activities, and other aspects of community life, further information regarding abilities and impediments in these areas is necessary.

Social Functioning

Measures assessing social functioning are very similar to level of functioning scales, in that they measure functioning and performance in various roles. There are some slight differences, however, in that level of functioning scales frequently assess presence of symptoms, which social functioning indicators do not. Also, social functioning scales often have a component measuring a person's satisfaction with his or her role performance. Thus, social functioning measures often include a "subjective" component that level of functioning measures do not.

Interest in social functioning measures began with the onset of deinstitutionalization in the 1960's when persons with psychological disorders were discharged from hospitals at increasingly high rates. Their ability to function in the community became a necessary concern for mental health professionals. Emphasis on social functioning was also related to the increased awareness of the effects that a mental disorder had on one's family, social contacts, and work, and that these factors could affect treatment and the course of the disorder (Weissman, 1975). In addition, social functioning has been considered an important component of adjustment at least since Freud's "Love and Work."

Katz and Lyerly (1963) were some of the first to attempt to measure social functioning. In developing a measure, they distinguished between different types of adjustment. They stated that adjustment is “a positive concept (that) implies the need to look for positive signs of coming to more satisfactory terms with the environment and oneself” (Katz & Lyerly, 1963, p. 506). Clinical adjustment is freedom from symptoms of psychopathology, and is made evident by a person’s complaints of symptoms and their social behavior. Adequate social functioning refers to fulfilling the responsibilities of the roles a person plays, at home, work, in the community, and in free-time activities. Katz and Lyerly (1963) consider social adjustment to be tapped by an evaluation of the client’s level of functioning at home and in the community by concerned parties in his/her life. Personal adjustment is the client’s satisfaction of functioning at home, work and the community, and the degree that s/he is not distressed by symptoms. The quality of social behavior is determined by the extent the client behaves towards others in characteristic ways, such as with hostility, independence, or a likelihood to withdraw.

Weissman (1975) defined social adjustment as “the interplay between the individual and the social environment” (p. 357). Everyone has roles to play, and these include specific ways of behaving in role-relevant situations. One is perceived by how s/he performs in the role as this behavior conforms to the norms of the group to which one belongs. The roles that an adult normally functions in are as follows: occupational, marital, as spouse and parent, extended family, friend and member of social groups, and in the community. Social adjustment involves interactions with others and a person’s

level of satisfaction and performance in roles. Social adjustment measures typically assess functioning in a number of these roles.

Social Functioning Scales

The Katz Adjustment Scale (Katz & Lyerly, 1963) was one of the earliest measures of social functioning, and it has been widely used. It includes scales that are completed by a significant other and scales completed by the consumer. The scales that are completed by the significant other comprise five sections: symptoms and social behavior (127 items), performance of socially-expected activities (16 items), the consumer's expectations for the performance of the activities (16-items), and the consumer's satisfaction with performance of free-time activities (23-item). The scales that the consumer completes are identical to the significant other scales, except that a 55-item symptom discomfort scale replaces the symptoms and social behavior scale. This measure has been found to have good reliability and discriminant validity. Internal consistency of the measures is reasonably high. Weissman (1975) reported that it provided a good assessment of the consumer's instrumental performance of family and recreational roles, but has little focus on role performance related to spouse, family and extended family.

The Self-Assessment Guide (SAG; Willer & Biggin, 1974) is a paper and pencil self-report measure used to assess community adjustment for persons with mental illness. It was intended to be completed by the client at admission to the hospital and at a follow-up time when the consumer has re-entered the community. It was designed as an evaluation of treatment outcome and to predict community functioning. The

questionnaire contains 55 items that cover seven areas: physical health, general affect, interpersonal skills, personal relations, use of leisure time, control of aggression, and financial support/employment. This measure consists of several domains, including an assessment of psychiatric symptoms, indicating that it is measuring more than social adjustment alone. The SAG was found to be a reliable measure and have good discriminant and criterion-related validity.

The Structured and Scaled Interview to Assess Maladjustment (SSIAM; Gurland, Yorkston, & Stone et al., 1972) was created as an outcome measure for outpatient psychotherapy. It assesses subjective distress, deviant behavior, and friction with others in the roles of work, (whether outside the home, as a homemaker, or as a student), social, family, marital, and sex. The measure includes questions about objective behavior in certain social contexts and subjective reactions to the context. The interviewer also makes a global assessment and a general prognostic measurement.

The Social Adjustment Scale (Weissman & Paykel, 1974) is a semi-structured interview and is a modified version of the SSIAM. The self-report version, (SAS-SR; Weissman & Bothwell, 1976) contains 42 questions measuring one's performance in roles related to relationships, work, and leisure activities. This instrument will be used in this study. It will be described in more detail at a later point in the paper.

Social Support and Social Support Measures

Social support is thought to be an important factor in achieving psychological well-being as well as maintaining physical health. Two of the important components of social support are the perception of the support and the provision of the support

(Procidano & Heller, 1983). The Perceived Social Support scale (PSS; Procidano & Heller, 1983) is an assessment of one's perception of social support, an aspect of so-called "functional" social support. "Structural" social support refers to the size and quality of a person's social network. Social support refers to those people in the individual's life who provide support, whether it is emotional or material. Assessments of social functioning measure similar concepts but without the strong focus on the size and quality of the relationships. Also, social functioning measures are concerned with role functioning in general, which extends beyond relationships.

The PSS assesses the social support that the respondent perceives others to play in an important and supportive role in his/her life. It consists of an assessment of perceived family support (PSS-FA) and perceived friend support (PSS-FR). Each scale contains 20 items that are answered either "yes," "no," or "don't know." Each scale has a range from 0 to 20 with a high score indicating greater support. Lyons, Perotta, and Hancher-Kvam (1988) examined the reliability and validity of the measure with subjects from three populations: chronic psychiatric patients, persons with diabetes, and college undergraduates. The measure was found to be both reliable and valid. The chronic psychiatric patients were found to report lower social support than the other groups.

Another measure of perceived social support is the Social Support Appraisals Scale (SS-A; O'Reilly, 1995), which is a subjective assessment of social support created specifically for inpatients. The Social Support Questionnaire (SSQ; Sarason et al., 1983) gathers information about network resources and satisfaction with social support. The

Inventory of Socially Supportive Behaviors (ISSB; Barrera, Sandler, & Ramsey, 1981) assesses the receipt of social support behaviors.

Although social network is an important aspect of one's well-being, and it is likely to have an effect on treatment, it is a component of an individual's life that is generally only indirectly affected by treatment. The size and quality of one's social network are likely most related to symptoms and functioning. Measuring symptoms and functioning would best capture the component important to mental health that is measured by the social network scales. The social adjustment scales, which focus to a greater degree on social functioning than the level of functioning scales, would capture an individual's involvement in a social network. In addition, network is generally considered an aspect of the "environment," not the person. Consequently, social support was not chosen as an aspect of the consumer's life to be measured.

Quality of Life

Quality of Life is different from the above areas of outcome measurement because it includes a subjective component in assessing a person's life. The above measures focus most on objective measures of the individual's life. Quality of Life considers both objective and subjective components.

In the Quality of Life literature, not only are there several different terms related to Quality of Life, some of which are used interchangeably, but also there are numerous definitions of QOL. A few are described here. Fallowfield (1990) considered Quality of Life to be a multi-faceted phenomenon that involves satisfactory functioning in four primary domains of psychological, social, occupational, and physical functioning.

Bigelow, Gareau, and Young (1990) considered Quality of Life to have a rather elusive quality, such that it is “an abstraction that integrates and summarizes all those features of our lives that we find more or less desirable and satisfying” (p. 349). Goodinson and Singleton (1989) defined it as “freedom of action, a sense of purpose, achievement in one’s work or family life, self-esteem, integrity and the fulfillment of some fundamental aspects of biological and psychological function” (p. 330). Oleson (1990) described it as “a cognitive experience manifested by satisfaction with life domains of importance to the individual and an affective experience manifested by happiness with important life domains” (p. 188). Zautra and Goodhart (1979) defined Quality of Life as “the goodness of life...both as subjectively evaluated and as objectively determined by an assessment of external conditions” (p.1).

Although there are slight differences in each of the definitions, most involve both subjective and objective aspects of a person’s life. Quality of Life is more than one’s feelings about his or her life but it is also related to what a person possesses in life. It is seen as different from life satisfaction and happiness because of its objective aspects. Life satisfaction and happiness are described in detail below.

Lehman (1996a) considered Quality of Life to consist of both subjective and objective features, involving a person’s subjective sense of well-being and objective measures of functioning and access to resources and opportunities. He created a model in which global well-being, which he appears to be equating with global Quality of Life, is determined by personal characteristics, objective Quality of Life indicators from the various life domains, and subjective Quality of Life indicators from each life domain

(1998). Lehman theorized that personal characteristics and the objective and subjective Quality of Life indicators each affect each other to determine global well being.

An important aspect of Oleson's theory is that it incorporates the values of the person in assessing Quality of Life. It takes into consideration what specific life domains the person assesses as important. Other measures evaluate the subject's satisfaction and functioning in specific life domains that are chosen by the measure's creator. An important question is whether there is a standard of a set of life domains that can be universally accepted as important aspects of life quality. In assessing the Seriously Mentally Ill population, this question is more complicated.

For example, some consumers, perhaps those with schizophrenia, may place an extremely low value on social contact. Yet, social contact is generally considered to be an important and "objective" aspect of having a well-rounded life. If a consumer has no social contact, but reports that he or she is satisfied with the level of socialization, can this person be considered to have a good Quality of Life? Is our goal to provide and encourage persons with mental illness to lead lives as similar as possible to "normal" people, those who are used as a reference group for "objective" externally defined measures of outcome? These questions must be kept in mind when choosing a Quality of Life measure.

Quality of Life Measures

Quality of Life measures are found in both interview and self-report formats. One of the most prevalent measures in the literature is the Quality of Life Interview (QOLI; Lehman, 1988), which is a structured interview. Lehman (1988) created the Quality of

Life Interview using the model, noted above, that personal characteristics and objective and subjective Quality of Life indicators from each life domain determine global well-being. The QOLI was created specifically to assess persons with psychiatric disorders during a stay in a hospital or residential facility. A disadvantage of the QOLI is that it does not consider the respondent's assessment of the importance of each life domain. The QOLI asks for both objective and subjective information. Information is gathered about demographics, general life satisfaction, and objective life conditions or level of functioning, as well as satisfaction in each of the nine life domains: work/education, leisure/participation, religion, finances, living situation, legal and safety, family relations, social relations, and health.

The Lancaster Quality of Life Profile (Oliver, 1991-1992) and the Oregon Quality of Life Questionnaire (Bigelow et al., 1982) are similar measures, and Lehman (1996) considers these, as well as his own, to be ideal measures to use. Both of these measures cover similar domains as the QOLI and similarly examine subjective and objective indicators. They are sound psychometrically, have been tested on samples of seriously mentally ill patients with high percentages of patients with schizophrenia, and are based on comprehensive Quality of Life models (Lehman, 1996a). The Oregon Quality of Life Questionnaire (Bigelow Brodsky, Stewart, & Oleson, 1982) was developed to assess consumers receiving mental health services. The measure is based on the theory that Quality of Life derives from a person's subjective life satisfaction and fulfillment of his or her needs but also their ability to respond to the expectations of society. Quality of

Life is achieved when a person can meet the demands of life and consequently achieve fulfillment and satisfaction (Bigelow et al., 1982).

The Heinrichs-Carpenter Quality of Life Scale (Heinrichs, Hanlon, & Carpenter, 1984) was created to assess patients with schizophrenia and requires more training for the clinician than the other instruments mentioned here. It was specifically developed to assess areas of life that are negatively affected by “negative symptoms” or “deficit” forms of schizophrenia. The topics covered are more relevant to the functioning and experiences of those with schizophrenia, such as anhedonia, motivation, social withdrawal, emotional interaction, etc. The four domains of the measure are Intrapsychic Foundations, Interpersonal Relations, Instrumental Role, and Common Objects and Activities.

The California Well-Being Project Client Interview (CWBPCI; Campbell, Schraiber, Temkin, & ten Tusscher, 1989) was designed and conducted by mental health care consumers and this measure is dramatically different from the other Quality of Life measures addressed here. The survey questionnaire has different versions for consumers, family members, and mental health professionals and consists mainly of Likert scale questions and some open-ended questions. There is a wide range of topics covered, but the obvious unique features of this measure is the focus on consumer rights, psychosocial stigma, quality of services, and other aspects of the consumer’s experience. Because it was created by consumers, it appears to be more relevant to the consumer’s experience; however, there is little psychometric data on this measure.

Frisch's Quality of Life Inventory will be discussed below. Although its title indicates that it assesses Quality of Life, it is better described as a measure of subjective well-being.

Quality of Life and Other Aspects of Mental Health

In measuring the Quality of Life of persons with serious mental illness there are questions as to how much the disorder affects the quality of the life. This is an important concern in the consideration of including a QOL measure in the assessment of mental health services. If it was the case that QOL was completely affected by an individual's psychiatric disorder, then a measure of QOL would not provide any additional information about the individual's functioning and stability than a measure of symptoms. Indeed, a serious mental illness can affect every aspect of a person's life. In a comparison of the QOLI to a measure of mental health (The Rand Health Insurance Study Mental Health Battery), Lehman (1983) found that there was a strong correlation between global subjective Quality of Life indicators and the psychopathology indices. However, a factor analysis indicated that the global subjective Quality of Life indicators and the psychopathology indices represented two distinct constructs. Furthermore, when compared to the psychopathology indices, the factor analysis determined that the domain-specific subjective Quality of Life indicators are more distinct than the global subjective Quality of Life indicators. This suggests that global Quality of Life is more related to mental health, whereas the domain-specific indicators are more specific to the Quality of Life in that area of one's life. Using regression analysis, it was found that psychopathology does not significantly affect objective and subjective Quality of Life

indicators. However, measures related to health, including perceived health, health satisfaction, and utilization of health services were affected by level of psychopathology. These findings suggest that a psychiatric disorder does not necessarily pervade all aspects of one's life.

Two different studies examined the relationship between Quality of Life and psychopathology and found slightly different results (Kaiser, et al., 1997; Packer, Husted, Cohen, Tomlinson, 1997). Comparing the QOLI with the Brief Psychiatric Rating Scale, Kaiser et al. (1997) found that psychopathology was the only robust predictor of subjective Quality of Life, but overall its impact was moderate. Packer et al. (1997) also found that the total BPRS score was negatively correlated with the global life satisfaction score and the sum of the subjective measures. Negative symptoms were negatively correlated with both global life satisfaction and subjective Quality of Life, but positive symptoms negatively correlated with global life satisfaction only. Level of psychopathology was negatively correlated to the specific domains of leisure activities, social relations, health care utilization and requirements, and personal safety. However, psychopathology was not correlated with any of the objective indicators of Quality of Life. These findings suggest that the presence of psychiatric symptoms does affect Quality of Life, if only the subjective indicators.

Other Correlates of Quality of Life

The relationship between psychopathology and QOL is an important consideration in a proposal to evaluate mental health services such as this. However, there are additional factors to be considered in assessing QOL with a population with serious and

persistent psychiatric disorders. The majority of individuals who receive services at a community mental health center are considered by the government to have a disability and receive government assistance on which they live. This assistance may include monthly payments from Social Security, housing assistance from the local housing authority, and Medicare or Medicaid benefits for their health care, and food, clothing, and furniture from local charitable organizations. Although this assistance provides them with their basic needs, it does not provide these necessities to such a degree that these individuals would hold a high standard of living. Because many people receiving services from a community mental health center are living under these conditions, the relationship between QOL and standard of living is a necessary consideration if QOL is to be used to evaluate mental health services.

One study of the relationship between standard of living and Quality of Life was conducted with schizophrenic patients (Skantze et al., 1992). Using the Standard of Living Questionnaire (SOL-I) the domains of housing, access and use of community services, activities, employment, social network, and dependence on others were measured. The Quality of Life Self Assessment (QLS-100) is another Quality of Life measure and it measures satisfaction with housing, environment, knowledge and education, contacts, dependence, inner experiences, mental health, physical health, leisure, work and religion. These authors (Skantze et al., 1992) found that there was no significant association between subjects' overall perception of their Quality of Life and their total standard of living. There was no significant correlation of the subscales of Quality of Life and standard of living. Subjects reported an unsatisfactory Quality of Life

in the areas of mental health, inner experiences, contacts, and work. Older and more educated subjects had a lower Quality of Life and subjects that were employed had a higher Quality of Life.

Sullivan, Wells, and Leake (1991) examined the Quality of Life of persons with serious mental illness living in Mississippi. Most of the subjects lived in rural areas, primarily with their families, and their mean monthly income was \$340, which is well below the poverty line. Interviewers used questions from the Lehman Quality of Life Interview to rate Quality of Life. Despite their extreme poverty and other factors that would indicate a poor Quality of Life objectively, the subjects reported having a relatively high subjective Quality of Life in the areas of living situation, health, and life in general. These subjects reported dissatisfaction with social life and finances. Many of the subjects lived with their families, but this factor did not improve the objective ratings of Quality of Life. Many of the families were also living in poverty; in nearly half of the families that had a subject residing with them, there was not one family member who had been employed in the last year. The authors (Sullivan, Wells, & Leake, 1991) suggested that the relatively high ratings of subjective Quality of Life were attributed to emotional or social support that they received from their families.

The findings from these two studies suggest that Quality of Life is not significantly affected by a standard of living. The limited relationship between Quality of Life and standard of living and psychopathology suggests that Quality of Life is a useful measurement in the evaluation of mental health services.

Another interesting finding with regard to Quality of Life has to do with the relationship between global quality of life indicators and self-fulfillment. Levitt, Hogan and Buckosky (1990) used the QOLI in a day treatment program with some changes in the measure to best suit their purposes. Among these changes were six added items that constituted the scale “self-fulfillment.” The scale assesses self-esteem and sense of purpose. These authors (Levitt, Hogan, & Buckosky, 1990) found that the Self-Fulfillment scale had excellent internal consistency and was highly correlated with the two measures of global well being (GWBa and GWBb). A multiple regression analysis indicated that GWBa and the Self-Fulfillment scale are similar constructs.

Lehman’s measures of global well-being appear to tap into some subjective measure related to feelings about oneself. This suggests that a very important aspect of Quality of Life is the subjective component of an individual’s life. Quality of Life measures often assess satisfaction and in this way it overlaps with subjective well-being. This study used the Quality of Life Inventory (QOLI; Frisch, 1994a) which is a subjective satisfaction measure.

The subjective well-being measures are different from the Quality of Life measures because they only consider how the individual views his or her own life. Subjective well-being could be considered as the subjective component of Quality of Life because it is defined by how the evaluation of the various life domains of one’s life. As there are no Quality of Life measures that are self-report with good psychometric properties, a measure of Quality of Life could be created by using a measure of subjective

well-being and a measure of functioning. A functioning measure could nearly replicate the objective aspects of Quality of Life.

Subjective Well-Being

Subjective well-being is a concept that is closely related to Quality of Life. However, subjective well-being, with its related terms of happiness, satisfaction, morale, and positive affect, does not have the objective component that Quality of Life has. Some consider life satisfaction and happiness as the same concept but many discriminate between the two concepts. Happiness is considered to be an affective experience whereas subjective well-being is considered a cognitive experience. Life satisfaction is generally equated with subjective well-being. Diener (1984) defined subjective well-being as being determined by the standard that the individual uses to evaluate his or her life. The individual uses his or her own criteria to determine the level of life satisfaction. Subjective well-being is a global assessment of the various life domains such that the individual takes everything into consideration when making the judgment of his or her well-being (Diener, 1984). Diener (1984) considered life satisfaction to involve a cognitive process of judging one's own circumstances in comparison to some appropriate standard. A slightly different definition of life satisfaction is that it is a cognitive experience in which an individual assesses his or her own progress toward desired goals (George, 1979). Frisch (1994b) considers life satisfaction to be more stable than happiness: it is considered to be a cognitive experience where it is judged that one's needs, goals, and wishes have been fulfilled. Happiness is defined as a greater amount of positive affect than negative affect (Bradburn, 1969). This is sometimes termed "affect

balance.” George (1979) defined happiness as the affect that people feel toward their current life.

Measures of subjective well-being are correlated to some extent with demographic factors like income and race and other factors such as self-esteem and social contacts. However, each of these factors, whether demographic, behavioral, biological or personal, accounts for only a small proportion of the variance. These findings indicate that subjective well-being is determined by a large number of variables (Diener, 1984).

Frisch’s Quality of Life Theory (1994b) is actually a theory of subjective well-being. It combines both cognitive and affective aspects of subjective well-being. Life satisfaction and negative and positive affect are each considered to be components of subjective well being. The affective aspect of subjective well being is determined by the cognitive judgments of life satisfaction. Frisch equates life satisfaction with Quality of Life, and for him both of these terms refer to the subjective evaluation of the degree to which the person’s most important needs, goals, and wishes have been fulfilled. Frisch (1994b) determines life satisfaction by the difference between what a person wants and what a person has.

Subjective Well-Being Measures

Several measures evaluating subjective well-being consist of a single question, such as Andrews and Withey’s (1976) D-T Scale. The subject is asked, “How do you feel about how happy you are?” and must choose a response from a seven point scale ranging from “delighted” to “terrible.” These single-item scales have several problems: (1) scores tend to be skewed, generally in the direction of the happy categories; (2) the

single-item cannot cover all aspects of SWB; (3) and it is determined by the subjects ability to integrate the aspects of their lives that make up SWB (Diener, 1984).

Bradburn's Affect Balance Scale (1969) was one of the first measures of subjective well-being and is based on his hypothesis that happiness is a global judgment that people make by comparing their negative affect to their positive affect. It consists of five questions about negative affect and five questions about positive affect. Bradburn found that negative and positive affect were relatively independent of each other, a controversial finding that has been examined in great detail. Diener (1984) concluded that in a specific moment in time, positive and negative affect are related to each other, but *average* levels of positive and negative affect are independent. The average examines the levels of affect over time and includes the frequency that the emotion was felt and also the intensity. In an examination of the psychometric properties, the Affect Balance Scale was found to have modest internal consistency and test-retest reliabilities. Additionally, it was found to have low convergence validity when compared to other measures of subjective well-being.

The Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffen, 1983) was created to be a cognitive evaluation of a person's life as a whole. The SWLS was found to have good reliability and validity. It showed good test-retest reliability, high internal consistency, and good convergence with other measures of subjective well-being. The SWLS had a lower correlation with the strictly affective measures but had high correlations with other measures of subjective well-being. This finding supports the

author's theory that subjective well-being is a cognitive evaluation of a person's life rather than a measure of positive affect (Larsen, Diener, Emmons, 1985).

The Quality of Life Inventory (Frisch, 1994a), despite the term "Quality of Life" in its name, is actually a measure of life satisfaction by the definitions used here. Unlike the Quality of Life measures, which contain both subjective and objective components, the Quality of Life Inventory contains only a subjective component. It assesses one's satisfaction in 14 life domains. This measure, unlike the others described above, takes into consideration the importance that the individual places on each of the life domains. It will be employed in this study and will be described in further detail later in the paper.

Consumer Satisfaction

Like subjective well-being, consumer satisfaction is a subjective experience of the individual. However, rather than evaluating each aspect of his or her life, the individual evaluates the services that he or she has received. One theory of satisfaction is that it relates to the degree of discrepancy between expectations and experience, although a problem that occurs in assessing satisfaction with services relates to the degree that the individual is realistic about his or her expectations of the services they are to receive (Stallard, 1996). Lebow (1982) defined satisfaction as the "extent to which treatment gratifies the wants, wishes, and desires of clients" (p. 244). There is some disagreement about the underlying dimensions of satisfaction. Larsen et al. (1979), using the Client Satisfaction Questionnaire-8 (CSQ-8), found one factor. Others, however, have found consumer satisfaction to be multi-dimensional with these factors varying from seven to

four. All of the multi-dimensional models contained a general satisfaction factor and then several specific factors.

Consumer satisfaction has become increasingly prominent as an outcome measure for mental health services in the last several decades (Lebow, 1982). This greater concern with consumer satisfaction is related to the increasing importance of service evaluation as third party payment has become a common method of payment of services, and as society has become more consumer-oriented. A related trend is the transition to using the term “consumer” as opposed to patient or client. This paper follows this trend in sometimes using the term “consumer.”

Stallard (1996) outlines several concerns related to evaluating consumer satisfaction. One consideration is that those who are called “consumers” are not necessarily the only or direct consumer of the services. Some third party payer, such as an employer or the federal government, is likely purchasing the services. Furthermore, there may be more than one direct consumer with therapies such as family, couple or group work. There may be numerous indirect consumers also, such as relatives, referrers, and other agencies. Studies of satisfaction with mental health services most often assess the individual receiving the services rather than the indirect recipients.

Another concern relates to consumer’s ability to evaluate their services. Some argue that because of the very nature of their need for services (some psychological impairment) mental health consumers are unable to judge the interventions they receive. A similar concern is that consumers do not have the ability to assess interventions that are complicated or highly technical.

Another issue central to this domain of consumer satisfaction is social desirability. In assessing consumer satisfaction, there is a rather common trend of high levels of satisfaction reported by respondents (Larson, Attkisson, Hargreaves, & Nguyen, 1979; Lebow, 1982; Stallard, 1996). There are several ways of interpreting these findings. These favorable results may be in response to demand characteristics and due to concerns about how their responses may affect their services in the future, or these responses could be taken at face value as an affirmation of the success of the services (Larsen et al., 1979; Lebow, 1982).

Larsen et al. (1979) make several suggestions to gather further information about satisfaction and dissatisfaction to make the satisfaction data more useful. Comparing the reports of satisfaction of different groups of consumers will indicate sections of the consumer population who are more dissatisfied with services. There may be differences in satisfaction based on types of services received. Dissatisfaction may be greater in a specific aspect of the service. In addition, assessing satisfaction at multiple time periods may indicate shifts in satisfaction concurrent with program changes. Finally, Larsen et al. (1979) suggest gathering behavioral information about satisfaction using other methods, such as dropout rates and missed appointments, to augment the questionnaire data.

Despite the concerns such as social desirability and a consumer's ability to evaluate their services, the assessment of a consumer's satisfaction is important. Lebow (1982) suggested that some satisfaction with services is necessary for treatment because without satisfaction, the consumer will not attend sessions and treatment will not occur.

Stallard (1996) suggested that an important objective of consumer satisfaction is to use this information to make improvements in services. Forced-choice self-report measures may not provide enough detailed information to lead to service changes. In addition, open-ended questions can lead to suggestions for improvement in the services. It may be important to gather further information regarding satisfaction with services beyond a pencil and paper questionnaire.

Consumer Satisfaction Measures

As stated above, the assessment of consumer satisfaction is a relatively recent trend. For this reason there are few standardized methods to measure satisfaction with services (Stallard, 1996). Although there are numerous methods of measuring satisfaction, such as with focus groups, semi-structured interviews, and suggestion boxes, the questionnaire is the most common method.

Satisfaction is sometimes measured in unobtrusive ways, such as measuring utilization. Some examples of these are the regularity of attendance, promptness for sessions, or rate of early termination from treatment (Lebow, 1982). These are indirect measures of satisfaction, however, and may be a reflection of other factors, possibly personal characteristics, rather than satisfaction.

One measure of consumer satisfaction is the Client Satisfaction Questionnaire (CSQ-18; Attkisson & Zwick, 1982). The eight-item version of the CSQ-18 has been found to be a reliably and valid measure that has the advantage of being extremely brief. This measure will be used in the study and will be discussed in greater detail later in the paper.

Measuring consumer satisfaction is an important aspect of evaluating mental health services. As with other service industries, the satisfaction of the recipient of the services must be an important goal in mental health treatment. For this reason, it is necessary to include a consumer satisfaction measure as part of a suite of measures in evaluating mental health services. The components of absence of symptoms, level of functioning, Quality of Life, subjective well-being, and consumer satisfaction each provide a necessary picture of the effectiveness and quality of services provided to consumers of mental health services.

The Present Study

This study examined the psychometric properties of a suite of measures that consisted of the Symptom Checklist-90 Revised, the Social Adjustment Scale-Self Report, the Short Form-36, the Quality of Life Inventory, and the Client Satisfaction Questionnaire-8. Two different samples were used: undergraduate students of Introductory Psychology and consumers of mental health services at several mental health centers in the state of Montana.

In examining the psychometric properties of these measures, the following hypotheses were tested:

(1) The measures are expected to be moderately intercorrelated, with certain patterns of correlations between measures. The dimension structure derived from the correlations indicates that there is some overlap between measures, yet that there are certain distinct factors being measured. More specifically, the measures are predicted to

have four factors: Absence of Symptoms, Functioning, Happiness, and Satisfaction with Services .

(2) The measures will demonstrate discriminant validity. The undergraduate student sample will have higher scores in life satisfaction, social functioning, and lower scores on report of symptoms compared to the consumers of mental health services.

Method

Subjects

Two groups of subjects were used for the study: college students and consumers of mental health services. All subjects signed an informed consent to participate in the study.

College Students

There was a total of 228 subjects drawn from the Psychology 100 subject pool. This pool consists of undergraduate students enrolled in the introductory psychology course at the University of Montana, a state university in a relatively rural area. Students in the course are required to be involved in an experiment for a specific number of hours as part of the course expectations. Of this total, the data from 17 subjects were discarded due to incomplete responses on the back page of the SCL-90. The demographic information for the student subjects is presented in Table 1.

Consumers of Mental Health Services

The clinical sample consists of forty subjects who are consumers of mental health services at several mental health centers in the State of Montana. Originally, these consumers were to be participants in an employment support program for consumers of

mental health services. The Montana Rural Mental Health Employment Initiative is a federally-funded employment program conducted by the Rural Institute on Disabilities. Employment support is provided to consumers receiving mental health services through the regional Mental Health Centers in four rural and remote towns in Montana. These towns are Miles City, Conrad, Livingston, and Stevenson. The grant was designed in two stages: the first was to develop community support and structures to aid in the employment of people with serious psychological disorders and the second stage was to assist and support consumers in seeking employment. Due to complications with the project, many of the sites were working on the first stage of the process at the time of the study, and there were few consumers who were identified as seeking employment. Consequently, the consumer subjects were a mix of consumers interested in employment or already employed in some manner, consumers who were as yet undecided about seeking employment, and consumers uninterested in employment. Because of this combination of consumer subjects, there was not a control group composed of consumers not involved in employment support services.

The demographic information for the consumer subjects is presented in Table 1. Consumers were also asked about their living situation and the services that they receive, information that is presented in Table 2.

Measures

Symptom Checklist-90-R

The Symptom Checklist-90-Revised (SCL-90-R; Derogatis, Lipman, & Covi, 1973) is a self-report paper and pencil measure of an individual's experience of

psychological symptoms within the previous two weeks. The advantages of this widely used assessment tool are that it can be used with both psychiatric and medical patients and with non-patients. Additionally, it can be completed quickly with little time spent in instruction. The SCL-90 can be used as both a screening measure and measure of outcome.

The nine primary symptom dimensions are as follows: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism. It also includes three global indices of distress that were designed as a single-score indicator of the individual's distress. The Global Severity Index (GSI) is the best single indicator of the level of distress or the depth of the disorder. It is determined by both the number of the symptoms endorsed and the intensity of the distress perceived by the individual. The Positive Symptom Distress Index (PSDI) is a measure of symptom intensity. It is the average level of distress indicated for the symptoms that were endorsed. The Positive Symptom Total (PST) is the total number of symptoms endorsed by the respondent and is an indicator of the breadth of the symptoms.

The SCL-90 has been shown to have good reliability and validity (Derogatis, 1994). Two studies examined the internal consistency of the scale and found the reliability to be as low as .77 for Psychoticism in one study and .79 for Paranoid Ideation in the other study. Both studies found the highest reliability on the Depression scale ($r = .90$). These results indicate that the SCL-90 has excellent internal consistency. Test-retest reliability was found to be good when measured over a one-week period ($r = .80-.90$). An analysis of its internal structure found it to be closely matched with the nine

primary symptom dimensions. Convergent validity occurs when the measure shows good correlations with an independent measure of the same construct. Discriminant validity occurs when the measure shows little or no correlation with measures of dissimilar constructs. The SCL-90 was found to have convergent-discriminative validity with the appropriate scales of the MMPI. Studies have examined the concurrent validity of the depression dimension with scales solely measuring depression, such as the Hamilton Rating Scale for Depression and the Beck Depression Inventory, and have shown a strong correlation. A high concordance was found between the SCL-90 and the Social Adjustment Scale-Self-report. It also has been found to have good predictive validity.

In the present study, scales with missing data on too many items were considered missing. On items that were double-marked with responses that were consecutive (i.e., 0 and 1, or 3 and 4) were assigned intermediate scale values.

Short Form-36 Health Survey

The Short Form- 36 Health Survey (SF-36; Ware & Sherbourne, 1992) is a 36-item self-report measure of general health status. Respondents assess their own health in these areas: limitations in physical activities because of health problems; limitations in social activities because of physical or emotional problems; limitations in usual role activities because of physical health problems; bodily pain; general mental health, meaning psychological distress and well-being; limitations in usual role activities because of emotional problems; energy and fatigue; and general health perceptions.

The SF-36 was created out of a study by the Rand Corporation of alternative methods of financing health care in the United States (Ware, Brook, Williams, Stewart, &

Davies-Avery, 1980). The original measure of general health was 108 items. From this lengthier measure, a 20-item instrument was created and from this 20-item measure, the SF-36 was created. The creators chose to represent the health concepts that are most frequently used in health surveys, as well as additional concepts of bodily pain and vitality. Most of the items chosen for the SF-36 were adapted from instruments that had been used for 20 to 40 years or longer. Positive aspects of the SF-20 remained with the SF-36 although some improvements were made. Some of the Likert scales used by the respondent were lengthened to make the measure more precise. Furthermore, the measure can distinguish between role limitations due to physical or mental health problems.

There are numerous advantages of the SF-36 over other health surveys. It was created to assess the patient's point of view of their health, which is an important, and somewhat neglected aspect of medical care outcomes. This provides greater information about outcomes than the traditional measures of morbidity and mortality by examining the effects of a treatment on aspects of one's life such as functioning and well-being. In addition, because the SF-36 is a general health survey rather than specific to one illness or disorder, it can be used with a variety of medical disorders and respondent's health functioning can be compared (Ware & Sherbourne, 1992). The SF-36 is a short measure so that it can be completed quickly and easily by patients, in approximately five minutes. Finally, it was found to have good reliability and validity, as will be reviewed below.

Several studies have examined the reliability and validity of the SF-36. Brazier et al. (1992) examined the psychometric properties of the SF-36 in a postal survey in Britain. This study compared the SF-36 to the Nottingham health profile (Hunt,

McKenna, & McEwen, 1989), a lengthier general health measure widely used in Britain. The SF-36 demonstrated excellent internal consistency, with Cronbach's alpha above 0.8 for all scales except the social functioning scale, (alpha = 0.73) which was still within an acceptable range. It was also found to have good test-retest reliability at a two-week follow-up.

In the same study, the measure demonstrated construct validity by distinguishing between groups with expected health differences. Demographic information regarding sex, age, social class, use of health services, and presence of chronic disease was also gathered. Scores of respondents corresponded with expected results. Men perceived themselves are healthier than women on all scales except for the general health scale. Difficulty with physical functioning and pain increased with age although there was no increase in mental health concerns with age. Health decreased with social class on all scales except for general health perception. Patients who had consulted a general practitioner in the past two weeks showed poorer perceived health compared to those who had not consulted a physician. Individuals in this group who had been diagnosed with a chronic illness perceived their health as worse on all dimensions. Convergent and discriminant validity was found with greater correlation coefficients for four comparable dimensions between the SF-36 and the Nottingham health profile than correlation coefficients for non-comparable dimensions.

Jeckinson, Coulter, & Wright (1993) conducted a postal survey in England with 9332 respondents (a good response rate of 72%) to examine the normative data of the SF-36. In addition to gathering normative data, this study examined the reliability and

validity of the measure. The SF-36 showed to have good internal consistency, with all scales demonstrating an alpha value above 0.8, except for the social functioning scale which demonstrated an alpha level of 0.76, still in the acceptable range. These internal reliability findings are consistent with the Brazier, et al. study (1992). The findings of construct validity were comparable to the Brazier study with respondents with chronic illness having lower scores than those without chronic illness. These authors find that the SF-36 is a reliable and valid measure that is easy to use and acceptable to patients. Because it is a generic measure, it is suggested that the SF-36 be used in addition to a measure to specific to medical condition under examination.

Another study in Scotland assessed the reliability, validity, and acceptability of the SF-36 when used with patients with four types of medical conditions: low back pain, menorrhagia, suspected peptic ulcer, and varicose veins (Garratt, et al., 1993). In addition to examining internal consistency and construct validity similar to the above studies, a confirmatory factor analysis was conducted to examine the agreement between the hypothetical factors that make up the measure and the scales designed to assess these factors. The factor analysis identified five factors that correspond with the scales of the measure, indicating excellent validity. The high response rate of 75% suggests that this measure is acceptable to patients. The SF-36 showed significant differences between the general population and patients with the medical conditions. Differences were also found between referred and non-referred patients; referred patients consistently scored lower on all eight scales than non-referred patients with the same condition, with a minor exception.

In this study, the subscales of Physical Functioning, Role-Physical, Bodily Pain, General Health Perceptions, Vitality, Social Functioning, Role-Emotional, and Mental Health were scored according to guidelines (Ware, Snow, Kosinski, & Gandek, 1993). In addition, two summary scales, Mental Health and Physical Health, were computed according to the manual's scoring guidelines (Ware, Kosinski, & Keller, 1994).

Quality of Life Inventory

The Quality of Life Inventory (QOLI; Frisch, 1994a) is a self-report measure of one's satisfaction in the following life domains: self-esteem, goals-and-values, love, children, relatives, health, play, work, creativity, helping, neighborhood, money, friends, and home. For each domain, the subject rates how important the life domain is to his/her overall happiness, and then rates satisfaction with that life domain. A "weighted satisfaction rating" is computed that considers the importance of each life domain as rated by the respondent in the determination of life satisfaction.

The advantages of this measure are that it takes little time to complete and can be used by patients in both medical and mental health settings, as well as with non-patients. It was designed to be used both for treatment planning and as a measure of treatment outcome (Frisch, 1994b). The measure was found to have good test-retest reliability (.73) over a period of two weeks. It was also found to have good internal consistency reliability for the sum of the weighted satisfaction ratings (coefficient alpha = .79). The convergent validity was measured by comparing the QOLI with two other life satisfaction measures. It was found to be significantly correlated with the Satisfaction with Life Scale (SWLS; $r = .56$) and the Quality of Life Index ($r = .75$). The tool's sensitivity to clinical

treatment was measured in a small study of clients receiving cognitive behavioral bibliotherapy for 15 weeks. Clients completed the QOLI before treatment, immediately after treatment, and at a one-month follow-up. Significant differences were found between pre-treatment and post-treatment, and pre-treatment and follow-up. There were no significant differences found for post-treatment and follow-up. These results indicate that the QOLI is a measure that is sensitive to change.

Social Adjustment Scale, Self-Report

The SAS-SR, the self-report version of the Social Adjustment Scale, is a 42-item assessment tool measuring affective and instrumental performance in occupational role, social and leisure activities, relationship with extended family, marital role, parental role, family unit, and economic independence. The respondent is asked to consider the last two weeks when answering the questions. The items generally fall into four major categories: the client's performance at expected tasks, the amount of friction with others, interpersonal relations, and inner feelings and satisfactions. The client rates each question on a five-point scale, with the highest score indicating greatest impairment. The questionnaire usually takes 15 to 20 minutes to complete. A mean for each role is obtained by summing the scores of each item for that area. Also, an overall adjustment score is obtained by summing the scores of all the items and dividing by the number of items completed.

To investigate the reliability of a self-report measure of social adjustment, Weissman and Bothwell (1976) had clients complete the SAS-SR, a clinician rate the client using the SAS, and asked a significant other to rate the client using the SAS-SR.

The participants were depressed outpatients, and the significant other was usually the spouse. Significant correlations were found for each of the role areas with excellent agreement (.72) for the overall adjustment scale. The correlation between client- and significant other-ratings was slightly higher (.74) than the client- and clinician-ratings. In this same study, the ratings were completed at several time periods: pretreatment, at the height of illness, and four weeks after treatment. The SAS-SR proved to be sensitive to change and the score indicated greater adjustment as symptoms decreased.

Because the SAS-SR was originally created for outpatient clients with depression, Weissman et al. (1978) examined the measure's psychometric properties with a community sample and three psychiatric outpatient samples. The psychiatric samples were made up of persons with depression, schizophrenia, and alcohol abuse. The measure was shown to have concurrent validity, demonstrated by the lower scores (which indicated greater adjustment) for the non-psychiatric community members compared to the clients from the psychiatric populations. Limitations of the measure were discovered in the reports of the clients with schizophrenia and alcohol abuse. These clients often were not employed, unmarried, and did not have children, and therefore they could not complete the items corresponding to those roles. Absence of performance of these roles does not affect the overall adjustment score because unmarked items are not considered in the overall adjustment score.

Problems may occur with the scale when a client who has begun employment after rehabilitation. The client may be performing the job at an impaired level but this would be considered an improvement in adjustment compared to holding no job.

However, the client may rate him/herself with a poor level of performance and the mean scale score would indicate maladjustment rather than the improvement. Edwards et al. (1978) found the SAS-SR to have high internal consistency (mean alpha coefficient = .74) and reasonable high test-retest stability (mean coefficient of .80 across two time periods.)

For use in this study, some minor changes in the wording of questions in the SAS-SR were made to eliminate any assumptions of gender. “Housewives” was changed to “homemaker” and “person of the opposite sex” was changed to “romantic partner.”

Client Satisfaction Questionnaire-8

The Client Satisfaction Questionnaire (CSQ-18; Attkisson and Zwick, 1982) is a measure of consumer satisfaction. This is an 18-item self-report measure of satisfaction with mental health services. An eight-item version was created as a shorter measure. The CSQ-18 and CSQ-8 were found to have excellent internal consistency, with the alpha values of .91 and .93 respectively. The CSQ was compared to several service utilization measures of clients at an urban community mental health center receiving therapy. Remainder-terminator status, referring to whether the client was still in therapy one month later, was significantly correlated with the CSQ-18 and the CSQ-8. Likewise, the number of therapy sessions attended in one month was significantly correlated with the two measures. The client rated services as more satisfactory if they were still receiving therapy and with more sessions of therapy they received. The two measures were compared to therapist ratings of change in symptom level and global functioning but there was no relationship found. However, the CSQ-18 and CSQ-8 were correlated with

change in symptoms as reported by the clients. The CSQ-8 was correlated with client and therapist ratings of improvement. The authors (Attkisson & Zwick, 1982) recommended the CSQ-8 as a brief global measure of client satisfaction.

This measure was modified slightly for the undergraduate students because all students have not necessarily used the student health services on campus. All students do receive some type of academic advising service, whether it is the freshman orientation before the start of school or the meeting with an advisor before the start of each semester. In the brief directions of the CSQ-8, students were asked to rate the student orientation and advising services at the University of Montana. There were minor changes in some of the questions to reflect advising services rather than mental health services. The student version of the CSQ-8 is presented in Appendix 1.

Presentation of Measures

The measures were presented in an easy-to-use format with a specially designed NCS scannable answer sheet. Individuals rated their responses to the demographic information, the CSQ-8, the SAS-SR, and the SF-36 on a one-page answer sheet. Subjects completed the QOLI and the SCL-90 on separate pages.

Procedures

The undergraduate students were scheduled in groups of 40 or more for an hour-long period to complete the questionnaires. They were given brief instructions about consenting to the experiment and were oriented to the packet of questionnaires and the answer sheet. After completing the questionnaires, subjects were given a copy of the consent form and a debriefing statement describing the study.

All of the consumer subjects were provided with a brief explanation of the study, including assurance that their responses were to remain confidential and would not be given to their service providers. Each subject signed a consent form and were given a copy of the consent form which contained information about contacting the experimenter and the thesis chair. The subjects were chosen in slightly different manners. The experimenter traveled to Livingston and Miles City Montana to attend the day treatment program. At these sites, the project was introduced by the day treatment staff. Consumers then volunteered to be involved. The majority of the consumers completed the measures in the researcher's presence with some assistance in answering questions and explaining the scannable answer sheet. Several subjects from Livingston completed their measures after the investigator left and returned them. In Miles City there were several consumers who required assistance by day treatment staff and the experimenter in reading the questions and completing the scannable answer sheet. Two of these subjects had a dual diagnosis of a psychological disorder and a developmental disability, and the third subject was an elderly woman with neurological problems due to a stroke. One subject completed half of the measures and then refused to continue or sign a consent form. This data was not used in the study.

The experimenter also traveled to Conrad's day treatment program. This program had few people attending on that date and consequently the only consumer who completed the measures was an individual who was receiving employment support through the Montana Rural Mental Health Employment Initiative. This subject completed the measures with assistance by day treatment staff and mailed in the data.

Subjects from Great Falls were receiving employment support through the mental health center. The consumers were asked by employment support staff if they were interested in being involved in the study. They met at the employment support offices at a specific time and completed the measures in my presence. These consumers were offered donuts and coffee.

Subjects from Stevensville/Hamilton were recruited in a similar manner. Because Hamilton does not have a day treatment program or the facilities for consumers to gather in one place, consumers were asked by mental health center staff to be involved. They gathered at the Hamilton Public Library and were offered cookies and punch. One subject finished the measures on his own and mailed his data.

Nine consumers from Missoula were recruited by posting an announcement of the research project at the case management facilities. Consumers who were interested signed up at these facilities and were later called by the experimenter to arrange the meeting time at the case management office to complete the measures. These subjects received \$5 to cover their costs of transportation.

Analyses

The statistics used were Pearson Product-moment correlations to test the relationships among measures. An independent sample t-test was used to assess group differences. A Principal Components Analysis of the scales was conducted on the college sample.

The data from the undergraduate sample was used in examining the psychometric properties of the group of measures. Pearson Product-moment correlations were used to

find the intercorrelations of each measure with each other. Internal consistency is the extent to which items within a scale are correlated with each other. Cronbach's alpha was used to measure the internal consistency of each measure. Internal consistency of the two aggregate SF-36 scales was computed using a formula for determining the reliability of weighted sums of scales. A Principal Components Analysis was used to identify the factor structure of the combined measures.

Independent Samples t-tests were used to compare the scores of the undergraduates students and the consumers of mental health services.

Power Analyses and Sample Size

With regard to evaluating correlations among 40 consumers and 200 undergraduates, sample size was determined to be adequate. For example, a correlation of .25 would be significant at the $p = .03$ level for this sample size. In addition, for the Principal Components Analysis, which was done on the student sample, a sample of 200 is considered adequate for preliminary analyses.

Power analyses were conducted for the tests of differences between students and consumer samples with alpha set at $p = .05$ and a minimum power required of .67. Power analyses were originally conducted for a sample size of 80 consumers, based on the proposed control group. Analyses were re-computed based on the final sample size of 40. There was no information available for the CSQ-8 for non-mental health service recipients so no power analyses were conducted for this measure.

Based on the literature for the SCL-90, the students were estimated to have a mean of 0.3 ($n=200$), with a standard deviation of 0.3. Consumers were estimated to

have a mean of 1.2, ($n=40$) with a standard deviation of 0.7. This resulted in a power of 1.0.

After examining the literature for the SF-36, we estimated a mean for the students of 75.7 ($n=200$), with a standard deviation of 60.8, and consumers were estimated to have a mean of 60.8, ($n=40$), with a standard deviation of 23.0. This resulted in a power of 1.0.

On the basis of the literature for the SAS-SR (Weissman et al. 1978), we estimated a mean for students of 1.6 ($n = 200$), with a standard deviation of 0.6. The mean for consumers was estimated to be 1.9 ($n = 40$), with a standard deviation of 0.6. This resulted in a power of .83.

Based on the QOLI manual (Frisch, 1994b), we estimated a mean for the students of 2.4 ($n=200$), with a standard deviation of 1.3; the mean for the consumers was -0.2 ($n=40$), with a standard deviation of 1.1. This resulted in a power of 1.0..

Results

Results are presented according to the hypothesis they test, and these numbers referring to the hypotheses will be used to aid in interpretation. Significant correlations at the .05 and .01 level are included in the discussion below. It should be noted that for the SCL-90 and the SAS-SR high scores indicate poorer psychological health. With all other scales, higher scores indicate greater levels of health or satisfaction.

1a) The internal consistency of each measure was examined using Cronbach's alpha for both the student and consumer subjects separately. These results are presented in Table 3. A formula for computing the reliability of composites was used for the two

aggregate scales of the SF-36, Mental Health and Physical Health, because these are computed with a complex weighting procedure.

An alpha of 0.5 or above is generally considered acceptable, although alpha values of at least 0.7 and above are preferable. All of the alpha levels, computed with either the student or consumer data, were above 0.5. With the student data, all of the scales met this criteria of being above 0.7 except for three of the SCL-90 subscales and all of the SAS-SR subscales. The SCL-90 subscales were Paranoid Ideation and Phobia (alpha = .677 for both), and also Additional Items, which is not expected to be consistent. With the consumer data, the alpha values were generally higher; this is somewhat surprising in that this sample size was considerably smaller than for the student sample. The Phobia subscale of the SCL-90 showed the lowest value of all the SCL-90 scales for the consumer subjects (alpha = .754).

Four of the eight subscales of the SAS-SR had alphas greater than 0.778, and the other four scales had alpha values between 0.629 and 0.695. These latter scales were Social/Leisure, Family Unit, Marital, and Extended Family. Internal consistency could not be computed for the Economic subscale of the SAS-SR because this consists of only one item. Reliability also could not be computed for the Overall Adjustment scale of the SAS-SR because there were no subjects who completed all items. This is a reflection of the construction of the measure because the respondents skip sections that do not apply to them.

1b) An Exploratory Principal Components Analysis with varimax rotation was conducted to assess the underlying dimensions of the five measures. The student data

was used for the factor analysis ($n=211$). A scree plot, as well as the factor Eigenvalues, suggest examining one or two factors. A three-factor solution was also examined. The total scales were used for the CSQ-8 and the SCL-90. The Aggregate Physical and Mental Health Scales of the SF-36 and the 14 subscales of the QOLI were also included. For the SAS-SR, an aggregate scale of the three Work scales were used (Out of Home, In Home, and Student) was used, as well as Social/Leisure, Extended Family, and Economic. The other scales of the SAS-SR were excluded due to the small number of subjects with usable data for these scales. Using a three factor solution, the three factors account for a total of 38.2% of the variance in the measures. The first factor accounts for 23.5% of the variance, the second factor 7.9%, and the third factor 6.8% of the variance.

The Principal Components Analysis found low communality for the SAS-SR Aggregate Work scale and the CSQ, indicating that these two measures are independent of the others. Both a two- and three-factor solution were computed, and both will be presented here. The two-factor solution and the communalities are presented in Table 4. The three-factor solution is presented in Table 5

In the three-factor solution, the first factor, named "Psychological Health" includes loadings with SF-36 Aggregate Mental Health, SCL-90 Global Severity Index (GSI), QOLI Self-Esteem, QOLI Money, SAS-SR Social/Leisure, SAS-SR Extended Family, SAS-SR Economic, and QOLI Play. The second factor, named "Self-actualization," contains loading with QOLI Help, QOLI Creativity, QOLI Work, and QOLI Goals. The third factor, named "Physical Health and Satisfaction with Living

Environment,” contains loadings with SF-36 Aggregate Physical Health, QOLI Neighbor, QOLI Community, and QOLI Health.

In the two-factor solution, the first factor, named “Psychological Health,” contains loadings with SF-36 Aggregate Mental Health, SCL-90 GSI, QOLI Self-Esteem, SAS-SR Social/Leisure, SAS-SR Extended Family, QOLI Money, and SAS-SR Economic. The second factor, named “Satisfaction with Living Environment,” contains loadings with QOLI Neighbor, QOLI Community, QOLI Learning and QOLI Home.

1c) Pearson Product-moment correlations were used to determine the intercorrelations of the five measures within the student and consumer data separately. Correlations were computed comparing the major scales (see Table 6) and also for all of the subscales of each measure (see Appendix 2 and 3). These results support the hypothesis that the measures are moderately correlated, yet appear to tap several separate dimensions.

Using the mental health consumers’ data, the Overall Adjustment scale of the SAS-SR was moderately correlated with all of the other measures except for the Aggregate Physical Health Scale of the SF-36, with moderately high correlations with the SCL-90 GSI ($r = .722$) and the CSQ-8 ($r = -.659$). Similar results were found with the student subjects, although the correlation between the SAS-SR and the CSQ-8 were small ($r = -.209$).

The Aggregate Mental Health Scale of the SF-36 was moderately correlated with the SCL-90 Global Severity Index (GSI) for both the students ($r = -.602$) and the consumers ($r = -.632$). The Total Satisfaction scale for the QOLI was moderately correlated with the SF-36 Aggregate Mental Health Scale for both the students ($r = .408$)

and the consumers ($r = .366$). For consumer subjects, the SCL-90 GSI was moderately correlated with the CSQ-8 ($r = -.484$)

The Pearson Product-moment correlations of the subscales of each measure indicate with greater specificity the correlations components of the measures. This procedure produced a large volume of correlations, and, because of this, only significant correlations that were greater than 0.4 were examined. Furthermore, correlations that had an n smaller than 20 for the consumers and 50 for the students were not considered. The correlations reported here meet this criteria, although all of the correlations are presented in Appendix 2 (students) and 3 (consumers).

With regard to the correlations between the SAS-SR and the SCL-90 for the consumers, the highest correlations occur in the SAS-SR subscales of Family Unit, Work - Out of Home, and Economic, with correlation coefficients ranging from .588 (Work - Out of Home with SCL-90, Phobic and Economic with SCL-90, Somatic) to .534 (Family Unit with SCL-90, Interpersonal Sensitivity and Work - Out of Home with SCL-90, Paranoid Ideation). In general, there were smaller correlations between the SAS-SR and the SCL-90 subscales for students. The correlation coefficients for Family Unit ranged from .465 (Depression) to .410 (Psychotic). The SAS-SR subscale Social/Leisure was moderately correlated with the SCL-90 subscales of Interpersonal Sensitivity (.462), Depression (.508) and Psychotic (.420).

For the consumer subjects two SAS-SR subscales, Work-In the Home and Social/Leisure were moderately correlated with the CSQ-8 ($r = -.515$ and $-.445$,

respectively). The strongest correlations for the student data were -.226 for the correlation between the SAS-SR subscale Extended Family and the CSQ-8.

For the relationship between the SAS-SR subscales and the QOLI subscales for the students, moderate correlation between logically related scales were observed. There were moderate correlations for QOLI Learning and SAS-SR Work-Student ($r = -.436$), QOLI Play and SAS-SR Social/Leisure ($r = -.418$), and QOLI Money and SAS-SR Economic ($r = -.456$). In addition, the subscales of QOLI Home and SAS-SR Marital ($r = -.493$) and the subscales of QOLI Child and SAS-SR Family Unit ($r = -.436$) were moderately intercorrelated, although there were fewer than 50 subjects in these groups for these correlations.

The correlations between the SAS-SR and the QOLI subscales did not follow such a simple pattern when the consumer data was analyzed. The strongest correlations (where $n \geq 20$) were between QOLI Goals and SAS-SR Work-Out of the Home ($r = -.546$) and QOLI Goals and SAS-SR Work- In the Home ($r = .513$). QOLI Relative ($r = -.486$) and QOLI Community ($r = -.497$) were moderately correlated with SAS-SR Family Unit. QOLI Learning was moderately correlated with SAS-SR Social/Leisure ($r = -.439$), and Love was moderately correlated with both Work-Outside the Home ($r = -.434$) and Work-In the Home ($r = -.413$).

In comparing the SAS-SR subscales with the SF-36 for the consumer subjects, the subscales of the SF-36, Role Limitations due to Emotional Problems, and Mental Health were moderately correlated with Work-In the Home ($r = -.486$ and $-.497$, respectively). The Social Functioning scale of the SF-36 was moderately correlated with the

Social/Leisure scale of the SAS-SR ($r = -.438$). For the student subjects, Social/Leisure was moderately correlated with Mental Health ($r = -.424$) and Vitality ($r = -.412$).

With the student data, each of the four subscales of the Mental Health component of the SF-36 was moderately correlated with one or more SCL-90 subscales. The most notable of these correlations are between the Mental Health subscale of the SF-36 and Depression ($r = -.676$) and Anxiety ($r = -.573$). Results were similar for the consumer data.

Despite the moderate overall correlation between the Total Satisfaction score for the QOLI and the SF-36 Aggregate Mental Health Scale when the subscales were examined there was only one correlation coefficient above 0.4 for the consumer and for the student subjects. For consumers, the QOLI scale of Money was moderately correlated with the SF-36 scale Social Functioning ($r = .545$). For students, the QOLI scale of Health was moderately correlated with the SF-36 scale of Vitality ($r = .484$).

The CSQ-8 satisfaction scale was moderately correlated with five of the nine subscales of the SCL-90 for consumer subjects. These correlation coefficients range from $-.581$ (Phobic) to $-.410$ (Psychotic). In contrast, there were no correlations of even moderate size for the SCL-90 subscales and the CSQ-8 for the student data.

Although for consumer subjects the overall correlation between the SCL-90 and the QOLI was rather small ($r = -.366$), the subscale of Interpersonal Sensitivity was moderately correlated with Money ($r = -.486$), Relatives ($r = -.472$), and Home ($r = -.538$), and the subscale of Paranoid Ideation was moderately correlated with Community ($r = -.425$). For students, the overall correlation between the SCL-90 and the QOLI was

moderate ($r = -.527$). The QOLI subscale of Self-Esteem was moderately correlated with five of the nine SCL-90 subscales, with the strongest correlation for Depression ($r = -.566$).

Other notable correlations at the subscale level involve the Physical Health dimension of the SF-36. For consumer subjects the SF-36 subscale Role Limitations due to Physical Health was moderately correlated to two QOLI subscales, Work ($r = .472$) and Love ($r = .472$). The SF-36 subscale Bodily Pain was moderately correlated with the SCL-90 subscales Somatic ($r = -.548$) and Interpersonal Sensitivity ($r = -.519$). For students, the Somatic subscale of the SCL-90 was moderately correlated with all four subscales of the Physical Health dimension of the SF-36, with correlation coefficients ranging from $-.404$ (Physical Functioning) to $-.507$ (Bodily Pain).

2) To examine the discriminant validity of the measures the scores of the undergraduate subjects were compared to consumer subjects. Independent sample t -tests were used, with the degrees of freedom adjusted for unequal variances, a relatively conservative approach to the data analysis. The scores for student and consumer subjects were compared for each measure using these scales: Overall Consumer Satisfaction, Overall Adjustment (SAS-SR), SF-36 Aggregate Physical Health, SF-36 Aggregate Mental Health, Total Satisfaction (QOLI), and the GSI from the SCL-90. These results are presented in Table 5. Significant differences were found on all measures, with consumers reported more psychiatric and physical symptoms, lower functioning, and less life satisfaction than the students. However, students expressed less satisfaction with university advising services than consumers reported for mental health services.

Discussion

These results indicate that this “suite” of measures is an appropriate tool for the evaluation of mental health services, as demonstrated by good internal consistency of the measures, the relative independence of some of the measures, and the scales’ discriminant validity based on the significant differences between the student and consumer subjects on all measures.

The Cronbach’s alpha levels of each measure were acceptable, indicating that this group of measures exhibits internal consistency. The CSQ-8 showed excellent internal consistency and compared with the value in the literature; similarly, the QOLI also produced good internal consistency that matched the literature. The SCL-90 showed good internal consistency, although the values obtained in this study were slightly lower than reports from the manual (Derogatis, 1994). The pattern of alpha levels was also consistent with previous findings for the SCL-90, with the Depression scale having the highest alpha levels and Paranoid with the lowest. For the SF-36, alpha levels were good, although slightly lower than those reported by Jenkinson, Coulter, and Wright (1993) and Brazier et al. (1992). The current findings are consistent with both studies, in that the subscale Social Functioning produced the lowest correlation coefficient. The alpha levels for the SAS-SR were in the acceptable range, although no subscale for the student data had an alpha level above 0.7. The subscales for the consumer data produced greater alpha levels, and this is somewhat surprising due to a much smaller sample size. It appears that the items in the subscales of the SAS-SR do not “hang together” particularly well.

The Principal Components Analysis suggests that this group of measures has four or possibly five dimensions. These include two or three factors, plus two areas tapped by single scales showing low communality. These dimensions appear to be 1) adjustment in work role, 2) satisfaction with services, 3) psychological health, and 4) satisfaction with living environment. Functioning in a major work role, whether it is a job outside of the home, work in the home, or work as a student appears to be an independent dimension from the other components. Consumer satisfaction also appears to be independent of the other measures. The other dimension that emerges clearly is psychological health. Psychological health in this sense is more than the lack of psychiatric symptoms. It also includes experiencing healthy relationships with friends and family, enjoying healthy and active leisure pursuits, feeling satisfied with oneself as a person, and being free from economic concerns.

There could be one additional factor or possibly two more. The two-factor solution indicates that the fourth and last factor would be satisfaction with living environment. This factor emerged as including satisfaction with home, neighborhood, and community, as well as satisfaction with learning. Learning may appear unconnected to the other scales, however its inclusion may refer to the importance of the educational community of the university.

In contrast, the three-factor solution suggests a fourth factor of self-actualization. This dimension includes an individual's satisfaction with his or her own goals, satisfaction with work, creativity, and altruism toward others. The fifth dimension is some combination of physical health and community factors. This dimension is made up

of the physical health of the individual, satisfaction with physical health, and satisfaction with neighborhood and community. Satisfaction with community and neighborhood may be highly related to physical health to the extent that the community provides opportunities for the individual to be physically active in the outdoors. In Missoula, Montana, the neighborhoods and community provide outdoor activity, which is a common method of maintaining physical health.

An examination of the correlations of the major and minor scales of each measure provides more detail regarding the relationships among these measures. Aspects of adjustment in various roles, as determined by the SAS-SR, are related to mental health, life satisfaction, and satisfaction with services. For example, SAS-SR Work-Out of Home and SCL-90 Phobic, SAS-SR Social/Leisure and QOLI Play, and Work-In the Home and CSQ-8 are highly intercorrelated. The connection between functioning and mental health is not surprising, since psychiatric symptoms, for example symptoms of depression, anxiety, and paranoia, are likely to affect an individual's relationships, ability to work, motivation, and interest in leisure activities. The SAS-SR specifically asks about experiences of negative emotions as they relate to work, so these questions are likely to overlap with reports of negative emotions on the SCL-90 or SF-36. In addition, there appears to be some redundancy among subscales of the SAS-SR and the SCL-90 and SF-36. This will be discussed at a later point.

With regard to the relationship between life satisfaction and functioning, the students expressed satisfaction in areas of their life where they were functioning well, as measured by the SAS-SR, and expressed dissatisfaction when there was poor adjustment.

An example of this is the moderate correlation between the QOLI subscale, Learning, and the SAS-SR subscale, Work-Student.

The picture for the consumers is not so clear-cut. The QOLI subscale of Goals was moderately correlated with both SAS-SR, Work-Out of the Home and SAS-SR, Work-In the Home. This may reflect the fact that large numbers of mental health consumers do not work outside of the home, and thus goals may be oriented toward activities in the home. The QOLI subscale of Learning was moderately correlated with the SAS-SR subscale of Social/Leisure for consumers. Few subjects in this sample were students, and this finding may reflect the pursuit of learning as a leisure activity rather than as a student activity (more similar to work and employment) in a college or university. Consumers who reported greater functioning in their relationships with their family were more likely to express satisfaction both with their relative and their community. This may reflect a more general construct of satisfaction with relationships.

These results indicate that an individual's functioning is strongly related to other components of his or her life, such as psychological symptoms and satisfaction with major life domains. An interesting finding is that functioning is moderately correlated with satisfaction with services, in that consumers with poorer functioning evaluated services more negatively. This may indicate that consumers with poorer functioning who are having greater difficulty in areas related to their occupation, leisure activities, and relationships, also feel they are receiving inadequate help to remedy these difficulties. Also, more disturbed people may receive lower quality services. It may also be that there is some third factor that affects an individual's poor functioning, and also his or her

tendency to negatively assess services. Some have suggested that psychopathology can cast a “negative halo” around with a variety of self-reports, such as retrospective accounts of premorbid functioning (Small, Mohs, Halperin, Rosen, et al., 1984).

For students this correlation between satisfaction with services and functioning was weak. It may be the case that asking students to evaluate their advising services did not present a comparable scenario to evaluating mental health services and so these findings are not interpretable.

Psychiatric symptoms as measured by the SCL-90 generally have a weak relationship with life satisfaction, a somewhat surprising finding in light of the major effects of psychopathology on people’s functioning. Sensitivity in one’s interpersonal interactions is related to decreased satisfaction with relationships and, surprisingly, with money. Furthermore, symptoms of paranoia are associated with decreased satisfaction with one’s community. Paranoia may lead consumers to be more suspicious and mistrusting of people in their community and lead to feelings of being unsafe and isolated. However, consumers may live in more economically disadvantaged areas with higher crime, thus leading to realistic feelings of mistrust and suspicion. Also, due to an individual’s psychiatric disorder, consumers may not always be welcomed in a community and may face discrimination, leading to feelings of suspicion and mistrust on the part of the consumer.

The picture emerging for students regarding the relationship between life satisfaction and psychiatric symptoms is different. For students there is a stronger relationship between their satisfaction and the symptoms they are experiencing than for

the consumers. There is a negative relationship between their QOLI satisfaction with their feelings of themselves (meaning their self-esteem) and their psychiatric symptoms. It is difficult to say what is causing this difference between consumers and students. One suggestion is that mental health consumers are more able to separate their symptoms from their evaluation of themselves, that they have learned to view symptoms as “ego-alien.” The QOLI Self-esteem subscale does not assess an individual’s self-esteem, just satisfaction with self-esteem. In addition, students do differ in the overall severity of their symptoms, but this does not seem to account for these differential relationships. Despite this clarification, this is an interesting finding that suggests an important difference in how consumers view their psychiatric symptoms compared to undergraduate students.

Overall, these correlations among measures suggest that some subscales may be redundant and unnecessary. The creation of a shorter scale based on these measures would be ideal, since the consumer subjects took on average 1.5 hours to complete the packet of measures. The overlap appears especially notable with the SAS-SR and the SCL-90, the SCL-90 and the SF-36, and the SF-36 and the SCL-90. The overlap for the SF-36 is strongest between the Mental Health subscale and the SCL-90 subscales of Anxiety and Depression. The Mental Health subscale would be likely to be the best scale to retain because it is short (five items) and has adequate psychometric properties. The Anxiety and Depression scales combined are much longer, with 23 items, although these scales do provide more specific information and have greater internal consistency

(Depression, $\alpha = .884$, Anxiety, $\alpha = .813$). The different attributes may need to be considered based on the goals of the assessment tool in making this decision.

Another area of overlap occurs with the SAS-SR and the SCL-90, for the SAS-SR subscale of Family Unit and the SCL-90 subscale of Interpersonal Sensitivity. The Family Unit subscale consists of questions regarding the respondent's feelings about his or her family relationships. The Interpersonal Sensitivity subscale is a measure of feelings of inadequacy and inferiority and negative expectations of people's behavior and perception toward you (Derogatis, 1994). These two subscales appear to tap slightly different dimensions, and because of this, it would more fully complete the picture of an individual's functioning to include both subscales, despite their moderate correlation, in the group of measures.

The relationship between specific SAS-SR subscales and specific subscales of the SF-36 Aggregate Mental Health dimension points to the similar areas that they each measure. Role Limitations due to Emotional Problems is similar to the three Work subscales of the SAS-SR, with less specificity in the former. Similarly, the Social Functioning subscale of the SF-36 is similar to the Social/leisure subscale of the SAS-SR. As indicated by the Principal Components Analysis, the SAS-SR Work subscales appear to define an important and quite separate dimension within this group of measures. Because of this, the SF-36 scale of Role Limitations due to Emotional Problems could be eliminated. With regard to social functioning, the SAS-SR subscale is longer (11 items) than the SF-36 subscale (two items), but gathers more specific information about how the individual spends his or her free time, and the quality of his or her friendships and social

activities. For this reason, the SF-36 Social Functioning subscale could be eliminated without compromising important information. Further work can be done to eliminate specific items from the suite of measures to further streamline this as an assessment tool.

The second hypothesis proposed that the measures would demonstrate discriminant validity by showing significantly different scores for the mental health consumers and the undergraduate students. Indeed, the differences the scores between the two groups of subjects were all highly significant. Not unexpectedly, students reported greater satisfaction in the major life domains, fewer psychiatric symptoms, fewer physical problems, and greater adjustment in important roles related to their work, studies, families, and social and leisure activities. These differences indicate that this suite of measures is valid and can discriminate between groups that are considered highly different in these domains.

An interesting and contrasting finding in the group comparisons is that the students reported more dissatisfaction on the student version of the Client Satisfaction Questionnaire-8 (referring to satisfaction with academic advising) than did the mental health consumers. There are several potential reasons for this finding. The students were asked to evaluate the quality of their advising services instead of mental health services. This choice of advising services may not be comparable to mental health services so that these differences could be meaningless. Numerous previous studies (e.g. Larson, Attkisson, Hargreaves, & Nguyen, 1979; Lebow, 1982; Stallard, 1996) have found evaluations of psychological services to be very favorable, which may be the explanation for the difference between students and consumers. Consumers may have been

experiencing greater pressure to appear to be a “good client” and not be critical of their services, despite frequent assurances that their responses were anonymous and would not be shared with their service providers. This may be better understood by considering the definition of satisfaction as based upon the gap between expectations and reality (Stallard, 1996). There may be some difference between the two populations regarding their expectations as “consumers” of services. Students may have higher expectations, especially considering the large sums, even for in-state tuition, being paid by themselves or their parents, for the services provided by the university. Mental health consumers, especially in rural communities, often have little or no choice in their services. Many individuals receive Medicaid or Medicare so that the federal government pays for their health services. These two factors may affect mental health consumers’ expectations of the services they receive and, consequently, they report quite high levels of satisfaction.

The findings of this study, however, are limited in several ways. As noted above, the evaluation of advising services may not be comparable to the evaluation of mental health services. Furthermore, the analyses based on the student data, specifically the Principal Components Analysis, may not be applicable to consumers.

In addition, this study was not designed to determine the sensitivity of the measures to change. This is an important component, however, as the goal of outcomes measures is to highlight changes that occurred for the consumers as they receive mental health services. An outcome tool that is not sensitive to changes in the consumer, whether it is in symptoms, functioning, or quality of life, is useless. A review of the literature of each of the measures suggests that each measure individually will display

changes in the consumer. A future study is recommended that examines this tool's sensitivity to change, in which consumers complete the measures before and during or after receiving mental health services. Such a study would provide valuable information about the ability of this multidimensional tool to reveal changes that occurred for the consumer as mental health services are provided.

Despite these limitations, this study highlights the importance of tapping into the various dimensions of consumer satisfaction, adjustment in work role, psychological health, satisfaction with living environment, and self-actualization in evaluating adjustment. Evaluators of mental health services may choose among a wide variety of areas to assess outcome; however, the measures described above, in combination, provide a full picture of an individual's life. This research has indicated that it is possible to construct a psychometrically sound and relatively streamlined set of measures for evaluating these important components of adjustment.

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Table 1

Demographic Information

	Students		Consumers	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Age	23.86	10.56	45.21	11.91
Education	13.17	1.29	12.85	2.58
	Ethnicity			
	Students		Consumers	
	<u>n</u>	Percent	<u>n</u>	Percent
African American	0		0	
Asian	2	0.9	0	
Caucasian	206	0.4	28	70.0
Eskimo	0		1	2.5
Hispanic	2	0.9	0	
Native American	4	1.8	5	2.5
Other	7	3.1	3	7.5

Table 2

Living Arrangement and Services of Consumer Subjects

	Living Arrangement	
	<u>n</u>	Percent
Independent	32	80.0
Group Home	3	7.5
Residential Treatment Facility	1	2.5
Other	3	7.5
	Services Received	
	<u>n</u>	Percent
Day Treatment	24	60.0
Case Management	22	55.0
Therapy	19	47.5
Employment Support	8	20.0

Note. Percentages can add up to >100 because subjects could choose more than one response.

Table 3

Cronbach's Alphas of Subscales

Scale	Number of Items	Students		Consumers	
		alpha	n	alpha	n
CSQ	8	.928	226	.926	39
SCL-90					
Somatization	12	.839	224	.883	32
Obsessive-compulsive	10	.799	218	.891	31
Interpersonal Sensitivity	9	.848	220	.882	35
Depression	13	.884	220	.919	30
Anxiety	10	.813	219	.903	32
Hostility	6	.806	224	.863	34
Phobia	7	.677	223	.754	37
Paranoid	6	.677	224	.793	35
Psychotic	10	.729	217	.862	32
Additional Items	7	.693	221	.852	36
Total Items	90	.963	186	.984	20
QOLI - Total Satisfaction	16	.792	216	.851	34
SAS-SR					
Work-Outside of Home	6	.542	131	.850	13
Work-Home	6	.630	84	.778	29
Work-Student	6	.699	222	.950	3
Social/Leisure	11	.608	171	.629	28
Extended Family	8	.537	205	.695	32
Marital	9	.639	21	.652	13
Parental	4	.655	9	.900	8
Family Unit	3	.649	37	.645	29
Economic	1	--			
Overall Adjustment	54	--			
SF-36					
Physical Functioning	10	.799	228	.899	38
Role - Physical	4	.810	228	.770	39
Bodily Pain	2	.859	228	.859	39
General Health	10	.928	226	.906	39
Vitality	4	.831	226	.763	38
Social Functioning	2	.655	228	.614	39
Role - Emotional	3	.793	228	.687	39
Mental Health	5	.764	227	.613	40
Aggregate Physical	21	.894	227	.791	38
Aggregate Mental	14	.876	227	.814	38

Note. Dashes indicate that internal consistency could not be computed for these scales.

Table 4

Principal Component Analysis: Two Factor Solution

Measure	Factor 1 "Psychological Health"	Factor 2 "Satisfaction w/Living Arrangement"	Communality
SCL-90 GSI	-.731	-.260	.602
SF-36 Physical	-.119	.478	.243
SF-36 Mental	.773	.049	.600
SAS-SR Work Max	-.098	.036	.011
SAS-SR Social/Leisure	-.604	-.221	.413
SAS-SR Extended Family	-.581	-.164	.365
SAS-SR Economic	-.532	-.018	.283
QOLI Health	.337	.493	.357
QOLI Self-Esteem	.647	.283	.499
QOLI Goals	.335	.468	.331
QOLI Money	.578	.057	.338
QOLI Work	.163	.476	.253
QOLI Play	.498	.291	.333
QOLI Learning	.222	.553	.355
QOLI Creativity	.150	.452	.227
QOLI Help	.199	.495	.284
QOLI Love	.274	.224	.125
QOLI Friend	.439	.360	.322
QOLI Child	-.208	.350	.166
QOLI Relative	.240	.472	.280
QOLI Home	.112	.550	.315
QOLI Neighbor	.007	.637	.406
QOLI Community	.094	.562	.325
CSQ-8	.297	.056	.091

Note. Factor loadings in bold are > 0.5.

Table 5

Principal Component Analysis: Three Factor Solution

Measure	Factor 1 "Psychological Health"	Factor 2 "Self- actualization"	Factor 3 "Physical Health & Satisfaction w/Living Arrangement"	Communality
SCL-90 GSI	-.720	-.253	-.141	.602
SF-36 Physical	-.058	-.042	.626	.398
SF-36 Mental	.753	.179	-.068	.604
SAS-SR Work Max	-.013	-.419	.356	.302
SAS-SR Soc/Leisure	-.581	-.281	-.070	.421
SAS-SR Ext. Family	-.554	-.269	-.083	.379
SAS-SR Economic	-.554	.065	-.074	.316
QOLI Health	.384	.071	.563	.469
QOLI Self-Esteem	.630	.293	.139	.502
QOLI Goals	.291	.510	.205	.387
QOLI Money	.589	.016	.063	.351
QOLI Work	.110	.552	.184	.350
QOLI Play	.534	.019	.352	.409
QOLI Learning	.204	.426	.373	.362
QOLI Creativity	.093	.558	.149	.343
QOLI Help	.143	.579	.187	.391
QOLI Love	.207	.486	.080	.285
QOLI Friend	.455	.152	.338	.345
QOLI Child	-.262	.462	.092	.290
QOLI Relative	.238	.298	.368	.281
QOLI Home	.123	.267	.488	.324
QOLI Neighbor	.048	.158	.676	.485
QOLI Community	.123	.179	.568	.370
CSQ-8	.343	-.182	.207	.194

Note. Factor loadings in bold are > 0.5.

Table 6

Pearson Product Moment Correlations Among Major Scales

	SCL-90 GSI	SF-36 Physical	SF-36 Mental	SAS- SR	QOLI	CSQ-8
		Students	(<u>n</u> =228)			
SCL-90 GSI	--					
SF-36 Physical	-.236**	--				
SF-36 Mental	.602**	-.234**	--			
SAS-SR	.567**	-.096	-.506**	--		
QOLI Total	-.527**	-.223**	.408**	-.535**	--	
CSQ-8	-.080	.064	.158*	-.209**	.166*	--
		Consumers	(<u>n</u> =40)			
SCL-90 GSI	--					
SF-36 Physical	-.143	--				
SF-36 Mental	-.632**	-.033	--			
SAS-SR	.722**	-.127	-.583**	--		
QOLI Total	-.366*	.111	.396*	-.452**	--	
CSQ-8	-.484**	.121	.359*	-.659**	.349*	--

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 7

Mean Scores and Independent Sample t-test between Consumer and Student Subjects

Measure	Consumer <u>M</u> (<u>SD</u>)	Students <u>M</u> (<u>SD</u>)	<u>t</u>	<u>df</u>	Significance
SCL-90 GSI	1.27 (.82)	.54 (.41)	-5.52	41.34	<.0005
SF-36 Physical	-1.01 (.83)	.31 (.70)	9.48	46.42	<.0005
SF-36 Mental	-0.91 (-0.36)	1.17 (.99)	2.74	46.42	.009
SAS-SR	2.31 (.53)	1.91 (.32)	-4.60	44.2	<.0005
QOLI	8.86 (28.53)	38.21 (20.09)	5.78	38.3	<.0005
CSQ-8	26.02 (4.80)	22.44 (4.57)	-4.38	52.1	<.0005

Note. Degrees of freedom adjusted for unequal variances.

Appendix 1
CSQ-8, Student Version

Fill in your answers to these question in Section B - CSQ

Please help us by answering some questions about the student orientation and advising services you have received at the University of Montana. We are interested in your honest opinions, whether they are positive or negative. Please answer all the questions. Thank you very much; we appreciate your help.

1. How would you rate the quality of the service you received?
 - 1 Poor
 - 2 Fair
 - 3 Good
 - 4 Excellent
2. Did you get the kind of service you wanted?
 - 1 No, definitely not.
 - 2 No, not really
 - 3 Yes, generally
 - 4 Yes, definitely
3. To what extent has the advising program met your needs?
 - 1 None of my needs have been met
 - 2 Only a few of my needs have been met
 - 3 Most of my needs have been met
 - 4 Almost all my needs have been met
4. If a friend were in need of similar assistance, would you recommend this program to him/her?
 - 1 No, definitely not
 - 2 No, I don't think so
 - 3 Yes, I think so
 - 4 Yes, definitely
5. How satisfied are you with the amount of help you received?
 - 1 Quite dissatisfied
 - 2 Indifferent or mildly dissatisfied
 - 3 Mostly satisfied
 - 4 Very satisfied

6. Have the services you received helped you to deal more effectively with your advising needs?
- 1 No, they seemed to make things worse
 - 2 No, they really didn't help
 - 3 Yes, they helped somewhat
 - 4 Yes, they helped a great deal
7. In an overall, general sense, how satisfied are you with the service you received?
- 1 Quite dissatisfied
 - 2 Indifferent or mildly dissatisfied
 - 3 Mostly satisfied
 - 4 Very satisfied
8. If you were to seek help again, would you come back to this program?
- 1 No, definitely not
 - 2 No, I don't think so
 - 3 Yes, I think so
 - 4 Yes, definitely

Appendix 2, Part 1

Pearson Product-moment Correlations of Subscales for Students: All Subscales with SCL-90 and SF-36 Subscales

		SCL90 Somatic	SCL90 O-C	SCL90 Interp. Sens	SCL90 Dep.	SCL90 Anxiety	SCL90 Hostility	SCL90 Phobic	SCL90 Paranoid	SCL90 Psychotic	Physical func.	Role physical	Bodily pain	General Health	Vitality	Social funct.	Role- emotional	Mental health
SCL90: Somatic	r	1.000	.550	.366	.557	.641	.433	.460	.537	.518	-.404	-.410	-.507	-.481	-.471	-.429	-.303	-.396
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
SCL90: O-C	r	.550	1.000	.648	.757	.692	.489	.476	.592	.609	-.194	-.225	-.266	-.346	-.424	-.427	-.402	-.496
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.003	.001	.000	.000	.000	.000	.000	.004
SCL90: Interp. Sens	r	.366	.648	1.000	.762	.580	.408	.506	.692	.641	-.194	-.144	-.254	-.353	-.402	-.366	-.331	-.488
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.003	.031	.000	.000	.000	.000	.000	.000
SCL90: Depression	r	.557	.757	.762	1.000	.708	.553	.545	.698	.745	-.259	-.239	-.299	-.410	-.526	-.545	-.459	-.676
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
SCL90: Anxiety	r	.641	.692	.580	.708	1.000	.541	.624	.675	.704	-.212	-.268	-.336	-.379	-.395	-.464	-.457	-.573
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000
SCL90: Hostility	r	.433	.489	.408	.553	.541	1.000	.370	.505	.550	-.209	-.193	-.183	-.211	-.252	-.387	-.227	-.379
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.002	.004	.006	.001	.000	.000	.001	.000
SCL90: Phobic	r	.460	.476	.506	.545	.624	.370	1.000	.563	.595	-.303	-.146	-.215	-.183	-.221	-.269	-.279	-.326
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.028	.001	.006	.001	.000	.000	.000
SCL90: Paranoid	r	.537	.592	.692	.698	.675	.505	.563	1.000	.714	-.172	-.216	-.353	-.314	-.319	-.400	-.346	-.496
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.010	.001	.000	.000	.000	.000	.000	.000
SCL90: Psychotic	r	.518	.609	.641	.745	.704	.550	.595	.714	1.000	-.290	-.279	-.310	-.334	-.315	-.463	-.345	-.475
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Physical functioning	r	-.404	-.194	-.194	-.259	-.212	-.209	-.303	-.172	-.290	1.000	.498	.368	.365	.280	.298	.142	.213
	Sig.	.000	.003	.003	.000	.001	.002	.000	.010	.000	.000	.000	.000	.000	.000	.000	.032	.001
Role physical	r	-.410	-.225	-.144	-.239	-.268	-.193	-.146	-.216	-.279	.498	1.000	.420	.338	.295	.347	.148	.148
	Sig.	.000	.001	.031	.000	.000	.004	.028	.001	.000	.000	.000	.000	.000	.000	.000	.025	.026
Bodily pain	r	-.507	-.266	-.254	-.299	-.336	-.183	-.215	-.353	-.310	.368	.420	1.000	.307	.261	.318	.145	.240
	Sig.	.000	.000	.000	.000	.000	.006	.001	.000	.000	.000	.000	.000	.000	.000	.000	.029	.000
General Health	r	-.481	-.346	-.353	-.410	-.379	-.211	-.183	-.314	-.334	.365	.338	.307	1.000	.494	.362	.286	.358
	Sig.	.000	.000	.000	.000	.000	.001	.006	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Vitality	r	-.471	-.424	-.402	-.526	-.395	-.252	-.221	-.319	-.315	.280	.295	.261	.494	1.000	.393	.295	.484
	Sig.	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Social functioning	r	-.429	-.427	-.366	-.545	-.464	-.387	-.269	-.400	-.463	.298	.347	.318	.362	.393	1.000	.556	.561
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
Role-emotional	r	-.303	-.402	-.331	-.459	-.457	-.227	-.279	-.346	-.345	.142	.148	.145	.286	.295	.556	1.000	.507
	Sig.	.000	.000	.000	.000	.000	.001	.000	.000	.000	.032	.025	.029	.000	.000	.000	.000	.000
Mental health	r	-.396	-.496	-.488	-.676	-.573	-.379	-.326	-.496	-.475	.213	.148	.240	.358	.484	.561	.507	1.000
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.026	.000	.000	.000	.000	.000	.000
SAS-SR: Work out	r	.024	.109	.051	.058	.021	.021	.015	.033	.068	-.030	.072	.024	.032	-.049	-.030	-.096	-.009
	Sig.	.734	.119	.465	.406	.761	.763	.825	.634	.327	.669	.299	.731	.646	.481	.662	.168	.896
SAS-SR: Work home	r	.056	.191	.271	.248	.152	.203	.173	.158	.283	-.124	-.169	.121	-.211	-.264	-.032	-.068	.014
	Sig.	.594	.066	.009	.016	.145	.051	.098	.129	.006	.233	.101	.242	.040	.010	.760	.513	.895
SAS-SR: Work Stud.	r	.264	.353	.251	.315	.245	.215	.135	.233	.185	-.079	-.089	-.118	-.299	-.316	-.267	-.350	-.306
	Sig.	.000	.000	.000	.000	.000	.001	.043	.000	.006	.239	.182	.078	.000	.000	.000	.000	.000
SAS-SR: Soc/leisure	r	.214	.354	.462	.508	.339	.286	.301	.334	.420	-.249	-.120	-.106	-.207	-.412	-.278	-.199	-.424
	Sig.	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.070	.110	.002	.000	.000	.003	.000

	SCL90 Somatic	SCL90 O-C	SCL90 Interp. Sens	SCL90 Dep.	SCL90 Anxiety	SCL90 Hostility	SCL90 Phobic	SCL90 Paranoid	SCL90 Psychotic	Physical funct.	Role physical	Bodily pain	General Health	Vitality	Social funct.	Role-emotional	Mental health
SAS-SR: Ext Family	I	.376	.366	.377	.436	.373	.318	.318	.286	.394	-.200	-.182	-.349	-.416	-.308	-.314	-.278
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.002	.006	.000	.000	.000	.000	.000
SAS-SR: Marital	I	-.130	.290	.272	.376	.184	.386	.170	.106	.424	.158	-.114	-.110	-.074	-.104	-.344	-.206
	Sig.	.503	.126	.153	.044	.339	.039	.377	.585	.022	.413	.556	.569	.704	.592	.068	.284
SAS-SR: Parental	I	-.367	-.055	.042	.181	-.034	.086	.254	.105	.230	-.133	.250	.354	.343	-.473	-.444	-.225
	Sig.	.197	.852	.886	.536	.907	.770	.380	.720	.429	.636	.369	.195	.211	.075	.097	.420
SAS-SR: Fam Unit	I	.227	.097	.235	.465	.372	.452	.274	.301	.410	.019	-.115	-.265	-.299	-.337	-.409	-.294
	Sig.	.170	.561	.156	.003	.048	.004	.096	.067	.011	.909	.492	.108	.068	.038	.011	.073
SAS-SR: Economic	I	.255	.189	.186	.247	.181	.192	.176	.206	.127	-.186	-.123	-.246	-.183	-.234	-.201	-.270
	Sig.	.000	.003	.003	.000	.007	.004	.008	.002	.058	.005	.064	.000	.006	.000	.002	.000
HEALTH	I	-.444	-.298	-.312	-.352	-.302	-.139	-.088	-.271	-.324	.332	.307	.607	.484	.322	.215	.326
	Sig.	.000	.000	.000	.000	.000	.040	.191	.000	.000	.000	.000	.000	.000	.000	.001	.000
SELF-ESTEEM	I	-.335	-.474	-.518	-.566	-.434	-.149	-.299	-.424	-.388	.144	-.012	.297	.358	.292	.330	.501
	Sig.	.000	.000	.000	.000	.000	.026	.000	.000	.000	.032	.862	.000	.000	.000	.000	.000
GOALS	I	-.237	-.304	-.303	-.349	-.269	-.250	-.159	-.273	.145	.126	.152	.272	.311	.239	.200	.285
	Sig.	.000	.000	.000	.000	.000	.000	.019	.000	.031	.061	.024	.000	.000	.000	.003	.000
MONEY	I	-.104	-.217	-.257	-.337	-.205	-.131	-.130	-.200	.162	.011	.102	.125	.119	.222	.257	.311
	Sig.	.123	.001	.000	.000	.002	.052	.054	.003	.010	.016	.868	.065	.077	.001	.000	.000
WORK	I	-.221	-.221	-.197	-.225	-.172	-.213	.065	-.138	-.098	.067	.071	.134	.211	.090	.157	.149
	Sig.	.001	.001	.003	.001	.010	.001	.336	.041	.144	.320	.293	.047	.002	.182	.020	.027
PLAY	I	-.336	-.294	-.252	-.411	-.272	-.189	-.124	-.249	-.273	.189	.159	.268	.345	.308	.165	.340
	Sig.	.000	.000	.000	.000	.000	.005	.066	.000	.000	.005	.018	.000	.000	.000	.014	.000
LEARNING	I	-.255	-.267	-.265	-.270	-.211	-.142	-.086	-.235	-.212	.181	.041	.317	.271	.210	.116	.246
	Sig.	.000	.000	.000	.000	.002	.035	.042	.000	.002	.007	.540	.000	.000	.002	.083	.000
CREATIVITY	I	-.097	-.139	-.229	-.206	-.037	-.142	.042	-.175	-.028	-.076	.149	.061	.225	.094	-.001	.192
	Sig.	.153	.040	.001	.002	.581	.035	.536	.009	.684	.260	.698	.370	.001	.164	.983	.004
HELP	I	-.170	-.214	-.228	-.255	-.158	-.172	-.088	-.077	-.105	.063	.052	.157	.337	.128	.063	.224
	Sig.	.011	.001	.001	.000	.018	.011	.194	.256	.118	.349	.438	.019	.000	.057	.352	.001
LOVE	I	-.124	-.225	-.329	-.269	-.166	-.177	-.080	-.249	-.282	.066	.059	.129	.139	.068	.081	.122
	Sig.	.066	.001	.000	.000	.014	.008	.234	.000	.000	.326	.379	.014	.055	.038	.232	.070
FRIEND	I	-.304	-.316	-.399	-.383	-.269	-.195	-.232	-.366	-.279	.143	.111	.132	.229	.203	.048	.268
	Sig.	.000	.000	.000	.000	.000	.004	.001	.000	.000	.034	.099	.051	.001	.002	.479	.000
CHILD	I	.098	.130	-.012	.103	.072	.019	.087	.037	.065	-.020	-.064	-.013	-.120	-.176	-.133	-.034
	Sig.	.146	.054	.862	.127	.286	.783	.198	.587	.338	.772	.342	.848	.076	.008	.048	.620
RELATIVE	I	-.188	-.212	-.155	-.246	-.186	-.121	-.069	-.100	-.192	.167	.158	.201	.274	.128	.088	.195
	Sig.	.005	.002	.021	.000	.004	.074	.309	.140	.004	.013	.019	.003	.000	.057	.191	.004
HOME	I	-.101	-.143	-.231	-.223	-.113	-.179	-.087	-.123	-.122	.184	.112	.241	.254	.072	.072	.182
	Sig.	.136	.034	.001	.001	.094	.008	.196	.069	.069	.006	.095	.000	.000	.285	.289	.007
NEIGHBOR	I	-.150	-.099	-.110	-.132	-.092	-.122	.026	-.090	-.054	.195	.167	.203	.247	.051	.053	.168
	Sig.	.026	.142	.102	.049	.172	.070	.701	.185	.423	.003	.013	.002	.000	.451	.431	.012
COMMUNITY	I	-.182	-.146	-.099	-.166	-.118	-.209	-.052	-.120	-.124	.179	.146	.188	.221	.166	.259	.185
	Sig.	.007	.030	.141	.013	.080	.002	.438	.075	.066	.007	.030	.005	.001	.014	.000	.006
CSQ-8	I	-.152	-.043	-.044	-.101	-.063	-.018	-.077	-.029	-.020	.054	.074	.121	.242	.132	.085	.136
	Sig.	.022	.524	.514	.129	.345	.786	.252	.669	.762	.417	.267	.068	.000	.047	.199	.041

Appendix 2, Part 2

Pearson Product-moment Correlations of Subscales for Students: All Subscales with SAS-SR Subscales

		Work out	Work home	Work Student	Soc/Leisure	Ext Family	Marital	Parental	Fam Unit	Economic
SCL90: Somatic	r	.024	.056	.264	.214	.376	-.130	-.367	.227	.255
	Sig.	.734	.594	.000	.001	.000	.503	.197	.170	.000
SCL90: O-C	r	.109	.191	.353	.354	.366	.290	-.055	.097	.189
	Sig.	.119	.066	.000	.000	.000	.126	.852	.561	.005
SCL90: Interp. Sens	r	.051	.271	.251	.462	.377	.272	.042	.235	.186
	Sig.	.465	.009	.000	.000	.000	.153	.886	.156	.005
SCL90: Depression	r	.058	.248	.315	.508	.436	.376	.181	.465	.247
	Sig.	.406	.016	.000	.000	.000	.044	.536	.003	.000
SCL90: Anxiety	r	.021	.152	.245	.339	.373	.184	-.034	.322	.181
	Sig.	.761	.145	.000	.000	.000	.339	.907	.048	.007
SCL90: Hostility	r	.021	.203	.215	.286	.318	.386	.086	.452	.192
	Sig.	.763	.051	.001	.000	.000	.039	.770	.004	.004
SCL90: Phobic	r	.015	.173	.135	.301	.318	.170	.254	.274	.176
	Sig.	.825	.098	.043	.000	.000	.377	.380	.096	.008
SCL90: Paranoid	r	.033	.158	.233	.334	.286	.106	.105	.301	.206
	Sig.	.634	.129	.000	.000	.000	.585	.720	.067	.002
SCL90: Psychotic	r	.068	.283	.185	.420	.394	.424	.230	.410	.127
	Sig.	.327	.006	.006	.000	.000	.022	.429	.011	.058
Physical functioning	r	-.030	-.124	-.079	-.249	-.200	.158	-.133	.019	-.186
	Sig.	.669	.233	.239	.000	.002	.413	.636	.909	.005
Role physical	r	.072	-.169	-.089	-.120	-.182	-.114	.250	-.115	-.123
	Sig.	.299	.101	.182	.070	.006	.556	.369	.492	.064
Bodily pain	r	.024	.121	-.118	-.106	-.166	.376	.262	.026	-.106
	Sig.	.731	.242	.078	.110	.012	.044	.346	.876	.111
General Health	r	.032	-.211	-.299	-.207	-.349	-.110	.354	-.265	-.246
	Sig.	.646	.040	.000	.002	.000	.569	.195	.108	.000
Vitality	r	-.049	-.264	-.316	-.412	-.416	-.074	.343	-.299	-.183
	Sig.	.481	.010	.000	.000	.000	.704	.211	.068	.006
Social functioning	r	-.030	-.032	-.267	-.278	-.308	-.104	-.473	-.337	-.234
	Sig.	.662	.760	.000	.000	.000	.592	.075	.038	.000
Role-emotional	r	-.096	-.068	-.350	-.199	-.314	-.344	-.444	-.409	-.201
	Sig.	.168	.513	.000	.003	.000	.068	.097	.011	.002
Mental health	r	-.009	.014	-.306	-.424	-.278	-.206	-.225	-.294	-.270
	Sig.	.896	.895	.000	.000	.000	.284	.420	.073	.000
SAS-SR: Work out	r	1.000	.100	.149	.042	.067	.276	-.172	.115	-.111
	Sig.	.000	.352	.033	.543	.336	.191	.594	.523	.112
SAS-SR: Work home	r	.100	1.000	.324	.215	.274	.225	.109	-.043	.067
	Sig.	.352	.000	.002	.037	.007	.385	.764	.841	.521
SAS-SR: Work Stud.	r	.149	.324	1.000	.165	.447	.246	.101	.083	.236
	Sig.	.033	.002	.000	.013	.000	.215	.732	.630	.000
SAS-SR: Soc/Leisure	r	.042	.215	.165	1.000	.291	.118	.258	-.094	.220
	Sig.	.543	.037	.013	.000	.000	.543	.353	.577	.001

		Work out	Work home	Work Student	Soc/Leisure	Ext Family	Marital	Parental	Fam Unit	Economic
SAS-SR: Ext Fam.	r	.067	.274	.447	.291	1.000	.028	.076	.236	.308
	Sig.	.336	.007	.000	.000	.000	.888	.789	.160	.000
SAS-SR: Marital	r	.276	.225	.246	.118	.028	1.000	.576	.720	-.124
	Sig.	.191	.385	.215	.543	.888	.000	.135	.000	.530
SAS-SR: Parental	r	-.172	.109	.101	.258	.076	.576	1.000	.272	.330
	Sig.	.594	.764	.732	.353	.789	.135	.000	.393	.250
SAS-SR: Fam Unit	r	.115	-.043	.083	-.094	.236	.720	.272	1.000	.066
	Sig.	.523	.841	.610	.577	.160	.000	.393	.000	.692
SAS-SR: Economic	r	-.111	.067	.236	.220	.308	-.124	.330	.066	1.000
	Sig.	.112	.521	.000	.001	.000	.530	.250	.692	.000
HEALTH	r	.034	-.173	-.192	-.178	-.265	-.041	-.027	-.174	-.158
	Sig.	.626	.098	.004	.008	.000	.838	.928	.304	.019
SELF-ESTEEM	r	-.032	.040	-.273	-.389	-.328	.045	-.558	.161	-.238
	Sig.	.647	.702	.000	.000	.000	.821	.038	.341	.000
GOALS	r	-.023	-.172	-.337	-.314	-.300	-.214	.067	.121	-.107
	Sig.	.745	.100	.000	.000	.000	.273	.819	.475	.115
MONEY	r	-.022	-.014	-.089	-.297	-.216	-.215	-.644	-.086	-.456
	Sig.	.759	.893	.189	.000	.001	.271	.013	.612	.000
WORK	r	-.211	-.088	-.285	-.159	-.143	-.349	-.008	-.003	-.139
	Sig.	.002	.404	.000	.018	.033	.069	.979	.984	.039
PLAY	r	.161	-.150	-.047	-.418	-.171	.203	.132	-.030	-.206
	Sig.	.022	.150	.488	.000	.011	.300	.652	.859	.002
EARNING	r	.002	-.110	-.436	-.205	-.255	-.055	-.283	.061	-.093
	Sig.	.975	.294	.000	.002	.000	.781	.327	.720	.171
CREATIVITY	r	-.070	.079	.136	-.194	-.088	-.031	-.158	.044	-.055
	Sig.	.318	.451	.045	.004	.193	.877	.605	.798	.416
HELP	r	-.025	-.308	-.200	-.225	-.207	-.177	-.184	.084	-.078
	Sig.	.728	.003	.003	.001	.002	.368	.530	.623	.249
LOVE	r	-.173	-.156	-.036	-.251	-.264	-.212	-.012	-.161	-.124
	Sig.	.013	.136	.599	.000	.000	.279	.966	.341	.066
FRIEND	r	.094	-.060	.028	-.366	-.131	-.085	-.235	.140	-.086
	Sig.	.180	.569	.679	.000	.053	.668	.418	.408	.205
CHILD	r	-.087	-.026	.026	-.028	.044	-.179	-.216	.436	.043
	Sig.	.219	.805	.697	.681	.518	.361	.458	.007	.530
RELATIVE	r	.023	-.246	-.191	-.246	-.360	.027	-.285	.258	-.130
	Sig.	.740	.018	.005	.000	.000	.892	.323	.123	.056
HOME	r	.082	-.167	-.179	-.225	-.219	-.493	-.523	-.215	-.123
	Sig.	.241	.109	.008	.001	.001	.008	.055	.202	.069
NEIGHBOR	r	.096	-.185	-.152	-.126	-.087	-.129	-.350	-.174	-.164
	Sig.	.172	.076	.024	.060	.195	.512	.220	.302	.015
COMMUNITY	r	-.001	.017	-.137	-.137	-.065	-.325	-.307	-.139	-.113
	Sig.	.984	.871	.043	.041	.338	.091	.286	.411	.093
CSQ-8	r	.095	-.028	-.199	-.170	-.226	.199	-.250	.125	-.152
	Sig.	.169	.789	.003	.010	.001	.300	.369	.455	.022

Appendix 2, Part 3

Pearson Product-moment Correlations of Subscales for Students: All Subscales with OOLI Subscales and CSQ-8

		Health	Self-esteem	Goals	Money	Work	Play	Learn	Creativity	Help	Love	Friend	Child	Relative	Home	Neighb.	Comm.	CSQ-8
SCL90: Somatic	r	-.444	-.335	-.237	-.104	-.221	-.336	-.255	-.097	-.170	-.124	-.304	.098	-.188	-.101	-.150	-.182	-.152
	Sig.	.000	.000	.000	.123	.001	.000	.000	.153	.011	.066	.000	.146	.005	.136	.026	.007	.022
SCL90:O-C	r	-.298	-.474	-.304	-.217	-.221	-.294	-.267	-.139	-.214	-.225	-.316	.130	-.212	-.143	-.099	-.146	-.043
	Sig.	.000	.000	.000	.001	.001	.000	.000	.040	.001	.001	.000	.054	.002	.034	.142	.030	.524
SCL90:Interp. Sens	r	-.312	-.518	-.303	-.257	-.197	-.252	-.265	-.229	-.228	-.329	-.399	-.012	-.155	-.231	-.110	-.099	-.044
	Sig.	.000	.000	.000	.000	.003	.000	.000	.001	.001	.000	.000	.862	.021	.001	.102	.141	.514
SCL90:Depression	r	-.352	-.566	-.349	-.337	-.225	-.411	-.270	-.206	-.255	-.269	-.383	.103	-.246	-.223	-.132	-.166	-.101
	Sig.	.000	.000	.000	.000	.001	.000	.000	.002	.000	.000	.000	.127	.000	.001	.049	.013	.129
SCL90:Anxiety	r	-.302	-.434	-.269	-.205	-.172	-.272	-.211	-.037	-.158	-.166	-.269	.072	-.186	-.113	-.092	-.118	-.063
	Sig.	.000	.000	.000	.002	.010	.000	.002	.581	.018	.014	.000	.286	.006	.094	.172	.080	.345
SCL90:Hostility	r	-.139	-.149	-.250	-.131	-.213	-.189	-.142	-.142	-.172	-.177	-.195	.019	-.121	-.179	-.122	-.209	.018
	Sig.	.040	.026	.000	.052	.001	.005	.035	.035	.011	.008	.004	.783	.074	.008	.070	.002	.786
SCL90:Phobic	r	-.088	-.299	-.159	-.130	-.065	-.124	-.086	.042	-.088	-.080	-.232	.087	-.069	-.087	.026	-.052	-.077
	Sig.	.191	.000	.019	.054	.336	.066	.202	.536	.194	.234	.001	.198	.309	.196	.701	.438	.252
SCL90:Paranoid	r	-.271	-.424	-.273	-.200	-.138	-.249	-.235	-.175	-.077	-.249	-.366	.037	-.100	-.123	-.090	-.120	-.029
	Sig.	.000	.000	.000	.003	.041	.000	.000	.009	.256	.000	.000	.587	.140	.069	.185	.075	.669
SCL90:Psychotic	r	-.324	-.388	-.247	-.173	-.098	-.273	-.212	-.028	-.105	-.282	-.279	.065	-.192	-.122	-.054	-.124	-.020
	Sig.	.000	.000	.000	.010	.144	.000	.002	.684	.118	.000	.000	.338	.004	.069	.423	.066	.762
Physical functioning	r	.332	.144	.145	.162	.067	.189	.181	-.076	.063	.066	.143	-.020	.167	.184	.195	.179	.054
	Sig.	.000	.032	.031	.016	.320	.005	.007	.260	.349	.326	.034	.772	.013	.006	.003	.007	.417
Role physical	r	.323	-.012	.126	.011	.071	.159	.041	.026	.063	.059	.111	-.064	.158	.112	.167	.146	.074
	Sig.	.000	.862	.061	.868	.293	.018	.540	.698	.349	.379	.099	.342	.019	.095	.013	.030	.267
Bodily pain	r	.307	.207	.152	.102	.120	.218	.277	.149	.052	.165	.199	-.022	.124	.112	.168	.207	.084
	Sig.	.000	.002	.024	.130	.075	.001	.000	.027	.438	.014	.003	.750	.065	.095	.012	.002	.206
General Health	r	.607	.297	.272	.125	.134	.268	.317	.061	.157	.129	.132	-.013	.201	.241	.203	.188	.121
	Sig.	.000	.000	.000	.065	.047	.000	.000	.370	.019	.055	.051	.848	.003	.000	.002	.005	.068
Vitality	r	.484	.358	.311	.119	.211	.345	.271	.225	.337	.139	.229	-.120	.274	.254	.247	.221	.242
	Sig.	.000	.000	.000	.077	.002	.000	.000	.001	.000	.038	.001	.076	.000	.000	.000	.001	.000
Social functioning	r	.322	.292	.239	.222	.090	.308	.210	.094	.128	.068	.203	-.178	.128	.072	.051	.166	.132
	Sig.	.000	.000	.000	.001	.182	.000	.002	.164	.057	.314	.002	.008	.057	.285	.451	.014	.047
Role-emotional	r	.215	.330	.200	.257	.157	.165	.116	-.001	.063	.081	.048	-.133	.088	.072	.053	.259	.085
	Sig.	.001	.000	.003	.000	.020	.014	.083	.983	.352	.232	.479	.048	.191	.289	.431	.000	.199
Mental health	r	.326	.500	.285	.311	.149	.340	.246	.192	.224	.122	.268	-.034	.195	.182	.168	.185	.136
	Sig.	.000	.000	.000	.000	.027	.000	.000	.004	.001	.070	.000	.620	.004	.007	.012	.006	.041
SAS-SR: Work out	r	.034	-.032	-.023	-.022	-.211	.161	.002	-.070	-.025	-.173	.094	-.087	.023	.082	.096	-.001	.095
	Sig.	.626	.647	.745	.759	.002	.022	.975	.318	.728	.013	.180	.219	.740	.241	.172	.984	.169
SAS-SR: Work home	r	-.173	.040	-.172	-.014	-.088	-.150	-.110	.079	-.308	-.156	-.060	-.026	-.246	-.167	-.185	.017	-.028
	Sig.	.098	.702	.100	.893	.404	.150	.294	.451	.003	.136	.569	.805	.018	.109	.076	.871	.789
SAS-SR: Work Stud.	r	-.192	-.273	-.337	-.089	-.285	-.047	-.436	-.136	-.200	-.036	.028	.026	-.191	-.179	-.152	-.137	-.199
	Sig.	.004	.000	.000	.189	.000	.488	.000	.045	.003	.599	.679	.697	.005	.008	.024	.043	.003
SAS-SR:Soc/Leisure	r	-.178	-.389	-.314	-.297	-.159	-.418	-.205	-.194	-.225	-.251	-.366	-.028	-.246	-.225	-.126	-.137	-.170
	Sig.	.008	.000	.000	.000	.018	.000	.002	.004	.001	.000	.000	.681	.000	.001	.060	.041	.010

		Health	Self-esteem	Goals	Money	Work	Play	Learn	Creativity	Help	Love	Friend	Child	Relative	Home	Neighb.	Comm.	CSQ-8
SAS-SR: Ext Family	r	.265	-.328	-.300	-.216	-.143	-.171	-.255	-.088	-.207	-.264	-.131	.044	-.360	-.219	-.087	-.065	-.226
	Sig.	.000	.000	.000	.001	.033	.011	.005	.193	.002	.000	.053	.518	.000	.001	.195	.338	.001
SAS-SR: Marital	r	-.041	.045	-.214	-.215	-.349	.203	-.055	-.031	-.177	-.212	-.085	-.179	.027	-.493	-.129	-.325	.199
	Sig.	.838	.821	.273	.271	.069	.303	.781	.877	.368	.279	.668	.361	.892	.008	.512	.091	.300
SAS-SR: Parental	r	-.027	-.558	.067	-.644	-.008	.132	-.283	-.158	-.184	-.012	-.235	-.216	-.285	-.523	-.350	-.307	-.250
	Sig.	.928	.038	.819	.013	.979	.652	.327	.605	.530	.966	.418	.458	.323	.055	.220	.286	.369
SAS-SR: Fam Unit	r	-.174	.161	.121	-.086	-.003	-.030	.061	.044	.084	-.161	.140	.436	.258	-.215	-.174	-.139	.125
	Sig.	.304	.341	.475	.612	.984	.859	.720	.798	.623	.341	.408	.007	.123	.202	.302	.411	.455
SAS-SR: Economic	r	-.158	-.238	-.107	-.456	-.139	-.206	-.093	-.055	-.078	-.124	-.086	.043	-.130	-.123	-.164	-.113	-.152
	Sig.	.019	.000	.115	.000	.039	.002	.171	.416	.249	.066	.205	.530	.056	.069	.015	.093	.022
HEALTH	r	1.000	.394	.263	.191	.180	.347	.351	.148	.163	.053	.248	-.009	.286	.164	.285	.328	.157
	Sig.	.000	.000	.000	.007	.000	.000	.000	.028	.015	.436	.000	.896	.000	.014	.000	.000	.019
SELF-ESTEEM	r	.394	1.000	.335	.360	.063	.354	.284	.243	.240	.266	.347	.072	.204	.214	.223	.183	.164
	Sig.	.000	.000	.000	.000	.015	.000	.000	.000	.000	.000	.000	.288	.002	.001	.001	.006	.014
GOALS	r	.265	.335	1.000	.058	.232	.200	.392	.213	.330	.156	.299	.137	.255	.197	.145	.190	.086
	Sig.	.000	.000	.000	.000	.001	.003	.000	.001	.000	.020	.000	.042	.000	.003	.031	.005	.202
MONEY	r	.191	.360	.058	1.000	.184	.256	.066	.089	.074	.161	.247	.069	.143	.146	.103	.118	.114
	Sig.	.004	.000	.395	.000	.006	.000	.328	.187	.272	.017	.223	.092	.035	.031	.126	.080	.090
WORK	r	.180	.163	.232	.184	1.000	.077	.199	.298	.296	.171	.171	.143	.172	.215	.248	.263	.084
	Sig.	.007	.015	.001	.006	.000	.250	.003	.000	.000	.011	.011	.034	.010	.001	.000	.000	.211
PLAY	r	.347	.334	.200	.256	.077	1.000	.244	.271	.186	.134	.544	-.067	.256	.162	.168	.245	.125
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.046	.001	.076	.252	.011	.038	.003	.180
LEARNING	r	.351	.284	.392	.066	.199	.244	1.000	.330	.226	.161	.223	.092	.292	.231	.225	.183	.131
	Sig.	.000	.000	.000	.328	.003	.000	.000	.000	.001	.016	.001	.174	.000	.001	.001	.006	.051
CREATIVITY	r	.148	.243	.213	.089	.298	.271	.330	1.000	.336	.135	.229	.120	.078	.170	.140	.198	-.090
	Sig.	.028	.000	.001	.187	.000	.000	.000	.000	.000	.000	.001	.076	.252	.011	.038	.003	.180
HELP	r	.163	.240	.330	.074	.296	.186	.226	.336	1.000	.234	.232	.112	.253	.271	.177	.168	.038
	Sig.	.015	.000	.000	.272	.000	.005	.001	.000	.000	.000	.001	.096	.000	.000	.008	.012	.570
LOVE	r	.053	.266	.156	.161	.171	.134	.161	.135	.234	1.000	.172	.118	.171	.176	.048	.011	.031
	Sig.	.436	.000	.020	.017	.011	.047	.016	.046	.000	.000	.011	.079	.011	.008	.479	.866	.641
FRIEND	r	.248	.347	.299	.247	.171	.544	.223	.229	.232	.172	1.000	-.026	.280	.197	.161	.184	.181
	Sig.	.000	.000	.000	.000	.011	.000	.001	.001	.001	.011	.000	.704	.000	.003	.017	.006	.007
CHILD	r	-.009	.072	.137	.069	.143	-.067	.092	.120	.112	.118	-.026	1.000	.160	.005	.037	.052	-.046
	Sig.	.896	.288	.042	.309	.034	.323	.174	.076	.096	.079	.704	.000	.018	.936	.589	.444	.496
RELATIVE	r	.286	.204	.255	.143	.172	.256	.292	.078	.253	.171	.280	.160	1.000	.182	.238	.261	.227
	Sig.	.000	.002	.000	.035	.010	.000	.000	.232	.000	.011	.000	.018	.000	.007	.000	.000	.001
BIOME	r	.164	.214	.197	.146	.215	.162	.231	.170	.271	.176	.197	.005	.182	1.000	.491	.192	.045
	Sig.	.014	.001	.003	.031	.001	.016	.001	.011	.000	.008	.003	.936	.007	.000	.000	.004	.505
NEIGHBOR	r	.285	.223	.145	.103	.248	.168	.275	.140	.177	.048	.161	.037	.238	.491	1.000	.475	.134
	Sig.	.000	.001	.031	.126	.000	.012	.001	.038	.008	.479	.017	.589	.000	.000	.000	.000	.045
COMMUNITY	r	.328	.183	.190	.118	.263	.245	.183	.198	.168	.011	.184	.052	.261	.192	.475	1.000	.065
	Sig.	.000	.006	.005	.080	.000	.006	.006	.003	.012	.866	.006	.444	.000	.004	.000	.000	.336
CSQ-8	r	.157	.164	.086	.114	.084	.125	.131	-.090	.038	.031	.181	-.046	.227	.045	.134	.065	1.000
	Sig.	.019	.014	.202	.090	.211	.063	.051	.180	.570	.641	.007	.496	.001	.505	.045	.336	.000

Appendix 3, Part 1

Pearson Product-moment Correlations of Subscales for Consumers: All Subscales with SCL-90 and SF-36 Subscales

	SCL90 Somatic	SCL90 O-C	SCL90 Interp. Sens	SCL90 Dep	SCL90 Anxiety	SCL90 Hostility	SCL90 Phobic	SCL90 Paranoid	SCL90 Psychotic	Physical funct.	Role physical	Bodily pain	General Health	Vitality	Social funct.	Role-emotional	Mental health
SCL90 Somatic	r	1.000	.611	.615	.695	.684	.619	.642	.627	.649	-.145	-.279	-.548	-.371	-.360	-.314	-.507
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.392	.095	.000	.022	.026	.055	.001
	N	38	38	38	38	38	37	38	37	38	37	37	38	38	38	38	38
O-C	r	.611	1.000	.659	.849	.777	.603	.685	.687	.739	.114	.338	-.270	-.340	-.365	-.387	-.525
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.496	.038	.097	.034	.022	.015	.001
	N	38	39	39	39	39	38	39	38	39	38	38	39	39	39	39	39
Interp. Sens	r	.615	.659	1.000	.706	.670	.536	.620	.830	.685	.045	-.295	-.519	-.391	-.353	-.594	-.458
	Sig.	.000	.000	.000	.000	.000	.001	.000	.000	.000	.789	.073	.001	.014	.027	.000	.003
	N	38	39	39	39	39	38	39	38	39	38	38	39	39	39	39	39
Depression	r	.695	.849	.706	1.000	.882	.618	.647	.764	.837	.069	-.308	-.326	-.396	-.378	-.542	-.615
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.676	.057	.040	.011	.016	.000	.000
	N	38	39	39	40	39	38	39	38	39	39	39	40	40	40	40	40
Anxiety	r	.684	.777	.670	.882	1.000	.634	.683	.709	.876	-.015	-.147	-.291	-.328	-.298	-.386	-.581
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.930	.380	.072	.041	.065	.015	.000
	N	38	39	39	39	39	38	39	38	39	38	38	39	39	39	39	39
Hostility	r	.619	.603	.536	.618	.634	1.000	.497	.668	.655	.037	-.284	-.408	-.312	-.216	-.425	-.601
	Sig.	.000	.000	.001	.000	.000	.000	.001	.000	.000	.827	.088	.011	.056	.192	.008	.000
	N	37	38	38	38	38	38	38	38	38	37	37	38	38	38	38	38
Phobic	r	.642	.685	.620	.647	.683	.497	1.000	.679	.688	-.090	-.280	-.374	-.266	-.100	-.365	-.371
	Sig.	.000	.000	.000	.000	.000	.001	.000	.000	.000	.589	.089	.019	.102	.546	.022	.020
	N	38	39	39	39	39	38	39	38	39	38	38	39	39	39	39	39
Paranoid	r	.627	.687	.830	.764	.709	.668	.679	1.000	.724	.132	-.235	-.428	-.373	-.066	-.506	-.458
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.436	.127	.007	.021	.693	.001	.004
	N	37	38	38	38	38	38	38	38	38	37	37	38	38	38	38	38
Psychotic	r	.649	.739	.685	.837	.876	.655	.688	.724	1.000	.037	-.278	-.224	-.379	-.255	-.375	-.499
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.826	.092	.169	.017	.118	.019	.001
	N	38	39	39	39	39	38	39	38	39	38	38	39	39	39	39	39
SF-36 Phys. Funct.	r	-.145	.114	.045	.069	-.015	.037	-.090	.132	.037	1.000	.149	.108	-.163	.132	-.088	.248
	Sig.	.392	.496	.789	.676	.930	.827	.589	.436	.826	.000	.373	.513	.323	.425	.596	.128
	N	37	38	38	39	38	37	38	37	38	39	38	39	39	39	39	39
Role physical	r	-.279	-.338	-.295	-.308	-.147	-.284	-.280	-.255	-.278	.149	1.000	.316	.409	.355	.183	.231
	Sig.	.095	.038	.073	.057	.380	.088	.089	.127	.092	.373	.000	.050	.010	.027	.266	.001
	N	37	38	38	39	38	37	38	37	38	39	38	39	39	39	39	39
Bodily pain	r	-.548	-.270	-.519	-.326	-.291	-.408	-.374	-.428	-.224	.108	.316	1.000	.200	.370	.338	.359
	Sig.	.000	.097	.001	.040	.072	.011	.019	.007	.169	.513	.050	.000	.216	.019	.033	.023
	N	38	39	39	40	39	38	39	38	39	39	39	40	40	40	40	40

	SCL90 Somatic	SCL90 O-C	SCL90 Interp. Sens	SCL90 Dep.	SCL90 Anxiety	SCL90 Hostility	SCL90 Phobic	SCL90 Paranoid	SCL90 Psychotic	Physical funct.	Role physical	Bodily pain	General Health	Vitality	Social funct.	Role- emotional	Mental health
General Health	I	-.371	-.340	-.391	-.396	-.328	-.312	-.266	-.373	-.163	.409	.200	1.000	.529	.468	.249	.521
	Sig.	.022	.034	.014	.011	.041	.056	.102	.021	.017	.323	.010	.000	.000	.002	.122	.001
	N	38	39	39	40	39	38	39	38	39	39	40	40	40	40	40	40
Vitality	I	-.360	-.365	-.353	-.378	-.298	-.216	-.100	-.066	.132	.355	.370	.529	1.000	.465	.564	.539
	Sig.	.026	.022	.027	.016	.065	.192	.546	.693	.118	.425	.019	.000	.000	.003	.000	.000
	N	38	39	39	40	39	38	39	38	39	39	40	40	40	40	40	40
Social functioning	I	-.314	-.387	-.594	-.542	-.386	-.425	-.365	-.506	-.088	.183	.338	.468	.465	1.000	.230	.480
	Sig.	.055	.015	.000	.000	.015	.008	.022	.001	.019	.596	.266	.003	.003	.000	.154	.002
	N	38	39	39	40	39	38	39	38	39	39	40	40	40	40	40	40
Role-emotional	I	-.477	-.385	-.313	-.388	-.403	-.416	-.330	-.236	-.337	.248	.511	.385	.564	.230	1.000	.527
	Sig.	.002	.016	.052	.013	.011	.006	.040	.154	.036	.128	.001	.014	.000	.154	.000	.000
	N	38	39	39	40	39	38	39	38	39	39	40	40	40	40	40	40
Mental health	I	-.507	-.525	-.458	-.615	-.581	-.601	-.371	-.458	-.499	.071	.231	.521	.539	.480	.527	1.000
	Sig.	.001	.001	.003	.000	.000	.000	.020	.004	.001	.669	.157	.001	.000	.002	.000	.000
	N	38	39	39	40	39	38	39	38	39	39	40	40	40	40	40	40
SAS-SR Work out	I	.430	.567	.537	.432	.370	.460	.588	.534	.476	.015	-.486	-.319	-.242	-.270	-.262	-.405
	Sig.	.025	.002	.004	.024	.057	.016	.001	.004	.012	.942	.010	.105	.224	.174	.187	.036
	N	27	27	27	27	27	27	27	27	27	26	27	27	27	27	27	27
Work home	I	.367	.425	.333	.419	.389	.472	.294	.346	.343	.227	-.322	-.420	-.359	-.244	-.441	-.486
	Sig.	.042	.015	.062	.017	.078	.007	.103	.056	.055	.219	.078	.017	.043	.177	.011	.005
	N	31	32	32	32	32	31	32	31	32	31	31	32	32	32	32	32
Work Student	I	.284	.097	.282	.666	.455	.783	.469	.323	.657	-.802	-.558	-.867	-.405	-.930	-.583	-.978
	Sig.	.716	.903	.718	.334	.545	.217	.531	.677	.343	.198	.442	.133	.595	.070	.417	.022
	N	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Soc/Leisure	I	.279	.456	.531	.333	.401	.543	.454	.453	.410	.098	-.230	-.286	-.179	-.438	-.187	-.381
	Sig.	.095	.004	.001	.038	.013	.001	.004	.005	.011	.559	.165	.077	.277	.005	.254	.017
	N	37	38	38	39	38	37	38	37	38	38	38	39	39	39	39	39
Ext Family	I	.535	.360	.399	.512	.497	.410	.391	.515	.491	-.070	-.047	-.174	.103	-.198	-.135	-.279
	Sig.	.001	.024	.012	.001	.001	.011	.014	.001	.002	.671	.778	.284	.526	.220	.407	.081
	N	38	39	39	40	39	38	39	38	39	39	40	40	40	40	40	40
Marital	I	.111	.211	.109	.255	.205	.181	.247	.239	.262	.106	.319	.122	-.007	-.211	-.205	-.144
	Sig.	.692	.450	.699	.359	.454	.535	.374	.411	.545	.717	.247	.665	.981	.900	.451	.609
	N	15	15	15	15	15	14	15	14	15	14	15	15	15	15	15	15
Parental	I	.547	.162	.536	.299	.233	.522	.037	.561	.377	.096	-.355	-.374	-.419	-.152	-.188	-.388
	Sig.	.102	.656	.110	.401	.517	.121	.920	.091	.283	.805	.315	.287	.674	.603	.479	.268
	N	10	10	10	10	10	10	10	10	10	9	10	10	10	10	10	10
Team Unit	I	.448	.578	.534	.565	.548	.569	.282	.559	.374	.189	-.070	-.461	-.224	-.210	-.608	-.445
	Sig.	.015	.001	.001	.001	.002	.002	.138	.002	.045	.327	.718	.010	.233	.265	.000	.014
	N	29	29	29	30	29	28	29	28	29	29	30	30	30	30	30	30

	SCL90 Somatic	SCL90 O-C	SCL90 Interp. Sens	SCL90 Dep.	SCL90 Anxiety	SCL90 Hostility	SCL90 Phobic	SCL90 Paranoid	SCL90 Psychotic	Physical funct.	Role physical	Bodily pain	General Health	Vitality	Social funct.	Role emotional	Mental health
Economic	r .588	.426	.508	.466	.419	.535	.408	.418	.428	-.156	-.241	-.375	-.300	-.218	-.332	-.190	-.187
	Sig. .000	.010	.002	.004	.011	.001	.013	.012	.009	.364	.156	.022	.071	.196	.045	.260	.267
	N 35	36	36	37	36	35	36	35	36	36	36	37	37	37	37	37	37
QUAL HEALTH	r -.346	-.169	-.141	-.240	-.080	-.068	-.079	-.108	-.119	-.156	.338	.129	.574	.305	.234	.183	.310
	Sig. .036	.311	.397	.141	.635	.688	.638	.523	.477	.344	.038	.433	.000	.059	.151	.264	.054
	N 37	38	38	39	38	37	38	37	38	39	38	39	39	39	39	39	39
SELF-ESTEEM	r -.317	-.393	-.335	-.411	-.239	-.188	-.170	-.380	-.296	-.215	.181	.227	.363	.159	.324	-.027	.291
	Sig. .059	.016	.042	.010	.154	.273	.315	.022	.075	.195	.284	.171	.025	.339	.047	.872	.077
	N 36	37	37	38	37	36	37	36	37	38	37	38	38	38	38	38	38
GOALS	r -.270	-.394	-.309	-.268	-.302	-.354	-.322	-.264	-.299	-.197	.217	.185	.251	.263	.304	.262	.340
	Sig. .106	.016	.062	.104	.070	.034	.052	.120	.073	.236	.197	.267	.128	.110	.064	.112	.037
	N 37	37	37	38	37	36	37	36	37	38	37	38	38	38	38	38	38
MONEY	r -.179	-.278	-.486	-.283	-.173	-.247	-.148	-.310	-.239	-.091	.292	.148	.471	.343	.545	.115	.374
	Sig. .289	.091	.002	.081	.299	.140	.376	.062	.149	.580	.076	.368	.002	.032	.000	.485	.019
	N 37	38	38	39	38	37	38	37	38	39	38	39	39	39	39	39	39
WORK	r -.201	-.112	-.065	-.151	.040	-.201	-.078	-.126	-.032	.043	.472	.138	.466	.212	.321	.213	.254
	Sig. .233	.504	.697	.358	.813	.232	.643	.456	.847	.793	.003	.401	.003	.195	.047	.194	.118
	N 37	38	38	39	38	37	38	37	38	39	38	39	39	39	39	39	39
PLAY	r -.235	.029	.013	.024	.044	-.098	-.195	-.162	.025	-.103	.116	.082	.253	-.016	.232	.004	.014
	Sig. .168	.864	.941	.888	.797	.568	.248	.345	.885	.538	.494	.625	.125	.922	.161	.982	.932
	N 36	37	37	38	37	36	37	36	37	38	37	38	38	38	38	38	38
LEARNING	r .081	-.017	-.192	-.022	-.050	-.078	-.195	-.158	-.057	-.276	.108	-.041	.240	-.014	.308	.043	.040
	Sig. .635	.921	.248	.893	.764	.647	.241	.350	.733	.089	.519	.806	.141	.934	.056	.793	.810
	N 37	38	38	39	38	37	38	37	38	39	38	39	39	39	39	39	39
CREATIVITY	r .053	-.075	-.096	-.058	-.065	.106	-.291	-.152	-.159	-.276	.180	-.112	.107	-.094	.148	.009	.003
	Sig. .754	.652	.567	.728	.700	.534	.076	.368	.341	.088	.279	.496	.517	.569	.369	.955	.985
	N 37	38	38	39	38	37	38	37	38	39	38	39	39	39	39	39	39
HELP	r -.393	-.176	-.173	-.152	-.180	.019	-.334	-.212	-.295	.176	.207	.068	-.006	-.041	-.036	.184	.010
	Sig. .016	.289	.300	.356	.280	.909	.041	.207	.072	.284	.212	.682	.971	.807	.826	.262	.954
	N 37	38	38	39	38	37	38	37	38	39	38	39	39	39	39	39	39
LOVE	r -.086	-.343	-.162	-.209	-.058	-.209	-.144	-.189	-.157	-.174	.472	.065	.256	.274	.292	.187	.115
	Sig. .611	.035	.332	.203	.727	.214	.390	.264	.347	.290	.003	.693	.115	.092	.072	.255	.487
	N 37	38	38	39	38	37	38	37	38	39	38	39	39	39	39	39	39
FRIEND	r -.007	-.077	-.394	-.076	-.167	-.148	-.224	-.227	-.237	.016	.189	-.053	.082	.011	.246	-.017	.114
	Sig. .966	.646	.014	.644	.316	.383	.177	.177	.151	.921	.257	.749	.618	.949	.131	.919	.489
	N 37	38	38	39	38	37	38	37	38	39	38	39	39	39	39	39	39
CHILD	r .125	-.125	-.055	-.025	-.022	-.209	.050	-.185	-.011	-.061	.084	-.173	.212	-.125	.151	-.191	.026
	Sig. .469	.461	.745	.883	.898	.222	.768	.281	.947	.715	.622	.300	.202	.454	.365	.250	.878
	N 36	37	37	38	37	36	37	36	37	38	37	38	38	38	38	38	38

		SCL90 Somatic	SCL90 O-C	SCL90 Interp. Sens	SCL90 Dep.	SCL90 Anxiety	SCL90 Hostility	SCL90 Phobic	SCL90 Paranoid	SCL90 Psychotic	Physical funct.	Role physical	Bodily pain	General Health	Vitality	Social funct.	Role- emotional	Mental health
RELATIVE	F	-.132	-.289	-.472	-.244	-.271	-.133	-.330	-.364	-.182	.056	.286	.143	.120	.045	.375	.207	.256
	Sig.	.436	.079	.003	.134	.100	.433	.043	.027	.274	.734	.082	.386	.467	.786	.019	.207	.115
	N	37	38	38	39	38	37	38	37	38	39	38	39	39	39	39	39	39
HOME	F	-.413	-.282	-.538	-.301	-.321	-.153	-.373	-.311	-.337	.016	.392	.262	.457	.448	.326	.272	.303
	Sig.	.012	.091	.001	.066	.053	.374	.023	.065	.041	.926	.017	.112	.004	.005	.045	.099	.064
	N	36	37	37	38	37	36	37	36	37	38	37	38	38	38	38	38	38
NEIGHBOR	F	-.252	-.251	-.368	-.238	-.247	-.142	-.376	-.425	-.367	-.019	.240	-.032	.261	-.137	.220	-.054	.081
	Sig.	.133	.128	.023	.145	.134	.402	.020	.009	.024	.908	.147	.845	.108	.407	.179	.746	.626
	N	37	38	38	39	38	37	38	37	38	39	38	39	39	39	39	39	39
COMMUN	F	-.233	-.216	-.274	-.145	-.261	-.299	-.107	-.224	-.183	-.024	.022	-.057	.125	-.076	.115	.099	.178
	Sig.	.165	.192	.177	.377	.114	.072	.524	.182	.271	.884	.894	.729	.447	.647	.485	.550	.277
	N	37	38	38	39	38	37	38	37	38	39	38	39	39	39	39	39	39
CSQ-8	F	-.339	-.432	-.358	-.401	-.386	-.442	-.581	-.490	-.410	-.048	.304	.283	.299	.058	.341	.339	.303
	Sig.	.037	.006	.025	.010	.015	.005	.000	.002	.009	.772	.060	.077	.061	.722	.032	.032	.057
	N	38	39	39	40	39	38	39	38	39	39	39	40	40	40	40	40	40

Appendix 3, Part 2

Pearson Product-moment Correlations of Subscales for Consumers: All Subscales with SAS-SR Subscales

		Work out	Work home	Work Student	Soc/Leisure	Ext Family	Marital	Parental	Fam Unit	Economic
SCL90: Somatic	r	.430	.367	.284	.279	.535	.111	.547	.448	.588
	Sig.	.025	.042	.716	.095	.001	.692	.102	.015	.000
	N	27	31	4	37	38	15	10	29	35
O-C	r	.567	.425	.097	.456	.360	.211	.162	.578	.426
	Sig.	.002	.015	.903	.004	.024	.450	.656	.001	.010
	N	27	32	4	38	39	15	10	29	36
Interp. Sens	r	.537	.333	.282	.531	.399	.109	.536	.534	.508
	Sig.	.004	.062	.718	.001	.012	.699	.110	.003	.002
	N	27	32	4	38	39	15	10	29	36
Depression	r	.432	.419	.666	.333	.512	.255	.299	.565	.466
	Sig.	.024	.017	.334	.038	.001	.359	.401	.001	.004
	N	27	32	4	39	40	15	10	30	37
Anxiety	r	.370	.389	.455	.401	.497	.209	.233	.548	.419
	Sig.	.057	.028	.545	.013	.001	.454	.517	.002	.011
	N	27	32	4	38	39	15	10	29	36
Hostility	r	.460	.472	.783	.543	.410	.181	.522	.569	.535
	Sig.	.016	.007	.217	.001	.011	.535	.121	.002	.001
	N	27	31	4	37	38	14	10	28	35
Phobic	r	.588	.294	.469	.454	.391	.247	.037	.282	.408
	Sig.	.001	.103	.531	.004	.014	.374	.920	.138	.013
	N	27	32	4	38	39	15	10	29	36
Paranoid	r	.534	.346	.323	.453	.515	.239	.561	.559	.418
	Sig.	.004	.056	.677	.005	.001	.411	.091	.002	.012
	N	27	31	4	37	38	14	10	28	35
Psychotic	r	.476	.343	.657	.410	.491	.262	.377	.374	.428
	Sig.	.012	.055	.343	.011	.002	.345	.283	.045	.009
	N	27	32	4	38	39	15	10	29	36
SF-36 Phys. Funct.	r	.015	.227	-.802	.098	-.070	.106	.096	.189	-.156
	Sig.	.942	.219	.198	.559	.671	.717	.805	.327	.364
	N	26	31	4	38	39	14	9	29	36
Role physical	r	-.486	-.322	-.558	-.230	-.047	.319	-.355	-.070	-.241
	Sig.	.010	.078	.442	.165	.778	.247	.315	.718	.156
	N	27	31	4	38	39	15	10	29	36
Bodily pain	r	-.319	-.420	-.867	-.286	-.225	.122	-.374	-.461	-.375
	Sig.	.105	.017	.133	.077	.163	.665	.287	.010	.022
	N	27	32	4	39	40	15	10	30	37
General Health	r	-.242	-.359	.867	-.287	-.174	-.007	-.419	-.224	-.300
	Sig.	.224	.043	.133	.077	.284	.981	.228	.233	.071
	N	27	32	4	39	40	15	10	30	37

		Work out	Work home	Work Student	Soc/Leisure	Ext Family	Marital	Parental	Fam Unit	Economic
Vitality	r	-.270	-.244	-.405	-.179	.103	-.036	-.152	-.210	-.218
	Sig.	.174	.177	.595	.277	.526	.900	.674	.265	.196
	N	27	32	4	39	40	15	10	30	37
Social functioning	r	-.262	-.441	-.930	-.438	-.198	-.211	-.188	-.608	-.332
	Sig.	.187	.011	.070	.005	.220	.451	.603	.000	.045
	N	27	32	4	39	40	15	10	30	37
Role-emotional	r	-.456	-.486	-.583	-.187	-.135	-.205	-.254	-.194	-.190
	Sig.	.017	.005	.417	.254	.407	.464	.479	.305	.260
	N	27	32	4	39	40	15	10	30	37
Mental health	r	-.405	-.497	-.978	-.381	-.279	-.144	-.388	-.445	-.187
	Sig.	.036	.004	.022	.017	.081	.609	.268	.014	.267
	N	27	32	4	39	40	15	10	30	37
SAS-SR Work out	r	1.000	.495	-.403	.460	.175	.681	.451	.083	.183
	Sig.	.000	.027	.736	.016	.384	.043	.262	.727	.372
	N	27	20	3	27	27	9	8	20	26
Work home	r	.495	1.000	.332	.586	.416	.505	.562	.321	.173
	Sig.	.027	.000	.668	.001	.018	.079	.115	.117	.360
	N	20	32	4	31	32	13	9	25	30
Work Student	r	-.403	.332	1.000	-.201	.211	1.000	.	.755	.646
	Sig.	.736	.668	.000	.871	.789	.	.	.245	.354
	N	3	4	4	3	4	2	1	4	4
Soc/Leisure	r	.460	.586	-.201	1.000	.265	.277	.439	.372	.262
	Sig.	.016	.001	.871	.000	.104	.337	.204	.047	.123
	N	27	31	3	39	39	14	10	29	36
Ext Family	r	.175	.416	.211	.265	1.000	.473	.867	.316	.382
	Sig.	.384	.018	.789	.104	.000	.075	.001	.089	.020
	N	27	32	4	39	40	15	10	30	37
Marital	r	.681	.505	1.000	.277	.473	1.000	.577	.019	-.084
	Sig.	.043	.079	.	.337	.075	.000	.423	.952	.786
	N	9	13	2	14	15	15	4	13	13
Parental	r	.451	.562	.	.439	.867	.577	1.000	.319	.255
	Sig.	.262	.115	.	.204	.001	.423	.000	.369	.507
	N	8	9	1	10	10	4	10	10	9
Fam Unit	r	.083	.321	.755	.372	.316	.019	.319	1.000	.488
	Sig.	.727	.117	.245	.047	.089	.952	.369	.000	.007
	N	20	25	4	29	30	13	10	30	29
Economic	r	.183	.173	.646	.262	.382	-.084	.255	.488	1.000
	Sig.	.372	.360	.354	.123	.020	.786	.507	.007	.000
	N	26	30	4	36	37	13	9	29	37
QUAL HEALTH	r	-.139	-.298	.377	.035	-.161	-.016	-.302	-.077	-.118
	Sig.	.498	.104	.623	.834	.326	.957	.429	.693	.493
	N	26	31	4	38	39	14	9	29	36

		Work out	Work home	Work Student	Soc/Leisure	Ext Family	Marital	Parental	Fam Unit	Economic
SELF-ESTEEM	r	-.099	-.226	.277	-.025	-.152	-.049	-.286	-.130	-.195
	Sig.	.636	.230	.821	.885	.364	.869	.493	.510	.262
	N	25	30	3	37	38	14	8	28	35
GOALS	r	-.546	-.513	.775	-.293	.051	-.102	-.160	-.271	-.126
	Sig.	.004	.004	.225	.079	.762	.730	.681	.154	.470
	N	26	30	4	37	38	14	9	29	35
MONEY	r	-.254	-.379	.023	-.349	.048	-.144	-.559	-.348	-.287
	Sig.	.210	.035	.977	.032	.772	.622	.118	.064	.090
	N	26	31	4	38	39	14	9	29	36
WORK	r	-.293	-.473	.525	-.229	-.067	.112	-.512	-.081	-.120
	Sig.	.146	.007	.475	.167	.687	.703	.159	.677	.487
	N	26	31	4	38	39	14	9	29	36
PLAY	r	-.130	-.317	.031	-.158	-.149	.072	-.509	-.094	-.073
	Sig.	.528	.088	.969	.350	.373	.815	.161	.635	.675
	N	26	30	4	37	38	13	9	28	35
LEARNING	r	-.143	-.308	.828	-.439	.016	-.180	-.183	-.241	.106
	Sig.	.485	.092	.172	.006	.924	.538	.638	.207	.537
	N	26	31	4	38	39	14	9	29	36
CREATIVITY	r	-.237	-.221	.050	-.037	.102	-.008	.483	.193	.302
	Sig.	.243	.233	.950	.827	.536	.978	.188	.317	.074
	N	26	31	4	38	39	14	9	29	36
HELP	r	-.182	-.089	.990	-.076	-.036	-.056	-.016	-.069	.062
	Sig.	.372	.633	.010	.652	.829	.848	.967	.723	.717
	N	26	31	4	38	39	14	9	29	36
LOVE	r	-.434	-.413	.358	-.270	.198	.065	-.283	-.260	-.090
	Sig.	.027	.021	.642	.101	.228	.825	.460	.173	.603
	N	26	31	4	38	39	14	9	29	36
FRIEND	r	-.368	-.333	.057	-.419	-.075	-.165	-.760	-.226	-.070
	Sig.	.064	.067	.943	.009	.650	.574	.017	.239	.683
	N	26	31	4	38	39	14	9	29	36
CHILD	r	-.033	-.192	.890	-.130	.008	.159	-.779	-.417	-.105
	Sig.	.874	.300	.110	.442	.964	.588	.013	.024	.550
	N	25	31	4	37	38	14	9	29	35
RELATIVE	r	-.216	-.314	-.587	-.311	-.040	.200	-.334	-.486	-.064
	Sig.	.290	.086	.413	.058	.811	.493	.380	.008	.713
	N	26	31	4	38	39	14	9	29	36
HOME	r	-.419	-.287	-.143	-.327	-.067	-.467	-.555	-.383	-.205
	Sig.	.033	.124	.909	.045	.689	.107	.121	.044	.238
	N	26	30	3	38	38	13	9	28	35
NEIGHBOR	r	-.412	-.149	.031	-.234	-.237	-.246	-.566	-.339	-.255
	Sig.	.036	.422	.969	.157	.146	.397	.112	.072	.133
	N	26	31	4	38	39	14	9	29	36

	Work out	Work home	Work Student	Soc/Leisure	Ext Family	Marital	Parental Fam Unit	Economic
COMMUN								
r	-.044	-.094	-.668	-.396	-.082	.024	-.245	-.179
Sig.	.830	.616	.332	.014	.619	.934	.525	.297
N	26	31	4	38	39	14	9	29
CSQ-8								
r	-.617	-.515	-.770	-.445	-.365	-.675	-.341	-.278
Sig.	.001	.003	.230	.005	.021	.006	.727	.096
N	27	32	4	39	40	15	10	37

Note. . Indicates cannot be computed because at least one of the variables is constant.

Appendix 3, Part 3

Pearson-Product-moment Correlations of Subscales for Consumers: All Subscales with OOLi Subscales and CSQ-8

		Health	Self-esteem	Goals	Money	Work	Play	Learn	Creativ.	Help	Love	Friend	Child	Relative	Home	Neighb.	Comm.	CSQ-8
SCL90: Somatic	r	-.346	-.317	-.270	-.179	-.201	-.235	.081	.053	-.393	-.086	-.007	.125	-.132	-.413	-.252	-.233	-.339
	Sig.	.036	.059	.106	.289	.233	.168	.635	.754	.016	.611	.966	.469	.436	.012	.133	.165	.037
	N	37	36	37	37	37	36	37	37	37	37	37	36	37	36	37	37	38
O-C	r	-.169	-.393	-.394	-.278	-.112	.029	-.017	-.075	-.176	-.343	-.077	-.125	-.289	-.282	-.251	-.216	-.432
	Sig.	.311	.016	.016	.091	.504	.864	.921	.652	.289	.035	.646	.461	.079	.091	.128	.192	.006
	N	38	37	37	38	38	37	38	38	38	38	38	37	38	37	38	38	39
Interp. Sens	r	-.141	-.335	-.309	-.486	-.065	.013	-.192	-.096	-.173	-.162	-.394	-.055	-.472	-.538	-.368	-.224	-.358
	Sig.	.397	.042	.062	.002	.697	.941	.248	.567	.300	.332	.014	.745	.003	.001	.023	.177	.025
	N	38	37	37	38	38	37	38	38	38	38	38	37	38	37	38	38	39
Depression	r	-.240	-.411	-.268	-.283	-.151	.024	-.022	-.058	-.152	-.209	-.076	-.025	-.244	-.301	-.238	-.145	-.401
	Sig.	.141	.010	.104	.081	.358	.888	.893	.728	.356	.203	.644	.883	.134	.066	.145	.377	.010
	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	40
Anxiety	r	-.080	-.239	-.302	-.173	.040	.044	-.050	-.065	-.180	-.058	-.167	-.022	-.271	-.321	-.247	-.261	-.386
	Sig.	.635	.154	.070	.299	.813	.797	.764	.700	.280	.727	.316	.898	.100	.053	.134	.114	.015
	N	38	37	37	38	38	37	38	38	38	38	38	37	38	37	38	38	39
Hostility	r	-.068	-.188	-.354	-.247	-.201	-.098	-.078	.106	.019	-.209	-.148	-.209	-.133	-.153	-.142	-.299	-.442
	Sig.	.688	.273	.034	.140	.232	.568	.647	.534	.909	.214	.383	.222	.433	.374	.402	.072	.005
	N	37	36	36	37	37	36	37	37	37	37	37	36	37	36	37	37	38
Phobic	r	-.079	-.170	-.322	-.148	-.078	-.195	-.195	-.291	-.334	-.144	-.224	.050	-.330	-.373	-.376	-.107	-.581
	Sig.	.638	.315	.052	.376	.643	.248	.241	.076	.041	.390	.177	.768	.043	.023	.020	.524	.000
	N	38	37	37	38	38	37	38	38	38	38	38	37	38	37	38	38	39
Paranoid	r	-.108	-.380	-.264	-.310	-.126	-.162	-.158	-.152	-.212	-.189	-.227	-.185	-.364	-.311	-.425	-.224	-.490
	Sig.	.523	.022	.120	.062	.456	.345	.350	.368	.207	.264	.177	.281	.027	.065	.009	.182	.002
	N	37	36	36	37	37	36	37	37	37	37	37	36	37	36	37	37	38
Psychotic	r	-.119	-.296	-.299	-.239	-.032	.025	-.057	-.159	-.295	-.157	-.237	-.011	-.182	-.337	-.367	-.183	-.410
	Sig.	.477	.075	.073	.149	.847	.885	.733	.341	.072	.347	.151	.947	.274	.041	.024	.271	.009
	N	38	37	37	38	38	37	38	38	38	38	38	37	38	37	38	38	39
SF-36 Phys. Funct.	r	-.156	-.215	-.197	-.091	.043	-.103	-.276	-.276	.176	-.174	.016	-.061	.056	.016	-.019	-.024	-.048
	Sig.	.344	.195	.236	.580	.793	.538	.089	.088	.284	.290	.921	.715	.734	.926	.908	.884	.772
	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	39
Role physical	r	.338	.181	.217	.292	.472	.116	.108	.180	.207	.472	.189	.084	.286	.392	.240	.022	.304
	Sig.	.038	.284	.197	.076	.003	.494	.519	.279	.212	.003	.257	.622	.082	.017	.147	.894	.060
	N	38	37	37	38	38	37	38	38	38	38	38	37	38	37	38	38	39
Bodily pain	r	.129	.227	.185	.148	.138	.082	-.041	-.112	.068	.065	-.053	-.173	.143	.262	-.032	-.057	.283
	Sig.	.433	.171	.267	.368	.401	.625	.806	.496	.682	.693	.749	.300	.386	.112	.845	.729	.077
	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	40
General Health	r	.574	.363	.251	.471	.466	.253	.240	.107	-.006	.256	.082	.212	.120	.457	.261	.125	.299
	Sig.	.000	.025	.128	.002	.003	.125	.141	.517	.971	.115	.618	.202	.467	.004	.108	.447	.061
	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	40

		Health	Self-esteem	Goals	Money	Work	Play	Learn	Creativ.	Help	Love	Friend	Child	Relative	Home	Neighb.	Comm.	CSQ-8
Vitality	r	.305	.159	.263	.343	.212	-.016	-.014	-.094	-.041	.274	.011	-.125	.045	.448	-.137	-.076	.058
	Sig.	.059	.339	.110	.032	.195	.922	.934	.569	.807	.092	.949	.454	.786	.005	.407	.647	.722
	N	39	39	38	39	39	38	39	39	39	39	39	38	39	38	39	39	40
Social functioning	r	.234	.324	.304	.545	.391	.232	.308	.148	-.036	.292	.246	.151	.375	.326	.220	.115	.341
	Sig.	.151	.047	.064	.000	.047	.161	.056	.369	.826	.072	.131	.365	.019	.045	.179	.485	.032
	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	40
Role-emotional	r	.183	-.027	.262	.115	.213	.004	.043	.009	.184	.187	-.017	-.191	.207	.272	-.054	.099	.339
	Sig.	.264	.872	.112	.485	.194	.982	.793	.955	.262	.255	.919	.250	.207	.099	.746	.550	.032
	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	40
Mental health	r	.310	.291	.340	.374	.254	.014	.040	.003	.010	.115	.114	.026	.256	.303	.081	.178	.303
	Sig.	.054	.077	.037	.019	.118	.932	.810	.985	.954	.487	.489	.878	.115	.064	.626	.277	.057
	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	40
SAS-SR Work out	r	-.139	-.099	-.546	-.254	-.293	-.130	-.143	-.237	-.182	-.434	-.368	-.033	-.216	-.419	-.412	-.044	-.617
	Sig.	.498	.636	.004	.210	.146	.528	.485	.243	.372	.027	.064	.874	.290	.033	.036	.830	.001
	N	26	25	26	26	26	26	26	26	26	26	26	25	26	26	26	26	27
Work home	r	-.298	-.226	-.513	-.379	-.473	-.317	-.308	-.221	-.089	-.413	-.333	-.192	-.314	-.287	-.149	-.094	-.515
	Sig.	.104	.230	.004	.035	.007	.088	.092	.233	.633	.021	.067	.300	.086	.124	.422	.616	.003
	N	31	30	30	31	31	30	31	31	31	31	31	31	31	30	31	31	32
Work Student	r	.377	.277	.775	.023	.525	.031	.828	.050	.358	.057	.890	.110	.413	.909	.969	.332	.230
	Sig.	.623	.821	.225	.977	.475	.969	.172	.950	.010	.642	.943	.110	.413	.909	.969	.332	.230
	N	4	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Soc/Leisure	r	.035	-.025	-.293	-.349	-.229	-.158	-.439	-.037	-.076	-.270	-.419	-.130	-.311	-.327	-.234	-.396	-.445
	Sig.	.834	.885	.079	.032	.167	.350	.006	.827	.652	.101	.009	.442	.058	.045	.157	.014	.005
	N	38	37	37	38	38	37	38	38	38	38	37	38	38	38	38	38	39
Ext Family	r	-.161	-.152	.051	.048	-.067	-.149	.016	.102	-.036	.198	-.075	.008	-.040	-.067	-.237	-.082	-.365
	Sig.	.326	.364	.762	.772	.687	.373	.924	.536	.829	.228	.650	.964	.811	.689	.146	.619	.021
	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	40
Marital	r	-.016	-.049	-.102	-.144	.112	.072	-.180	-.008	-.056	.065	-.165	.159	.200	-.467	-.246	.024	-.675
	Sig.	.957	.869	.730	.622	.703	.815	.538	.978	.848	.825	.574	.588	.493	.107	.397	.934	.006
	N	14	14	14	14	14	13	14	14	14	14	14	14	14	14	14	14	15
Parental	r	-.302	-.286	-.160	-.559	-.512	-.509	-.183	.483	-.016	-.283	-.760	-.779	-.334	-.555	-.566	-.245	.127
	Sig.	.429	.493	.681	.118	.159	.161	.638	.188	.967	.460	.017	.013	.380	.121	.112	.525	.727
	N	9	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	10
Fam Unit	r	-.077	-.130	-.271	-.348	-.081	-.094	-.241	.193	-.069	.260	-.226	-.417	-.486	-.383	-.339	-.497	-.341
	Sig.	.693	.510	.154	.064	.677	.635	.207	.317	.723	.173	.239	.024	.008	.044	.072	.006	.065
	N	29	28	29	29	29	29	29	29	29	29	29	29	29	29	29	29	30
Economic	r	-.118	-.195	-.126	-.287	-.120	-.073	.106	.302	.062	-.090	-.070	-.105	-.064	-.205	-.255	-.179	-.278
	Sig.	.493	.262	.470	.090	.487	.675	.537	.074	.717	.603	.683	.550	.713	.238	.133	.297	.096
	N	36	35	35	36	36	36	36	36	36	36	36	35	36	35	36	36	37
QOLI HEALTH	r	1.000	.530	.323	.438	.690	.532	.231	.244	.176	.304	.103	.158	-.007	.397	.187	.062	.240
	Sig.	.000	.001	.048	.005	.000	.001	.158	.135	.283	.060	.534	.345	.965	.014	.255	.707	.141
	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	39

		Health	Self-esteem	Goals	Money	Work	Play	Learn	Creativ.	Help	Love	Friend	Child	Relative	Home	Neighb.	Comm.	CSQ-8
SELF-ESTEEM	I	.530	1.000	.455	.425	.493	.365	.196	.382	.180	.198	.098	.145	.078	.081	.299	-.024	.060
	Sig.	.001	.000	.005	.008	.002	.027	.239	.018	.279	.233	.557	.393	.642	.634	.068	.887	.719
GOALS	N	38	38	37	38	38	37	38	38	38	38	38	37	38	37	38	38	38
	I	.323	.455	1.000	.375	.429	.406	.408	.472	.124	.361	.465	.187	.384	.317	.386	.185	.086
MONEY	Sig.	.048	.005	.000	.020	.007	.013	.011	.003	.457	.026	.003	.267	.017	.056	.017	.266	.608
	N	38	37	38	38	37	38	37	38	38	38	38	37	38	37	38	38	38
WORK	I	.438	.425	.375	1.000	.539	.218	.253	.131	.025	.572	.479	.533	.361	.525	.392	.242	.173
	Sig.	.005	.008	.020	.000	.000	.188	.121	.426	.880	.000	.002	.001	.024	.001	.014	.137	.292
PLAY	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	39
	I	.690	.493	.429	.539	1.000	.489	.281	.238	.120	.520	.147	.291	.090	.209	.163	-.003	.307
LEARNING	Sig.	.000	.002	.007	.000	.000	.002	.084	.144	.467	.001	.373	.076	.585	.207	.322	.983	.057
	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	39
CREATIVITY	I	.532	.365	.406	.218	.489	1.000	.523	.388	.443	.214	.349	.142	.137	.271	.395	.198	.175
	Sig.	.001	.027	.013	.188	.002	.000	.001	.016	.005	.198	.032	.402	.412	.104	.014	.234	.295
HELP	N	38	37	37	38	38	38	38	38	38	38	38	37	38	37	38	38	38
	I	.231	.196	.408	.253	.281	.523	1.000	.545	.228	.120	.637	.177	.436	.442	.465	.378	.248
LOVE	Sig.	.158	.239	.011	.121	.084	.001	.000	.000	.162	.468	.000	.288	.006	.005	.003	.018	.129
	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	39
FRIEND	I	.244	.382	.472	.131	.238	.388	.545	1.000	.376	.217	.429	.026	.267	.180	.332	-.169	.238
	Sig.	.135	.018	.003	.426	.144	.016	.000	.000	.018	.184	.006	.877	.101	.280	.039	.303	.144
CHILD	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	39
	I	.176	.180	.124	.025	.120	.443	.228	.376	1.000	.116	.219	-.098	.297	.306	.333	.187	.187
RELATIVE	Sig.	.283	.279	.457	.880	.467	.005	.162	.018	.000	.482	.181	.558	.066	.062	.038	.255	.253
	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	39
HOME	I	.304	.198	.361	.572	.520	.214	.120	.217	.116	1.000	.199	.508	.078	.247	.149	-.014	.333
	Sig.	.060	.233	.026	.000	.001	.198	.468	.184	.482	.000	.225	.001	.639	.134	.365	.935	.038
NEIGHBOR	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	39
	I	.103	.098	.465	.479	.147	.349	.637	.429	.219	.199	1.000	.342	.587	.634	.651	.353	.104
CHILD	Sig.	.534	.557	.003	.002	.373	.032	.000	.006	.181	.225	.000	.036	.000	.000	.000	.027	.529
	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	39
RELATIVE	I	.158	.145	.187	.533	.291	.142	.177	-.026	-.098	.508	.342	1.000	.274	.231	.400	.384	.168
	Sig.	.345	.393	.267	.001	.076	.402	.288	.877	.538	.001	.036	.000	.097	.169	.013	.017	.314
HOME	N	38	37	37	38	38	37	38	38	38	38	38	38	38	37	38	38	38
	I	-.007	.078	.384	.361	.090	.137	.436	.267	.297	.078	.587	.274	1.000	.527	.577	.468	.071
NEIGHBOR	Sig.	.965	.642	.017	.024	.585	.412	.006	.101	.066	.639	.000	.097	.000	.001	.000	.003	.666
	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	39
HOME	I	.397	.081	.317	.525	.209	.271	.442	.180	.306	.247	.634	.231	.527	1.000	.601	.421	.304
	Sig.	.014	.634	.056	.001	.207	.104	.005	.280	.062	.134	.000	.169	.001	.000	.000	.008	.064
NEIGHBOR	N	38	37	37	38	38	37	38	38	38	38	38	37	38	38	38	38	38
	I	.187	.299	.386	.392	.163	.395	.465	.332	.333	.149	.651	.400	.577	.601	1.000	.579	.267
NEIGHBOR	Sig.	.255	.068	.017	.014	.322	.014	.003	.039	.038	.365	.000	.013	.000	.000	.000	.000	.101
	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	39

		Health	Self-esteem	Goals	Money	Work	Play	Learn	Creativ.	Help	Love	Friend	Child	Relative	Home	Neighb.	Comm.	CSQ-8
COMMUNITY	r	.062	-.024	.185	.242	-.003	.198	.378	-.169	.187	-.014	.353	.384	.468	.421	.579	1.000	.047
	Sig.	.707	.887	.266	.137	.983	.234	.018	.303	.255	.935	.027	.017	.003	.008	.000	.000	.778
	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	39
CSQ-8	r	.240	.060	.086	.173	.307	.175	.248	.238	.187	.333	.104	.168	.071	.304	.267	.047	1.000
	Sig.	.141	.719	.608	.292	.057	.295	.129	.144	.253	.038	.529	.314	.666	.064	.101	.778	.000
	N	39	38	38	39	39	38	39	39	39	39	39	38	39	38	39	39	40