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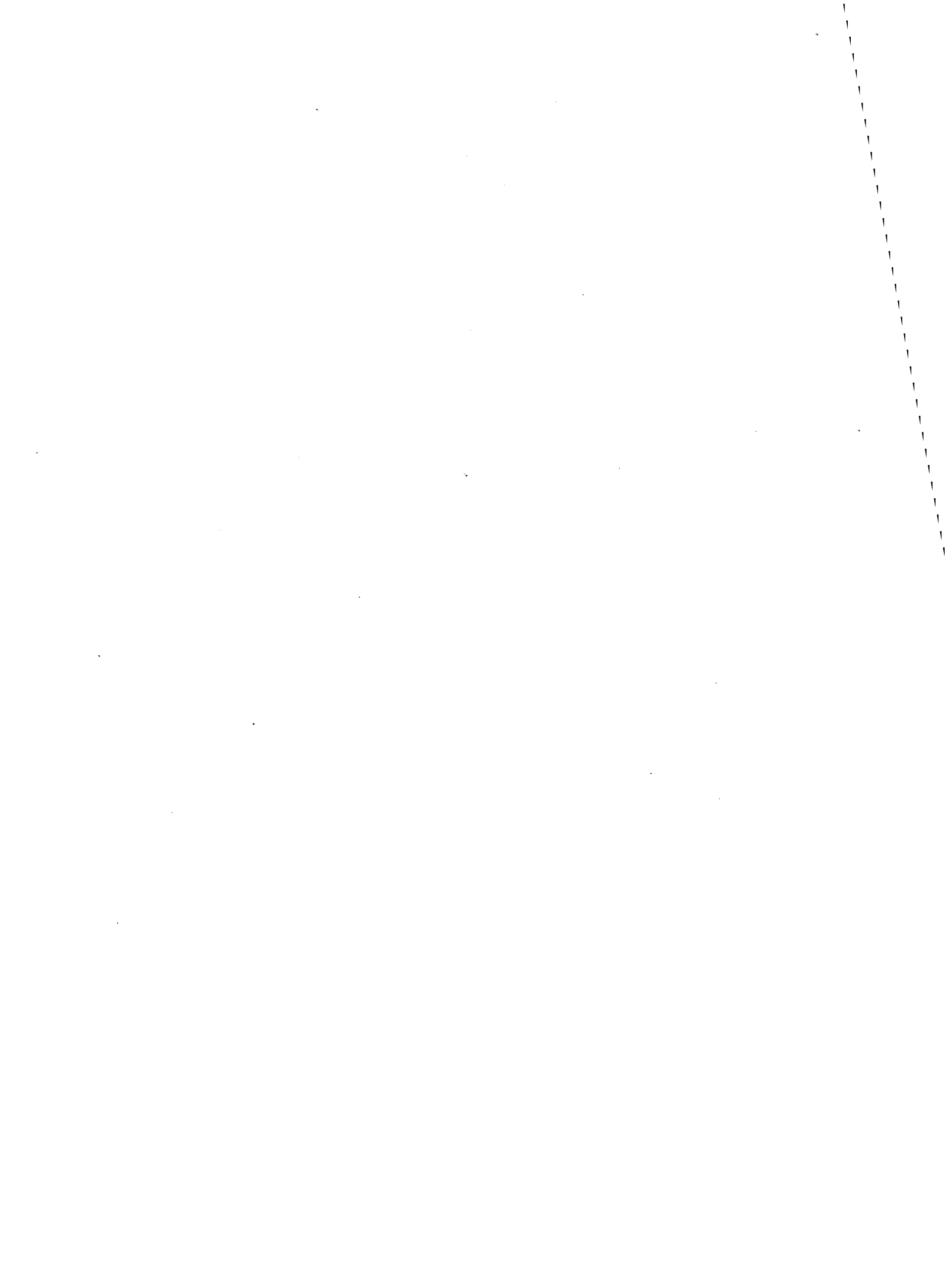
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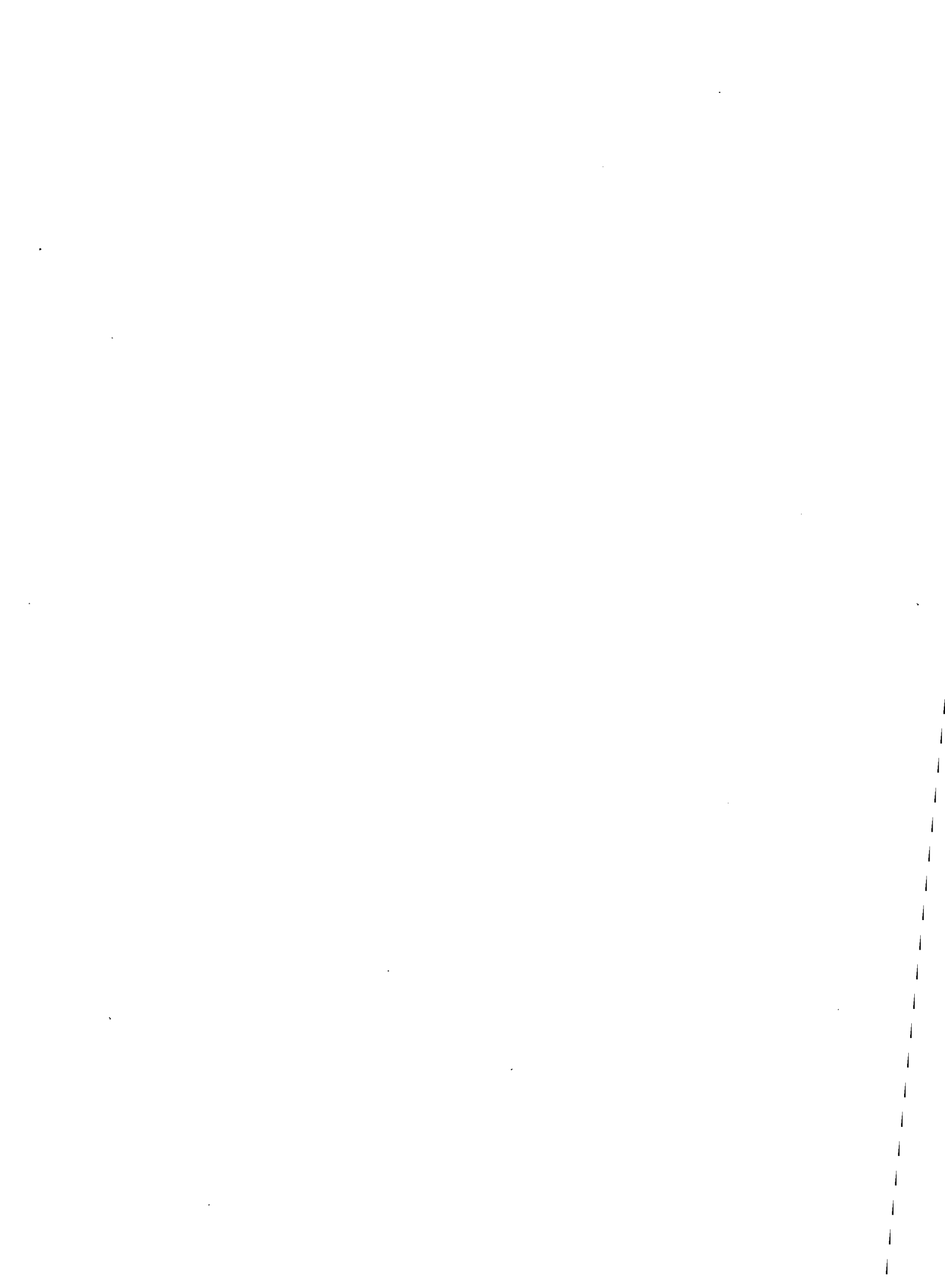
**Scott, Reda Ruth**

**CORRELATES OF QUALITY OF LIFE AMONG COMMUNITY RESIDENTS  
AND COMMUNITY MENTAL HEALTH CENTER CLIENTS**

*The University of Arizona*

PH.D. 1982

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CORRELATES OF QUALITY OF LIFE AMONG COMMUNITY  
RESIDENTS AND COMMUNITY MENTAL HEALTH CENTER CLIENTS

by

Reda Ruth Scott

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A Dissertation Submitted to the Faculty of the

DEPARTMENT OF PSYCHOLOGY

In Partial Fulfillment of the Requirements  
For the Degree of

DOCTOR OF PHILOSOPHY

In the Graduate College

THE UNIVERSITY OF ARIZONA

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THE UNIVERSITY OF ARIZONA  
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As members of the Final Examination Committee, we certify that we have read  
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entitled Correlates of Quality of Life Among Community Residents and  
Community Mental Health Center Clients

and recommend that it be accepted as fulfilling the dissertation requirement  
for the Degree of Doctor of Philosophy.

Thrup Baed

4/28/82  
Date

Karen Paulsen

4-28-82  
Date

Deborah J. Jenson

4/28/82  
Date

Mary C. Witzel

4/28/82  
Date

Robert Lansing

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## ACKNOWLEDGMENTS

I wish to acknowledge and express my sincere appreciation to Dr. Philip Balch and Dr. Todd C. Flynn without whom this dissertation would not have been possible. Dr. Balch contributed enormous personal support and an unwavering conviction that this dissertation would provide an important contribution to community psychology. Dr. Flynn contributed his impressive and patient expertise in computer programming that was crucial for adequate handling of such a large data set. Special thanks are extended to Dr. Mary Wetzel for her theoretical and editorial guidance as well as her friendship. I also appreciate the support and critiques from my doctoral committee members including Dr. Karen Paulsen, Dr. Robert Lansing, and Dr. Sal Zagona. Finally, I wish to thank Ms. Pamela Childress for her patient typing and proofing of this dissertation and Dr. Terence M. Keane for believing in me enough to employ me before its completion.



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## ABSTRACT

The present research examined the ability of a group of objective and subjective social indicators to discriminate between respondents who were community mental health center clients and those who were community residents with no history of contact with mental health professionals. Previous research had suggested that objective social indicators were inadequate both for assessing well-being and for assessing mental health needs. Thus, the purpose of this project was to provide initial data on the relative efficacy of objective and subjective social indicators in discriminating those who needed mental health services from those who did not. In addition, the goal was to determine the ability of a combined group subjective and objective indicators to discriminate between those who needed mental health services and those who did not.

Teams of trained undergraduates administered questionnaires containing questions regarding demographic variables, recent stressful life events, social supports, daily activities, and quality of life (domain satisfaction). Community mental health center clients appearing for the first time in East Tucson, Arizona were designated as those in need of mental health services (clinic). East Tucson community residents reporting no history of contact with mental health professionals were designated as those who were not in need of mental health services (community).

Results indicate that discriminant function analyses using only demographic variables was able to correctly classify 85.7 percent of these respondents as belonging to either the community or clinic group. Using quality of life variables, 85.2 percent of these respondents were correctly classified. By combining one demographic variable, one recent stressful life event, and three quality of life items, a discriminant function analysis correctly classified 93.1 percent of these respondents as either clinic or community. Results of discriminant function analyses with a cross-validation sample support these results.

The overall results are viewed as preliminary but suggestive of the potential utility of combining objective and subjective indicators for predicting mental health needs. The results are discussed in terms of their implications for preventive approaches to mental health in light of the limitations of defining need on the basis of utilization of services.

## INTRODUCTION

### Economic Indicators of Well-Being

It is nearly universally accepted that the promotion of individual well-being is one of the more legitimate goals of the modern state although little is scientifically known about such a broadly conceived notion as "well-being" (Andrews, 1974). Since the late eighteenth century, Western nations have been using statistics in order to assess the conditions and well-being of their people, and these measures have become progressively more inclusive, more sophisticated, and more extensive in their influence on public policy. Campbell (1976) notes that this nation presently produces a tremendous amount of state and federal statistics that are considered essential for the operation of a modern society; however, it appears that most of these data are related to material aspects of life such as income, expenditures, savings, production of goods, sales of services, and so forth. Thus, if the actual purpose of this data collection is to assess the conditions and well-being of people, then we have been defining these conditions and well-being primarily in economic terms.

Support for assessing conditions and well-being in economic terms comes from Merriam (1968) who states "the level and distribution of income provide the most useful overall measure of welfare that has yet been devised" (p. 725). In addition, for the past 100 years scholars and governments have believed that the elimination of poverty would



be the ultimate solution to society's problems. However, Bunge (1975) contends that it is obvious that income is not an adequate measure of physical, psychological, or social well-being; moreover, income is not even an adequate measure of economic well-being. In 1955 Blood and Wolfe (1960) used a five-point rating scale to assess Detroit area wives' satisfaction or dissatisfaction with their standard of living. In 1971, Duncan, Schuman, and Duncan (1973) used this same scale with a comparable sample of Detroit area wives and found that there was no aggregate change in satisfaction with standard of living between 1955 and 1971 although material levels of living were in fact higher in 1971 than in 1955 (even after adjustment for the rise in the consumer price index). Similarly, Liu (1974) has observed that quality of life is not necessarily a direct function of material wealth nor is their positive association entirely desirable. For example, the increases in affluence since 1945 have been concomitant with increases in crime, drug addiction, civil disorder, violence, and a steady decrease of confidence in public authority (Campbell, Converse, and Rodgers, 1976).

As it has become clear that there are some less desirable effects associated with economic growth, many of the qualitative aspects of economic growth have begun to be questioned. For example, there is an increasing consensus that the formation of intelligent social policy requires more information about the state of the nation than that which is obtained solely from economic data (Campbell and Converse, 1972). This concern for "social well-being" has prompted academics and policy makers to call for development of alternative measures to collect

data accurately reflecting the social conditions of individuals and families as well as allowing for documentation of social change on a national scale (Andrews and Crandall, 1976; Campbell et al., 1976; Duncan, 1975; Liu, 1974; and Sheldon and Moore, 1968). Bauer (1966) has proposed that the development of these alternative measures should be guided by the assumption that rational policy decisions require a set of comprehensive criteria that account for both economic and social conditions without forcing either into the mold of the other.

#### Social Indicators

These efforts have led to an interest in "social indicators," a term generally attributed to Bauer (1966). This is not a new direction as many seem to believe since during the 1920's this country's policy-makers concluded that society should produce a quantitative picture of itself and its changes. Subsequently a presidential committee was formed in 1929 and produced a report entitled Recent Social Trends. De Neufville (1975) notes that the work of this committee and the unique concepts involving a call for an active, concentrated effort to choose and present an array of measures of social change are now considered to be forerunners of the present "social indicators movement."

Although there has been considerable debate concerning what actually constitutes a social indicator (Carlisle, 1972; Hoffenberg, 1970; Sawhill, 1969; and Sheldon and Freeman, 1970), Andrews and Withey (1976) have been able to summarize various definitions by stating "the quest is for a limited yet comprehensive set of coherent and significant

indicators, which can be monitored over time, and which can be disaggregated to the level of the relevant social unit" (p. 4). They elaborate on this definition by explaining that the set of indicators should be "limited" so they are understandable and also "comprehensive" so that many of the most salient aspects of society are included. These indicators should be "coherent" so that they can be considered together and eventually lead to a theory about how society operates. Finally, these indicators should be "significant" in that they should relate to aspects of society which most concern us. Thus, a social indicator is a statistic which facilitates efficient and balanced decisions about the major aspects of a society. "It is in all cases a direct measure of welfare and is subject to the interpretation that, if it changes in the 'right' direction, while other things remain equal, things have gotten better, or people are 'better off' " (U. S. Department of Health, Education and Welfare, 1969, p. 97).

#### Objective and Subjective Indicators

It is generally agreed that one of the most important characteristics of social indicators is their ability to allow more detailed evaluation of social conditions than was possible previously (Schneider, 1975). In addition to the added accuracy, the major innovation in these descriptions has come from their concern with evaluating the quality of life of different communities. Using social indicators to describe quality of life has been the result of the normative connotations that these indicators carry. In other words the use of social indicators has implied that the more of a measured condition the better (or vice

versa). With the implied normative characteristics, existing conditions can be measured in detail and subsequent normative statements can be made regarding the improvement or worsening of life conditions.

The attempts to measure changes in quality of life by social indicators have produced two broad categories of indicators labeled "objective" and "subjective." Objective indicators describe events, behaviors, and characteristics of individuals and are ultimately based on counting the occurrences of phenomena such as education levels, population densities, and unemployment figures. Subjective indicators are based on individuals' reports of their perceptions, feelings, and responses (Andrews, 1974; Andrews and Withey, 1974; and Campbell, 1976). For example, objective indicators might include crime reports, measures of street lighting, and number of police patrols while subjective indicators might include neighborhood respondents' reports of their sense of safety when they go out alone at night or their sense of satisfaction with the level of safety they perceive (Andrews and Withey, 1974).

Objective indicators such as marital status, unemployment, health, housing, education, leisure time, crime, and population growth are appealing because they appear to be finite, they are relevant to social norms, and they are often taken as measures of achievement and well-being (Campbell et al., 1976). Often they are believed to be more reliable than subjective indicators (Rodgers and Converse, 1975), and it is frequently assumed that as levels of housing, education, and health care improve, people's lives are thereby enhanced, and as crime and unemployment increase their quality of life declines.

Rodgers and Converse (1975) suggest that these objective indicators would be lifeless unless some implications could be drawn concerning their human meaning. Thus, the measure of rooms per person is assumed to indicate the feeling of pleasure and satisfaction a person gets from his or her housing, and a measure of occupational status is assumed to indicate the sense of fulfillment a person gets from his or her work. These relationships appear to be reasonable, and if one believes that quality of life lies in the objective life circumstances then these measures are all that are necessary (Campbell, 1976). However, there is some empirical evidence to suggest that the relationship between objective conditions and psychological perceptions is often weak. For example, Schneider (1975) has surveyed 13 American cities and found that the correlation between objective characteristics of these cities and measures of life satisfaction obtained from residents was essentially zero. Similarly, Liu (1973) compared all 50 states on quality of life. His objective measure shows the 11 Southern states at the bottom on each of the 10 comparison dimensions; yet, when Southern residents evaluate the quality of their lives, they are consistently more positive than residents in other major regions of the country. Thus, a number of researchers have concluded that in order to assess directly the quality of life experience it will be necessary to go to individuals for their descriptions of how their lives feel to them (Andrews, 1974; Andrews and Withey, 1976; Buttel, Wilkening, and Martinson, 1977; Campbell et al., 1976; Duncan, 1975; and Rodgers and

Converse, 1975). One of the strongest statements that quality of life is not adequately defined by objective or physical settings has come from Bateson (1972) proposing that it is not the episodes or things per se that people care most about, rather it is the pattern and setting of their personal relationships including where they stand in love, belonging, hate, respect, responsibility, dependency, and other such abstract, but real, relations.

This is not to suggest that objective indicators be abandoned. Instead, it is a call for monitoring and measuring both objective and subjective indicators. Ideally both sets of indicators would be a limited but comprehensive set of coherent, significant indicators that are monitorable over time (Andrews, 1974), and only when both sets are measured will it be possible to determine the ways in which explicit changes in living conditions affect people's sense of life quality and whether or not changes in and of life quality can be attributed to changes in external conditions (Andrews and Withey, 1974). Andrews (1974) believes that with such sets of indicators, the basic task of monitoring levels of individual well-being could begin. Subsequently, when good data about levels of individual well-being accumulate and social scientists begin to learn about differences in well-being among groups, among locations, and at different times, then it will be reasonable to question causes and results of such differences. Andrews (1974) further states that the development of indicators of well-being might be considered as the development of a set of "dependent variables"

whose source of variation and whose impacts are subsequently to be explained.

#### Objections to the Use of Subjective Indicators

Despite the potential utility of subjective indicators there are at least four broad categories of arguments against their use including lack of validity, questionable reliability, difficulties in interpretation, lack of completeness, ambiguous utility, and absence of a clear theory of well-being (Andrews, 1974; Bloom, 1977; Bunge, 1975). Each of these will be discussed below.

Concerns about the validity of subjective indicators usually involve the notion that it may not be possible to obtain good measures of how people evaluate their lives and their life components. For example, people may not answer questions about their quality of life because these questions may invade their privacy, and even if they do answer, their replies may be biased by social desirability factors. In answer to these concerns, it is important to consider the work of Andrews (1974), Andrews and Withey (1976), and Campbell et al. (1976) who have found that very few respondents refused to answer any of their questions. Campbell et al. (1976) and Andrews and Withey (1976) also included a psychological scale on social desirability bias and found that bias does not appear to be a major determinant of respondents' answers. Beyond these validity concerns, there is the overriding question regarding the degree of correspondence between an unobservable concept and the procedures employed for its measurement. Bunge (1975)

suggests that a means of reducing uncertainty is to use various indicators at the same time.

Questions about the reliability of subjective indicators have also been proposed. For example, people's perceptions of their quality of life may vary too rapidly and consequently be too unstable to measure reliably. However, both Campbell et al. (1976) and Andrews and Withey (1976) have found that their subjective measures of quality of life were relatively stable over periods of five and eight months respectively.

Concerns about the interpretation of subjective indicators also appear in a variety of forms. For example, some critics propose that answers may be uninterpretable because two respondents giving the same answer may be influenced by completely different factors. In addition, some feel that different cultural groups cannot be compared because each group may have different criteria for evaluation. Finally, comparison of the same group over time may be limited because criteria for evaluation may change over time. Andrews and Withey's (1976) national study and Cantril's (1965) cross-national study have both found results which suggest there are broad similarities across people in the structure of their perceived life components and in the ways that they integrate these perceptions in evaluating well-being. To date, there is no empirical study which has addressed the possibility that the criteria by which well-being is evaluated may change over time.

Concerns about the completeness of perceptual indicators usually center around the apparently infinite range of human concerns and at



what point investigators should stop trying to measure more of them. Andrews and Withey's (1976) interview items assess affective evaluations of about one hundred different life aspects, and this range of concerns is based on an even larger list of 800 concerns derived from previous essays. They have found that about 12 of these items, taken together and appropriately combined, can explain 50 to 60 percent of the variation in an index of perceived overall quality of life. Moreover, of the additional 100 concerns on which they have data, none is effective in increasing this explanatory power (Andrews, 1974).

The utility of subjective indicators has also been questioned. Some critics postulate that knowing how satisfied or dissatisfied people are may not be useful since the relationship between individual satisfaction and societal welfare is unknown. Second, many object that subjective measures are too expensive and too difficult given the availability of cheaper alternatives. In response to the first concern, one approach is to note that societal welfare generally has as its ultimate payoff continuously high levels of individual well-being and that a crucial component of this is each individual's own perceptions of well-being. If one accepts these two premises, then it becomes reasonable to attempt to measure individuals' perceptions of life quality. In response to the second concern regarding inordinate expense, it is true that the initial cost will be high for setting up such a system of social monitoring. Donald Campbell (1975) has noted that it is presently quite expensive to obtain regional data on any units other than

those included in administrative reports. Breaking out data by census tracts and health service boundaries is usually not possible despite the fact that such data are crucial for determining the success of any ameliorative or preventive oriented programs. However, with the potential computerization necessary for regular social monitoring, Campbell (1975) suggests that the ongoing cost will be quite low.

Finally, the lack of a coherent, well-defined theory of well-being is a drawback of subjective social indicators. Bunge (1975) cautions that whether or not a given variable points to the values of another variable is not a matter of convention. Rather it is a matter of hypothesis. This does not mean that indicators that are not included in scientific theory are useless. However, theory alone can justify the use of a particular indicator over another.

#### Measures of Perceived Quality of Life

Despite these objections it is clear that if one wishes to describe adequately the quality of life experience of the population, it will be necessary to develop measures which are different from those used to describe the objective circumstances in which people live (Campbell, 1976). A number of large-scale studies concerned with perceived quality of life have been completed, and each of these will be discussed separately.

In 1957, Gurin, Veroff, and Feld (1960) conducted the first major study of quality of life experience. Their study was a national one requested by the National Commission on Mental Illness and Health

and was mainly concerned with the mental health of the nation. It was designed "to investigate the level at which people are living with themselves--their fears and anxieties, their strengths and resources, the problems they face, and the ways they cope with them," (p.13). Generally, this survey included questions concerning levels of satisfaction with marriage, parenthood, and work; attitude toward self; and emotional difficulty. Specifically, Gurin et al. (1960) assessed emotional states of their respondents via a set of questions concerning happiness and worry. Their primary happiness question was: "Taking things all together, how would you say things are these days--would you say you're very happy, pretty happy, or not too happy these days?" (Gurin et al., 1960, p. 20). Worry was assessed by questions such as "What kinds of things do you worry most about?" (p. 20).

Despite the previously mentioned objections to the use of economic indicators, Gurin et al.'s (1960) results indicate that economic well-being was the most important determinant of perceived happiness in their sample. The central life relationships including marriage, children, and family were the next most important determinants of happiness and worry.

A somewhat different approach to measuring individual sense of well-being and perceived quality of life was developed by Cantril (1965) during the early 1960's. To carry out his international research in 13 different countries, Cantril (1965) developed the Self-Anchoring Striving Scale, consisting of an 11-point scale ranging from zero to 10.

Respondents were asked to imagine the worst possible life as zero and the best possible life as 10 and to rate their satisfaction with their present lives accordingly. This type of approach has been subsequently described as cognitive (Campbell, 1976; Rodgers and Converse, 1975) as it requires individuals to compare their perceptions of their present situations to ones which they have not experienced including those to which they have aspired, expected, or deserved.

Cantril's (1965) results indicate that satisfaction is positively related to education, income, occupational category, and age. Thus, once again, despite the objections to economic and/or objective indicators, demographic variables are found to be positively related to quality of life indicators.

In contrast to the cognitive approach of Cantril (1965), Bradburn (1969) employed what has been characterized as an affective approach. He was primarily interested in avowed happiness, and after a pilot study (Bradburn and Caplovitz, 1965) he defined level of happiness (or psychological well-being) as the degree to which an individual has an excess of positive over negative affect. To carry out his research, Bradburn (1969) developed the Affect Balance Scale which is a series of questions related to positive and negative affect. To measure global happiness Bradburn (1969) included the same question used by Gurin et al. (1960). He also included social participation questions designed to measure frequency of social contact as well as number of new social contacts.

Bradburn's (1969) results indicate that income was the most important demographic predictor variable, and that education was positively related to happiness. He also found that married respondents tended to be happier than unmarried, divorced, or widowed respondents. In addition, extent of social participation was found to be significantly related to positive affect. Thus, economic and other objective indicators are again found to be positively related to subjective quality of life indicators.

Campbell et al. (1976) were primarily interested in obtaining an assessment of satisfaction with life (a measure which they characterized as cognitive). Their choice between the "happiness" approach of Bradburn (1969) and the "satisfaction" approach of Cantril (1965) was based upon several considerations which will be described briefly below.

First, Campbell et al. (1976) found that the definition of "satisfaction" has less variability across cultures than the definition of "happiness". They also stated that the concept of satisfaction has been the subject of much theory and research and that it can be precisely defined as "perceived discrepancy between aspiration and achievement, ranging from the perception of fulfillment to that of deprivation." (Campbell et al., 1976, p.8). Second, Campbell et al. (1976) suggested that measures of affect would seem less realistic than measures of satisfaction to practical people making public policy decisions. In support of this contention they quoted Allardt (1972) who argues that public welfare can be completely defined in terms of need-satisfaction. Modern governments and policy makers are accustomed to a

concept of "minimum standard of living," and a portion of the population falls below this level. Thus, although governments are likely to make comparisons in economic terms rather than in terms of satisfaction, they are nonetheless concerned with creating satisfying conditions that do not produce expressions of discontent. Finally, the concept of satisfaction seemed more adaptable to a research design seeking a series of measures from separate domains of life including health, savings, job, education, life in the U. S., marriage, community, nonwork activities, housing, family life, friendships, and neighborhood.

Campbell et al. (1976) also included an overall life satisfaction question, a series of affect adjectives in semantic differential format that combine to form the Index of General Affect, and a series of 12 life domain satisfaction questions. All satisfaction questions included a seven-point scale ranging from (1) completely satisfied to (7) completely dissatisfied.

As with previous studies, increases in income were strongly related to increases in the General Well-Being Index (obtained by combining the overall satisfaction score and the Index of General Affect). However, the major contributor to the variance was not income. Instead, they were age and life cycle (which is a combination of age with the presence or absence of marriage and children). Thus, Campbell (1976) has concluded that the results of the Campbell et al. (1976) study suggest that the major determinants of well-being are psychological rather than economic.

Andrews and Withey (1976) used a combined approach seeking to construct a battery of items that were few in number, allowed broad coverage, were substantially valid, and provided a statistically efficient means for assessing perceptions of life quality in various domains which are most important for predicting general life satisfaction. Andrews and Withey (1976) utilized a two-dimensional conceptual model which proposes that a person's overall sense of quality of life is understandable through a combination of affective responses in life domains. Their life domains included role-situations and values. In addition, they described about 30 different measures of a person's sense of overall life quality.

In general, results with a series of Multiple Classification Analyses revealed that a particular subset of 12 domains could explain 50% to 60% of the variance in overall life quality and that neither the other domains nor the standard classification variables increased this explanatory power. Individual results indicate that differences in general well-being among groups on the basis of sex, age, stage in family life-cycle, socioeconomic status, and race were rather modest. Respondents' feelings about life-as-a-whole were relatively stable across age groups. Feelings about health and children dropped off but were compensated for by small increases in satisfaction with home, neighborhood, job, government activities, religious fulfillment as well as other domains. The lowest levels of well-being were reported by those who had experienced unsuccessful marriages that resulted in economic difficulties, family disruption, deteriorated relations within the

neighborhood, community, interpersonal relationships, or feelings about government activities or services. Blacks reported lower levels of economic satisfaction with related family difficulties, lower levels of neighborhood and community satisfactions, and lower interpersonal satisfaction. Andrews and Withey (1976) found no significant differences for men and women in terms of perceived well-being. Thus, as with the Campbell et al. (1976) study, Andrews and Withey (1976) found evidence that indicators other than economic ones contributed most to the variance.

#### Use of Social Indicators for Assessing Need for Mental Health Services

During the past two decades, the emphasis in mental health has shifted from predisposing factors (i.e., childhood traumas) to a concern for precipitating and perpetuating factors (Bloom, 1977). This shift in emphasis represents a change from concern with the past to a concern for the present. In addition, this shift legitimizes the efforts toward primary prevention of mental illness.

To date, very little is known about the agents of mental illness. However, there is substantial evidence supporting environmental stresses as related to mental illness. For example, Faris and Dunham (1939) conducted the first study in this area and found that prevalence rates for admission to psychiatric institution increased steadily from the more affluent, more organized areas of the city to the poor, socially disorganized parts of the city. Similarly, Hollingshead and



Redlich (1958) and Dohrenwend and Dohrenwend (1974) have documented that psychopathology is identified much more often in lower socioeconomic groups.

Obviously, most American communities do not have a random distribution of residents. There are wealthy sections, poor sections, high-crime areas, and so forth. Bloom (1977) has observed that the development of community mental health centers has led mental health professionals to become increasingly interested in their communities and in the neighborhoods within them. In addition, the National Institute of Mental Health has strongly encouraged the use of census tract statistics (objective social indicators) for community analyses including general population characteristics (e.g., age, sex, and marital status), social characteristics (e.g., median family income), and housing characteristics (e.g., persons per room and value of owner-occupied units).

Bloom (1975) analyzed the community of Pueblo, Colorado on 35 census-tract variables and found that tracts high on social disequilibrium (i.e., characterized by housing units with few rooms, a high rate of marital and familial disruption, many people living alone, little owner-occupied housing, high rate of delinquency, few single homes, many vacant housing units, frequent household fires, and many school dropouts) had disproportionately large numbers of psychiatric inpatients and outpatients. Bloom (1977) proposes that this type of analysis is helpful in identifying groups at high-risk for needing mental health services. Siegel, Atkission, and Cohn (1974), Warheit, Bell, and Schwab (1974), and Zautra and Simons (1978) have all suggested that

the range of mental health problems in a given community can be specified, high-risk groups can be identified, and the subsequent data can be used to suggest interventive and preventive programs.

Bloom (1977) cautions that such studies implicating socioeconomic conditions and/or environmental stresses should not suggest that mental illness or psychopathology is one-dimensional. There are undoubtedly interactions among social factors and individual factors since everyone exposed to the social factors does not develop psychopathology. Thus, as is the case with social indicators, measures of need for mental health services can be classified as either objective or subjective. Objective measures of need include social indicators such as rates under treatment, low socioeconomic status, family disruption, community disruption, and other observable characteristics (Rosen et al., 1975). Zautra and Simons (1978) refer to these as indices of the social forces acting upon members. However, using only these social indicators to assess need for mental health services may be limited. Zautra and Simons (1978) suggest that although social indicators may identify areas that are subject to inequitable distribution of social forces, they may not identify community psychological reactions to these forces. Moreover, just as social forces are not uniformly distributed, some individuals also have less psychological resources.

Subjective measures of community include well-being, quality of life, and life stress. Zautra and Simons (1978) suggest that these measures may be considered to be indicative of psychological forces

within communities and may augment the identification of particular problems and target groups for mental health intervention and or prevention.

#### Background Directly Related to the Present Study

In prelude to the present study, Flynn (1979) addressed the issue of using subjective indicators in the prediction of need for mental health services. He noted that the relationship between objective indicators and need for mental health services is tenuous and that no objective method has been established for selecting and weighing social statistics for this purpose. Despite this fact, social service administrators have been using social indicator analyses for both the assessment of need for mental health services and the allocation of mental health funds.

Flynn's (1979) specific goal was to assess the relationship between a subjective quality of life measure with sets of objective, countable variables related to need for mental health services. In line with this goal, he chose as the dependent variable for his research a form of the "Sum of Domain Satisfactions" quality of life index described by Campbell et al. (1976) since it covered a broad range of life experiences, national norms were available for it, and its test-retest reliability was high ( $r = .758$  across eight months).

In selecting his predictor variables for a multiple regression analysis, Flynn (1979) chose measures which have been considered to be most relevant to services provided by a mental health center. He was

especially interested in variables related to emotional problems, social support, leisure activities, physical health and marital discord. Thus, he selected a schedule of recent life events, a measure of social participation, a schedule of daily activities, and a group of demographic variables. Flynn (1979) found that all of these variables were statistically significant predictors of quality of life score although the percent of variance accounted for was relatively small. The regression using the best predictors from each group accounted for only 32 percent of the variance in quality of life. However, Flynn (1979) found this degree of success encouraging since the predictor variables indexed observable conditions and events, and since the predictor variables formed a logical pattern in terms of the nature and extent of their relationship to life satisfaction. Specifically demographic characteristics (e.g., age, income, education, and occupation level) had the strongest relationship to quality of life followed in descending order by social support variables (especially number of organizations in which active and number of friends to whom to talk about personal problems), stressful life events (especially those related to finances and family), and leisure activities.

Although demographic variables were the most predictive of Flynn's (1979) quality of life measure, this does not mean that the popular method for analyzing demographic social indicators in assessing well-being and need for mental health services provide the best estimate. The regression analysis that Flynn (1979) employed is a validated

method for weighting predictor variables. No validated method for weighting social indicators has been used by mental health planners to date.

As Flynn (1979) noted, demand for mental health services is much easier to define than need for such services since some people seek help and others do not. The first step in assessing demand for mental health services should involve a comparison of those who have sought mental health services with those who have not. Groups of weighted variables which are able to discriminate between these two groups could eventually be used to identify nonclient populations that are most similar to those seeking service. This group might be considered high-risk for utilizing or for "needing" mental health services.

#### Goals of the Present Study

As Smith (1971) has noted, the ultimate practical goal of sciences concerned with any aspect of human problems is the prevention of such problems. Certainly, the field of community psychology and the rest of the social sciences have been devoting increasing efforts toward development of preventive approaches to psychiatric disorders. This remains a difficult task because of the sheer numbers of factors as well as the complexity of interacting factors which may impinge upon an individual's or a group of individuals' mental health.

The present study attempted to identify some of those complex factors which may precipitate need for mental health services. Flynn's (1979) work was extended to include a comparison of community residents

from three groups of East Tucson, Arizona census tracts with a group of outpatients making their first visit to the Tucson East Community Mental Health Clinic between May and October 1977. The community residents were compared with the clinic outpatients on both objective and subjective indicators including number of recent stressful life events, social participation and social supports, daily activities, demographic variables, and perceived quality of life measures. Each of these is discussed briefly below.

A schedule of recent life events was included because of the number of studies that have suggested that there is a positive relationship between life stresses and psychiatric symptoms (Bell, 1977; Birley and Brown, 1970; Edwards, 1974; Grant et al., 1981; Morrice, 1974; Myers, Lindenthal, and Pepper, 1971; Paykel, Prusoff, and Myers, 1975; Smith, 1971). The purpose of life events research has been to demonstrate a temporal relationship between the onset of illness and a recent increase in the number of life events. The overall impact of these events has been assumed to be additive, and the number of studies finding a positive relationship has been impressive. However, as Rabkin and Struening (1976) have pointed out, the practical significance of the correlation between number of life events and subsequent illness is questionable. Many of these studies have reported between-group differences only in percentages or only in terms of statistical significance. Examination of correlation coefficients suggests that life events generally account for no more than nine percent of the variance in illness. Thus, despite the wealth of data in this area, life event

scores have not been shown to be predictors (in a practical sense) of the probability of future illnesses. The present study closely examined the variability of scores in addition to statistical significance.

Measures of social participation and social supports were included because they have been assumed to mediate the impact of social stressors on an individual (Rabkin and Struening, 1976). Historically, social supports and social networks have been examined in relation to their role in the treatment of existing psychiatric disorders. As Hirsch (1979) has noted, social networks have been used to explain spontaneous remissions of psychological symptoms (Bergin, 1971) and as making an important contribution to the rehabilitation of ex-hospital patients (Fairweather et al., 1969). Recently, the role of social networks in positive mental health and the prevention of psychiatric illness has been recognized (Kelly, Snowden, and Munoz, 1977) and individuals with adequate support systems have been assumed to be less likely to develop psychological impairment when faced with stress than individuals with weak support systems (Caplan, 1976). Phillips (1967) has found that degree of social participation was less among individuals classified as mentally ill than among individuals classified as well according to a symptom checklist. Thus, measures of social support and social participation were deemed important to include in this study.

Measures of daily activities were included as it was hypothesized that clinic respondents would report that they spent their time differently and that they would report less enjoyment of daily activities than community respondents. In addition, Campbell et al. (1976)

and Andrews and Withey (1976) have found that satisfaction with nonwork activities is a significant predictor of general well-being. No other study to date has systematically examined differences in daily activities between community residents and outpatients although Zautra, Beier, and Cappel (1977) have obtained a general measure of overall activity "What are some of the things you do everyday?" (p. 89).

Finally, quality of life (domain satisfaction) measures were included because of the suggestion that certain life quality levels may provide immunity to development of psychological problems (Kessler and Albee, 1975). Zautra and Beier (1978) were the first to report preliminary empirical evidence relating quality of life to need for mental health services. They surveyed 454 residents and found that perceptions of low life quality in general and specifically in family matters were associated with increased requests for mental health services. However, Zautra and Beier (1978) relied solely upon self-report to determine those who had requested mental health services; they did not examine perceptions of life quality among actual clients.

The domain satisfaction or cognitive measures of quality of life suggested by Campbell et al. (1976) were selected over the affective measures of Bradburn (1969) because of their increased reliability. In addition, the author wished to examine differences in multiple life domains which were already included in this measure. However, since Campbell et al. (1976) have suggested that "happiness" and "satisfaction" tap different things, the present study also included the global happiness question that has been used on several national surveys



(Gurin et al., 1960; Bradburn, 1969; Campbell et al., 1976) since 1957. This was included to examine differences in reported happiness and reported satisfaction in both the clinic and the community respondents.

A summary of postulated outcomes are as follows:

1. The clinic respondents will report significantly more recent life events than the community sample.
2. The clinic respondents will report less social participation than the community respondents.
3. The clinic respondents will have fewer social supports than the community respondents.
4. The clinic respondents will report less enjoyment of their daily activities than community respondents.
5. The clinic respondents will have significantly lower quality of life global scores than the community respondents.
6. The clinic respondents will report lower satisfaction with their family life and with their friends.
7. The clinic respondents will report less overall happiness than the community respondents.

Differences in quality of life between clinic and community respondents are discussed subsequently in light of Kessler and Albee's (1975) assumption that certain quality of life levels may increase immunity to mental health problems. In addition, differences on the various predictor variables including life events, social supports, daily activities, and demographic variables are discussed in terms of their contribution to the identification of "high-risk" groups by mental

health planners. Finally, it is suggested that this study will prove to be one important step in Andrews' (1974) call for the collection of data about levels of individuals' perceived well-being so that social scientists learn about differences in well-being among groups, locations, and times and begin to question the causes and results of such differences.

## METHODOLOGY

### Clinic Sample

#### Respondents and Setting

The respondents in the clinic sample included 182 outpatients seeking services for the first time at the Tucson East Community Mental Health Center's (TECMHC) Clinic One from May through October, 1977. The TECMHC was a comprehensive community mental health center which at the time of this study was beginning the final two years of its federal support grant. The TECMHC was designated to serve the east catchment area consisting of 153,456 persons at the time of the 1975 Pima County Special Census.

#### Procedure

When each of these respondents called to make their initial appointment the receptionist scheduled them to come in an hour earlier than their designated appointment so that they could complete the questionnaire. Although this questionnaire was designed to minimize questions by the respondent, the receptionist was given specific instructions concerning how to handle potential questions in a standard manner.

#### Instrument

The questionnaire was divided into four general parts. The first part included a modified form of the Recent Life Events Schedule

used by Paykel et al. (1975). The second part included an Activity Survey taken from Szalai (1972) and consisted of 36 daily activities which were rated according to how much each respondent liked the activity and how often they participated in each. The third part included questions about social participation, happiness and negative affect, and satisfaction with important domains of life including neighborhood, home, education, work, friendships, health, use of spare time, marriage, family, savings, and standard of living. These questions have been used in previous studies conducted by Bradburn (1969) and Campbell et al. (1976). The final part of this questionnaire included selected demographic variables including age, sex, marital status, occupation, type of housing, and so forth (See Appendix A).

### Community Sample

#### Respondents

From March through December, 1977, research assistants sampled 516 residents of Tucson's East Catchment Area, which was the geographic area that the Tucson East Community Mental Health Center was designated to serve. At the time of the 1975 Pima County Special Census, 153,456 persons were living in 51,760 residential units in this area of the city. Of these residents, 88 percent were Caucasian, eight percent were of Spanish origin, and four percent were black, American Indian or other.

Three sets of census tracts were chosen for this study. One group was at the lowest end of the socioeconomic spectrum of the catchment area in terms of median family income, percent of families below poverty, median house value, and percent of high school graduates. The other two sets of census tracts were at the middle and the highest ends of socioeconomic spectrum. These tracts were selected in this manner to increase the likelihood of a wide range of respondents in terms of socioeconomic and other demographic variables.

The three groups of census tracts were divided into areas of equal size. Each area contained about 1,000 residents living in about 300 dwelling units. To the fullest extent possible, an equal number of subjects was taken from both high and low tracts. However, the middle census tracts were sampled subsequent to the high and low tracts, and fewer questionnaires were obtained from these areas because of limited assistance.

On each street of the selected areas, undergraduate research assistants began with one (randomly determined by the investigators) of the first four houses on both sides of the street. They then contacted every fourth residence until no fewer than 10 and no more than 15 questionnaires were successfully completed. In the case of apartments, a similar procedure was employed. However, the criteria changed to no fewer than four and no more than 10. Respondents were contacted without prior notice, and any literate person eighteen years or older residing at one of the selected residences was considered an eligible respondent.

Interviewers limited most of their contacts to evenings and weekends, and the questionnaire was administered to all eligible, willing persons in the household 17 years or older. Those who were unwilling to fully participate were asked to complete a one-page questionnaire containing basic demographic data (Appendix B).

#### Research Assistants

To conduct this study, 40 undergraduates were recruited from the University of Arizona Honors Program and upper division psychology courses. Each assistant was interviewed individually and assigned to a team of two. Each of the 20 teams was given a minimum of six hours of training in the areas of contacting respondents in a standard manner, obtaining informed consent, answering questions in an objective manner, and administering the questionnaires. Part of this training included one to two hours of role playing in which teams practiced administering the questionnaires to each other under the supervision of the author. Finally, before they began their interviews, each team practiced the administration of the questionnaire with at least two persons residing outside the East Catchment Area. Training also included "brainstorming sessions" which were held to anticipate questions by respondents and to practice standard responses.

#### Procedure

During the training phase, investigators gave all research teams both verbal and written instructions (Appendix C) for survey procedures.

Each team was instructed to give a brief explanation of the survey's purpose, offer a letter of introduction (Appendix D) along with a University of Arizona identification card (if necessary), present and explain the consent form (Appendix A), and request eligible people to participate.

If residents were willing to cooperate, they were given a manila envelope with the enclosed questionnaire. They were asked to complete and return it to the envelope which they then sealed before returning it to the interviewers. The questionnaire was designed to be as self-explanatory as possible, and the situation was structured to minimize interaction among the respondents and research assistants. The investigators also attempted to insure anonymity of responses by asking interviewers to sit quietly with their own copy of the questionnaire to allow for answering questions without viewing the respondents' answers. Throughout the collection of data, weekly meetings were held with the research teams to discuss problems and check for standard procedure.

#### Instrument

The questionnaire for the community sample was the same as that used for the clinic sample with the addition of questions regarding previous and present requests for mental health services (Appendix A). These additions were made so that community respondents who were receiving mental health services could be eliminated from the data analysis.

The first procedure in the data analysis was to perform random assignment of respondents from both the clinic and community samples to two groups. The first group was designated as the screening sample and used to perform the analyses for this study; the second group was used as a cross-validation sample for comparison with the results obtained with the screening sample.

The second procedure in the data analysis was to examine how each group differed on the basis of each individual variable. However, with such a large number of correlated variables, analyzing each variable singly substantially increases the danger of getting a distorted picture of group differences. Thus, the third procedure utilized the multivariate discriminant analysis procedure for the primary analyses in this study. Nie et al., (1975) have stated that the objective of discriminant analysis is to weight and combine discriminating variables in a linear fashion so as to force the groups to be as statistically distinct as possible. Thus, the subsequent examination of the pattern of weights provides a substantially more accurate account of the group differences on the basis of this given set of variables than individual examination of each variable without consideration of overlapping information (Tatsuoka, 1970). An individual discriminant analysis was performed on each general group of variables to determine the relative discriminative power of each variable within a particular group. In addition, an overall discriminant function was performed to determine the relative discriminative power of each variable in general.



Next, the midpoint of the two group centroids was computed. (A group centroid is the composite of the most typical location of a case from a particular group in the discriminant function space.) Finally, the unstandardized correlation coefficients of variables meeting the criteria for inclusion into the overall discriminant function of the original sample were applied to the cross-validation sample. Using these correlation coefficients as weights with the addition of a constant allowed the formation of an equation for the assignment of group membership of the cross-validation cases. This was achieved by solving the equation and comparing the value obtained with the midpoint of the two group centroids. If the value produced by the weighted equation for each case was less than the midpoint of the two group centroids, group membership was classified as clinic; if this value was greater than or equal to the midpoint, group membership was assigned as community. This allowed for a comparison of predicted group membership with actual group membership using a Chi-square analysis.

## RESULTS

### Sample Characteristics

The previously described survey procedure produced completed questionnaires from 333 respondents including 221 community respondents and 112 clinic respondents. Tables One through Five summarize the demographic characteristics of these respondents. In general, the clinic respondents were more likely to be women and married, with spouse absent. In addition, the clinic respondents were more likely to have more education, report less income, and have lived in their neighborhood and in Tucson fewer years than the community respondents. Occupational categories were derived from Hollingshead's (1957) Two Factor Index of Social Position.

#### Discriminant Function I: Demographic Variables as Discriminators of Group Membership

A discriminant function analysis was selected (1) to determine the efficacy of each demographic variable in discriminating between community and clinic respondents when combined into a discriminant function, and (2) to classify cases on the basis of the derived discriminant function and compare predicted group membership with actual group membership. This latter procedure allowed for the measurement of success in discrimination based on the proportion of correct classifications. These analyses were completed using the SPSS software package.

Table 1. Demographic Characteristics of Respondents: Sex and Marital Status.

|                           | Community Sample |      | Clinic Sample |      | p <sup>a</sup> | All Respondents |      |
|---------------------------|------------------|------|---------------|------|----------------|-----------------|------|
|                           | N                | %    | N             | %    |                | N               | %    |
| A. Sex                    |                  |      |               |      | .01            |                 |      |
| 1. Male                   | 109              | 51.9 | 41            | 36.6 |                | 150             | 46.6 |
| 2. Female                 | 101              | 48.1 | 71            | 63.4 |                | 172             | 53.4 |
| B. Marital Status         |                  |      |               |      | .000           |                 |      |
| 1. Married                | 154              | 89.5 | 26            | 23.4 |                | 180             | 55.0 |
| 2. Married, spouse absent | 3                | 1.4  | 63            | 56.8 |                | 66              | 20.2 |
| 3. Separated              | 3                | 1.4  | 14            | 12.6 |                | 17              | 5.2  |
| 4. Divorced               | 5                | 2.3  | 3             | 2.7  |                | 8               | 2.4  |
| 5. Widowed                | 7                | 3.2  | 5             | 4.5  |                | 12              | 3.7  |
| 6. Never married          | 39               | 18.1 | 0             | --   |                | 39              | 11.9 |
| 7. Living together        | 5                | 2.3  | 0             | --   |                | 5               | 1.5  |

<sup>a</sup>The probability that the groups are different as determined by a Chi-Square test.

Table 2. Demographic Characteristics of Respondents: Education and Ethnicity.

|                                   | Community Sample |      | Clinic Sample |      | p <sup>a</sup> | All Respondents |      |
|-----------------------------------|------------------|------|---------------|------|----------------|-----------------|------|
|                                   | N                | %    | N             | %    |                | N               | %    |
| A. Education                      |                  |      |               |      | .000           |                 |      |
| 1. Graduate professional training | 5                | 2.3  | 9             | 8.1  |                | 14              | 4.3  |
| 2. College graduates              | 16               | 7.4  | 18            | 16.2 |                | 34              | 10.4 |
| 3. Some college                   | 59               | 27.2 | 36            | 32.4 |                | 95              | 29.0 |
| 4. High school graduate           | 70               | 32.3 | 37            | 33.3 |                | 107             | 32.6 |
| 5. Some high school               | 36               | 16.6 | 10            | 9.0  |                | 46              | 14.0 |
| 6. 8th grade or less              | 31               | 14.3 | 1             | .9   |                | 32              | 9.8  |
| B. Ethnicity                      |                  |      |               |      | N.S.           |                 |      |
| 1. Caucasian                      | 142              | 90.4 | 104           | 92.9 |                | 246             | 91.4 |
| 2. Black                          | 4                | 2.5  | 4             | 3.6  |                | 8               | 3.0  |
| 3. Oriental                       | 0                | --   | 1             | .9   |                | 1               | .4   |
| 4. Mexican-American               | 9                | 5.7  | 3             | 2.7  |                | 12              | 4.5  |
| 5. Other                          | 2                | 1.3  | 0             | --   |                | 2               | .7   |

<sup>a</sup>The probability that the groups are different as determined by a Chi-Square test.

Table 3. Demographic Characteristics of Respondents: Occupation and Working Status.

|                             | Community Sample |      | Clinic Sample |      | All Respondents |     |      |
|-----------------------------|------------------|------|---------------|------|-----------------|-----|------|
|                             | N                | %    | N             | %    | p <sup>a</sup>  | N   | %    |
| A. Occupation               |                  |      |               |      | N.S.            |     |      |
| 1. Major professionals      | 13               | 10.4 | 6             | 8.3  |                 | 19  | 9.6  |
| 2. Lesser professionals     | 24               | 19.2 | 14            | 19.4 |                 | 38  | 19.3 |
| 3. Administrative personnel | 15               | 12.0 | 3             | 4.2  |                 | 18  | 9.1  |
| 4. Clerical and sales       | 27               | 21.6 | 29            | 40.3 |                 | 56  | 28.4 |
| 5. Skilled manual           | 19               | 15.2 | 14            | 19.4 |                 | 33  | 16.8 |
| 6. Semi-skilled             | 16               | 12.8 | 3             | 4.2  |                 | 19  | 9.6  |
| 7. Unskilled worker         | 11               | 8.8  | 3             | 4.2  |                 | 14  | 7.1  |
| B. Amount Of Time Working   |                  |      |               |      | .002            |     |      |
| 1. Full time                | 120              | 63.2 | 51            | 45.9 |                 | 171 | 56.8 |
| 2. Less than full time      | 10               | 5.3  | 17            | 15.3 |                 | 27  | 9.0  |
| 3. Unemployed               | 0                | --   | 18            | 16.2 |                 | 18  | 6.0  |
| 4. ADC or welfare           | 1                | .5   | 6             | 5.4  |                 | 7   | 2.3  |
| 5. Retired                  | 32               | 16.8 | 1             | .9   |                 | 33  | 11.0 |
| 6. Other                    | 27               | 14.2 | 18            | 6.2  |                 | 45  | 15.0 |

<sup>a</sup>The probability that the groups are different as determined by a Chi-Square test.

Table 4. Demographic Characteristics of Respondents: Income.

| Income                | Community Sample |      | Clinic Sample |      | p <sup>a</sup> | All Respondents |      |
|-----------------------|------------------|------|---------------|------|----------------|-----------------|------|
|                       | N                | %    | N             | %    |                | N               | %    |
| 1. Nothing or loss    | 33               | 14.9 | 12            | 10.7 | .02            | 45              | 13.5 |
| 2. Under \$2,000      | 4                | 1.8  | 3             | 2.7  |                | 7               | 2.1  |
| 3. \$2,000-\$3,999    | 0                | --   | 8             | 7.1  |                | 8               | 2.5  |
| 4. \$4,000-\$5,999    | 0                | --   | 5             | 4.5  |                | 5               | 1.5  |
| 5. \$6,000-\$7,999    | 11               | 5.0  | 5             | 4.5  |                | 16              | 4.8  |
| 6. \$8,000-\$9,999    | 0                | --   | 3             | 2.7  |                | 3               | .9   |
| 7. \$10,000-\$11,999  | 9                | 4.1  | 6             | 5.4  |                | 15              | 4.5  |
| 8. \$12,000-\$15,999  | 0                | --   | 7             | 6.3  |                | 7               | 2.1  |
| 9. \$16,000-\$19,999  | 20               | 9.0  | 4             | 3.6  |                | 24              | 7.2  |
| 10. \$20,000-\$24,999 | 0                | --   | 6             | 5.4  |                | 6               | 1.8  |
| 11. \$25,000-\$29,999 | 22               | 10.0 | 2             | 1.8  |                | 24              | 7.2  |
| 12. \$30,000 and over | 122              | 55.2 | 51            | 45.5 |                | 173             | 52.0 |

<sup>a</sup>The probability that the groups are different as determined by a one-way Analysis of Variance

Table 5. Other Selected Demographic Characteristics of Respondents.

|                                  | Community Sample |      | Clinic Sample |      | p <sup>a</sup> | All Respondents |      |
|----------------------------------|------------------|------|---------------|------|----------------|-----------------|------|
|                                  | Mean             | S.D. | Mean          | S.D. |                | Mean            | S.D. |
| 1. Age                           | 41.8             | 18.0 | 31.3          | 10.6 | .000           | 38.3            | 16.7 |
| 2. Number of people in household | 3.5              | 1.5  | 3.4           | 1.5  | N.S            | 3.4             | 1.5  |
| 3. Number of years in Tucson     | 14.0             | 11.4 | 10.1          | 10.6 | .003           | 12.7            | 11.2 |

<sup>a</sup>The probability that the groups are different as determined by a one-way Analysis of Variance.

Before entering demographic variables into the discriminant function analysis, it was necessary to create dummy variables for the nominal-level, non-dichotomous variables. This was done according to the procedures outlined by Nie et al. (1975) whereby each category of a nominal variable is treated as a separate variable for which arbitrary scores of one or zero are assigned for all cases depending on their presence or absence in each of the categories. For example, the nominal variable marital status included the categories of married, married with spouse absent, separated, divorced, widowed, never married, and living together. Thus, marital status was conceived of as seven separate dichotomous variables, and on each separate category a score of one or zero was given. Because these dummy variables had arbitrary metric values of zero or one, they could be treated as interval-level data. This was true as long as one of the dummy variables was excluded from the equation to serve as a reference category. Dummy variables were subsequently created in each of the other groups of nominal, non-dichotomous variables.

Demographic variables were entered into the discriminant function according to a stepwise procedure which selected the single-best discriminating variable according to a predetermined criterion. The second discriminating variable selected was the one which was most able to improve the value of the discriminating criteria in combination with the first variable. Finally, all variables were either selected or determined unable to add to further discrimination.



In discriminant analysis the keyword "PRIORS =" can be used to adjust probabilities of group membership on the basis of prior knowledge of the population distribution of cases. In this case, priors was set to equal group size to adjust on the basis of a priori probabilities proportional to the number of cases in each group. Thus, cases were more likely to be assigned to the larger group (in this study, the community group). Variables were included if their tolerance was 0.36 or more. The tolerance was set at this level so the highly correlated variables ( $r \geq .80$ ) were not entered into the function. The maximum significance level if F-to-enter was set at 0.20. Thus, the significance level of any variable had to be .20 or smaller before being eligible for inclusion. Significance level, in this particular case, referred to the probability of obtaining centroid differences at least as large as are found in this data due to chance when the centroids are actually equal in the population (Nie et al., 1975).

The demographic variables which met the criteria for inclusion are listed in Table 6. Standardized discriminant function coefficients represent the relative contribution of the associated variable to that particular discriminant function when the sign was ignored. Thus, the following demographic variables which met the criteria for inclusion are listed in descending order of their contribution: married with spouse absent, Caucasian, income, retired, working less than full-time, sex, black, married, college graduate, graduate professional training, and married one to two years. Table 7 includes the summary results of the

Table 6. Variables Meeting the Criteria for Inclusion into Discriminant Function I.

| Variable                                | Standardized<br>Discriminant<br>Function<br>Coefficients | Wilks'<br>Lambda | Rao's V |
|---|--|------------------|---------|
| 1. Married, spouse<br>absent            | 0.77208  | 0.569470         | 241.926 |
| 2. Caucasian                            | 0.41795  | 0.529985         | 283.791 |
| 3. Income                               | -0.30283   | 0.502509         | 316.804 |
| 4. Working less<br>than half-time       | 0.21582  | 0.487095         | 336.956 |
| 5. Retired                              | -0.22267   | 0.475914         | 352.391 |
| 6. Sex                                  | -0.15857   | 0.468608         | 362.873 |
| 7. Married                              | -0.14718   | 0.463741         | 370.041 |
| 8. Black                                | 0.15186  | 0.459752         | 376.028 |
| 9. College graduate                     | 0.13020  | 0.457048         | 380.145 |
| 10. Graduate profes-<br>sional training | 0.11676  | 0.454309         | 384.367 |
| 11. Married 1-2 years                   | 0.10574  | 0.451666         | 388.488 |

Table 7. Discriminant Function I: Demographic Variables.

| Eigenvalue | Canonical Correlation | Wilks' Lambda | Chi-Squared | df | Significance |
|------------|-----------------------|---------------|-------------|----|--------------|
| 7.82487    | 0.94164*              | 0.11332       | 256.95      | 14 | .0000**      |

\*Canonical Correlation Squared = .887

\*\*Percent of cases correctly classified = 85.7

discriminant function with these demographic variables entered. The eigenvalue is defined as a measure of the relative importance of the function. The canonical correlation provides information as to how closely the "group variable" and the function are related while the canonical correlation squared can be interpreted as the proportion of variance in the discriminant function which is explained by the groups. Wilks' lambda is an inverse measure of discriminating power in the variables not yet removed by the discriminant functions; thus, as the value of lambda increases, the information remaining decreases. Lambda can subsequently be transformed into a Chi-square statistic that allows for an easy test of statistical significance (Nie et al., 1975).

As can be seen from Table 7, the discriminant function utilizing these demographic variables was statistically significant ( $p < .0000$ ) and accounted for 88.7 percent of the variance. In addition, using only these variables, cases could be accurately classified as clinic or community with 85.7 percent accuracy.

#### Univariate Analyses of Recent Life Events

Recent life events were examined in two ways. First, it was determined whether or not any of these events occurred either to the respondent or a family member. Second, those events which occurred only to the respondent were examined. Any events which occurred more than six months prior to the completion of the questionnaire were eliminated. For the community sample, the mean number of events occurring to either

the respondent or a family member was 2.4 while the standard deviation was 2.3. For the clinic sample, the mean number of events was 4.3 while the standard deviation was 3.1. For events occurring only to the respondent, the mean and standard deviation of the community sample were 1.3 and 1.7 while the mean and standard deviation of the clinic sample were 2.9 and 2.7 respectively.

Table 8 presents the range of events experienced in each group while Tables 9 and 10 present summaries of the one-way analyses of variance. In each case, the clinic respondents reported at least twice as many events occurring during the six months prior to completion of the questionnaire. This difference was statistically significant ( $p < .0000$ ) although the amount of variance accounted for was relatively small (11.9%).

Discriminant Function II:  
Recent Life Events as Discriminators of Group Membership

As with the demographic variables, recent life events were entered into the discriminant function using a stepwise procedure. Those recent life events which met the criteria for inclusion are listed in Table 11. The following events are listed in descending order of their contribution to the function: marital separation due to discord, major financial problem, demotion, divorce, unemployment for one month, marriage, and starting a new type of work. Table 12 includes the summary results of the discriminant function with these life events entered. The discriminant function utilizing these recent life events

Table 8. The Range of Recent Life Events.

| Number of<br>Events | <u>Community Sample</u> |      | <u>Clinic Sample</u> |      | <u>Total</u> |      |
|---------------------|-------------------------|------|----------------------|------|--------------|------|
|                     | N                       | %    | N                    | %    | N            | %    |
| 0                   | 55                      | 24.9 | 8                    | 7.1  | 63           | 18.9 |
| 1                   | 37                      | 16.7 | 10                   | 8.9  | 47           | 14.1 |
| 2                   | 42                      | 19.0 | 16                   | 14.3 | 58           | 17.4 |
| 3                   | 29                      | 13.1 | 16                   | 14.3 | 45           | 13.5 |
| 4                   | 12                      | 5.4  | 16                   | 14.3 | 28           | 8.4  |
| 5                   | 19                      | 8.6  | 14                   | 12.5 | 33           | 9.9  |
| 6                   | 10                      | 4.5  | 12                   | 10.7 | 22           | 6.6  |
| 7                   | 13                      | 5.9  | 3                    | 2.7  | 16           | 4.8  |
| 8                   | 1                       | .5   | 5                    | 4.5  | 6            | 1.8  |
| 9                   | 1                       | .5   | 7                    | 6.3  | 8            | 2.4  |
| 10                  | 1                       | .5   | 0                    | --   | 1            | .3   |
| 11                  | 1                       | .5   | 1                    | .9   | 2            | .6   |
| 12                  | 0                       | --   | 1                    | .9   | 1            | .3   |
| 13                  | 0                       | --   | 1                    | .9   | 1            | .3   |
| 14                  | 0                       | --   | 0                    | --   | 0            | --   |
| 15                  | 0                       | --   | 1                    | .9   | 1            | .3   |
| 16                  | 0                       | --   | 1                    | .9   | 1            | .3   |

Table 9. One-Way Analysis of Variance on Number of Recent Life Events Occurring to Self or Family.

| Group     | Mean | Standard Deviation |  |  |  |
|-----------|------|--------------------|--|--|--|
| Community | 2.44 | 2.31               |  |  |  |
| Clinic    | 4.35 | 3.13               |  |  |  |

| Source of Variance | Sum of Squares | df  | Mean Square | F     | Significance |
|--------------------|----------------|-----|-------------|-------|--------------|
| Between groups     | 269.683        | 1   | 269.683     | 39.43 | <.0000*      |
| Within groups      | 2263.9626      | 331 | 6.840       |       |              |

\*Eta Squared: .106

Table 10. One-Way Analysis of Variance on Recent Life Events Occurring to Self Only.

| Group     | Mean | Standard Deviation |  |  |  |
|-----------|------|--------------------|--|--|--|
| Community | 1.31 | 1.72               |  |  |  |
| Clinic    | 2.94 | 2.68               |  |  |  |

| Source of Variance | Sum of Squares | df  | Mean Square | F     | Significance |
|--------------------|----------------|-----|-------------|-------|--------------|
| Between groups     | 196.347        | 1   | 196.347     | 44.88 | <.0000*      |
| Within groups      | 1448.020       | 331 | 4.375       |       |              |

\*Eta Squared: .119

Table 11. Variables Meeting the Criteria for Inclusion into  
Discriminant Function II.

| Variable                                | Standardized Discriminant<br>Function Coefficients | Wilks'<br>Lambda | Rao's<br>V |
|---|--|------------------|------------|
| 1. Marital separation<br>due to discord | -0.51995   | 0.89765          | 37.63      |
| 2. Major financial<br>problem           | -0.36666   | 0.84447          | 60.78      |
| 3. Marriage                             | -0.20944   | 0.82676          | 69.15      |
| 4. Start new type<br>of work            | -0.17883   | 0.81506          | 74.88      |
| 5. Divorce                              | -0.24701   | 0.80640          | 79.22      |
| 6. Demotion                             | -0.25052   | 0.79869          | 83.18      |
| 7. Unemployed for<br>one month          | -0.23527   | 0.79043          | 87.49      |



Table 12. Discriminant Function II: Recent Life Events

| Eigenvalue | Canonical Correlation | Wilks' Lambda | Chi-Squared | df | Significance |
|------------|-----------------------|---------------|-------------|----|--------------|
| .26513     | 0.45778*              | 0.79043       | 76.78       | 7  | .000**       |

\*Canonical Correlation Squared = .210

\*\*Percent of cases correctly classified = 76.5

was statistically significant and accounted for 21.0 percent of the variance in group membership. In addition, by using only these seven recent life events group membership was predicted with a 76.5 percent accuracy.

#### Univariate Analyses of Social Support Variables

The instrument included 13 questions tapping social supports. Ten of these questions yielded interval level data, and a summary of the results using one way analyses of variance is presented in Table 13. Table 14 presents the results of Chi-square analyses with the remaining three questions. As can be seen in these tables, all of the variables yielded statistically significant differences except number of co-workers known, number of relatives in Pima County, number of people in household, number of different friends seen each week, and frequency of visiting neighbors.

#### Discriminant Function III: Social Support Variables as Discriminators of Group Membership

As with the preceding discriminant analyses, social support variables were entered into the discriminant function using a stepwise procedure. The social support variables which met the criteria for inclusion are listed in Table 15. The following variables are listed in descending order of their contribution to the function: number of organizations of which a member, number of different friends seen each week, and not getting together with friends at all during the week. Table 16 includes a summary of the results of the discriminant function with

Table 13. Summary of One-Way Analyses of Variance on Social Support Variables.

| Variable   | Source of Variance              | Sum of Squares       | df       | Mean Square        | F     | Significance | Eta Squared |
|--|---------------------------------|----------------------|----------|--------------------|-------|--------------|-------------|
| 1. Number of organizations of which a member           | Between groups<br>Within groups | 112.069<br>720.343   | 1<br>280 | 112.069<br>2.573   | 43.56 | <.0000       | .135        |
| 2. Number of organizations in which active             | Between groups<br>Within groups | 80.280<br>498.692    | 1<br>247 | 80.280<br>2.019    | 39.76 | <.0000       | .139        |
| 3. Number of people to talk to about personal problems | Between groups<br>Within groups | 663.677<br>8808.209  | 1<br>295 | 663.677<br>29.86   | 22.23 | <.0000       | .070        |
| 4. Number of co-workers known                          | Between groups<br>Within groups | 138.363<br>53685.011 | 1<br>188 | 138.363<br>285.559 | .485  | N.S.         | --          |
| 5. Number of co-workers visited                        | Between groups<br>Within groups | 365.779<br>5433.760  | 1<br>215 | 365.779<br>25.27   | 14.47 | <.0002       | .063        |
| 6. Times in past month visited co-workers              | Between groups<br>Within groups | 199.644<br>5522.599  | 1<br>158 | 199.644<br>34.953  | 5.71  | <.02         | .035        |
| 7. Number of relatives in Pima County                  | Between groups<br>Within groups | 35.382<br>10683.675  | 1<br>261 | 35.382<br>40.934   | .864  | N.S.         | --          |
| 8. Number of relatives seen regularly                  | Between groups<br>Within groups | 80.803<br>2257.016   | 1<br>196 | 80.803<br>11.515   | 7.02  | <.0087       | .035        |
| 9. Number of people in household                       | Between groups<br>Within groups | .988<br>714.969      | 1<br>323 | .988<br>2.214      | .446  | N.S.         | --          |
| 10. Number of different friends seen each week         | Between groups<br>Within groups | 225.996<br>18502.624 | 1<br>269 | 225.996<br>68.783  | 3.29  | N.S.         | --          |

Table 14. Summary of Chi-Square Analyses of Social Support Variables.

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| Variable                                    | Chi-Square | df | Significance | Eta Squared |
|---|------------|----|--------------|-------------|
| 1. How often visit neighbors                | 7.17       | 3  | N.S.         | --          |
| 2. Times per week get together with friends | 12.43      | 5  | .03          | .031        |
| 3. Times per day chat on telephone          | 15.73      | 5  | .008         | .018        |

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Table 15. Variables Meeting the Criteria for Inclusion into Discriminant Function III.

| Variable   | Standardized Discriminant<br>Function Coefficients | Wilks'<br>Lambda | Rao's<br>V |
|--|--|------------------|------------|
| 1. Number of organiza-<br>tions of which a<br>member         | -0.90853   | 0.88100          | 17.965     |
| 2. Number of people to<br>talk to about<br>personal problems | -0.54518   | 0.82880          | 27.473     |
| 3. Number of different<br>friends seen each<br>week          | 0.56416  | 0.79992          | 33.267     |
| 4. Don't get together<br>with friends at all<br>during week  | 0.30969  | 0.78519          | 36.387     |

Table 16. Discriminant Function III: Social Support Variables.

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| Eigenvalue | Canonical<br>Correlation | Wilks'<br>Lambda | Chi-<br>Squared | df | Significance |
|------------|--------------------------|------------------|-----------------|----|--------------|
| 0.27359    | 0.46348*                 | 0.78519          | 31.681          | 4  | .000**       |

---

\*Canonical Correlation Squared = .215

\*\*Percent of cases correctly classified = 71.7

these social support variables entered. The discriminant function was statistically significant ( $p < .0000$ ), and the amount of variance accounted for was 21.5 percent. In addition, using only these variables, cases could be assigned group membership with 71.7 percent accuracy.

#### Univariate Analyses of Daily Activities

One of the hypotheses of this study was that community respondents would report more enjoyment of daily activities than clinic respondents. There were four response alternatives for each of the 38 questions including "1--Like Very Much," "2--Like A Little," "3--Dislike A Little," and "4--Dislike Very Much." Community respondents selected alternatives one and two significantly more often than clinic respondents ( $p < .03$ ), but the amount of variance accounted for was only 2.7 percent.

#### Discriminant Function IV: Daily Activities as Predictors of Group Membership

For the purposes of this analysis, responses one and two were combined to indicate liking an activity while responses three and four were combined to indicate disliking an activity. Then daily activities were entered into the discriminant function in a stepwise manner. Those variables which met the criteria for inclusion are listed in Table 17. The following variables are listed in descending order of their contribution to the function: dislike domestic work, like domestic work, like

Table 17. Variables Meeting the Criteria for Inclusion into Discriminant Function IV.

| Variable                                       | Standardized Discriminant<br>Function Coefficients | Wilks'<br>Lambda | Rao's<br>V |
|--|--|------------------|------------|
| 1. Like passive<br>leisure activities          | -0.42721   | 0.96662          | 11.43      |
| 2. Dislike domestic<br>work                    | 0.65934  | 0.93870          | 21.61      |
| 3. Like domestic work                          | 0.52708  | 0.91881          | 29.25      |
| 4. Like civic and<br>religious activities      | -0.36265   | 0.90303          | 35.54      |
| 5. Dislike work                                | 0.28346  | 0.89329          | 39.54      |
| 6. Like entertainment<br>and social activities | -0.32133   | 0.88593          | 43.62      |
| 7. Dislike passive<br>leisure                  | 0.2330   | 0.88055          | 44.90      |



passive leisure activities, like civic and religious activities, like entertainment and social activities, dislike work, and dislike passive leisure. Table 18 summarizes the overall results of the discriminant function and indicates that the difference between the two groups was statistically significant ( $p < .000$ ). In addition, using these variables, 71.5 percent of the cases were classified correctly although the amount of variance accounted for was only 11.9 percent.

#### Univariate Analyses of Quality of Life Variables

Since Flynn (1979) proposed that quality of life scores might relate to need for mental health services, the present study examined whether or not differences did, in fact, exist between clinic and community respondents on perceived quality of life measures. Those measures included answers to the following questions:

1. All things considered, how satisfied or dissatisfied are you with this neighborhood as a place to live?
2. All things considered, how satisfied or dissatisfied are you with Tucson as a place to live?
3. All things considered, how satisfied or dissatisfied are you with this house/apartment as a place for you and your family to live in?
4. How satisfied or dissatisfied are you with the amount of education you have received?
5. All things considered, how useful do you think your education was for you personally?

Table 18. Discriminant Function IV: Daily Activities.

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| Eigenvalue | Canonical<br>Correlation | Wilks'<br>Lambda | Chi-<br>Squared | df | Significance |
|------------|--------------------------|------------------|-----------------|----|--------------|
| 0.13566    | 0.34562*                 | 0.88055          | 41.66           | 7  | .000**       |

---

\*Canonical Correlation Squared = .119

\*\*Percent of cases correctly classified = 71.5

6. All things considered, how do you feel about your work or business as a whole?
7. All things considered, how satisfied are you with your friendships--with the time you spend with friends, the things you do together, the number of friends you have, as well as the particular people who are your friends?
8. Overall, how satisfied are you with the ways you spend your spare time?
9. Of course, most people get sick now and then, but overall, how satisfied or dissatisfied are you with your own health?
10. All things considered, how satisfied are you with your marriage--the relationship between you and your husband/wife?
11. The things people have--housing, car, furniture, recreation, and the like--make up their standard of living. Some people are satisfied with their standard of living, others feel it is not as high as they would like. How satisfied are you with your standard of living?
12. How satisfied are you with your family's situation as far as savings and investments are concerned?
13. All things considered, how satisfied are you with your family life--the time you spend and the things you do with members of your family?

Response alternatives for each of the 13 questions ranged from "1--Completely Dissatisfied" to "7--Completely Satisfied." All questions were coded accordingly so that a high score would be

suggestive of a high level of well-being. This allowed the responses across all 13 questions to be summed to yield a composite "Quality of Life" score. Missing data were handled such that a respondent must have answered at least nine of the 13 questions in order to be assigned an overall Quality of Life score. Ninety-nine percent of all respondents met this requirement, and missing data points were replaced by the average score of questions actually completed.

Considering the criteria outlined above, a Quality of Life composite score was calculated for 220 community respondents and 110 clinic respondents. For the community respondents the mean score was 63.3 with a standard deviation of 13.5. For the clinic respondents the mean score was 47.7 with a standard deviation of 12.5. Table 19 presents the one-way analysis of variance with nominal level group membership as the independent variable and the Quality of Life score as the dependent variable. As can be seen from Table 19, the differences in Quality of Life scores for the two groups was statistically significant ( $p < .0000$ ), and amount of variance accounted for was 23.9%.

In addition to the analysis of overall Quality of Life score, each of the individual quality of life items was examined separately, and a summary of these results is included in Table 20. Each of the individual domain-satisfaction items is significantly related to group membership. However, inspection of the eta squared values suggests that although statistically significant, many of these variables account for a very small proportion of the variance. Of these, satisfaction with

Table 19. One-Way Analysis of Variance of Composite Quality of Life Scores.

| Source of Variance | df  | Sum of Squares | Mean Square | F     | Significance |
|--------------------|-----|----------------|-------------|-------|--------------|
| Between groups     | 1   | 17898.44       | 17898.44    | 103.0 | .0000*       |
| Within groups      | 328 | 56997.47       | 173.77      |       |              |

\*Eta Squared: .239

Table 20. Summary of Univariate Analyses of Individual Domain-Satisfaction Items.

| Variable                   | Chi-Square | df | Significance | Eta Squared |
|----------------------------|------------|----|--------------|-------------|
| 1. Neighborhood            | 10.92      | 5  | .05          | .03         |
| 2. Tucson                  | 20.96      | 5  | .0008        | .05         |
| 3. Home                    | 36.36      | 5  | .0000        | .10         |
| 4. Amount of education     | 24.54      | 6  | .0004        | .06         |
| 5. Usefulness of education | 40.93      | 5  | .0000        | .12         |
| 6. Work                    | 25.70      | 3  | .0000        | .10         |
| 7. Friendships             | 93.03      | 5  | .0000        | .26         |
| 8. Use of spare time       | 115.45     | 4  | .0000        | .33         |
| 9. Health                  | 37.56      | 5  | .0000        | .10         |
| 10. Family life            | 59.94      | 3  | .0000        | .27         |
| 11. Marriage               | 76.48      | 3  | .0000        | .35         |
| 12. Standard of living     | 45.63      | 4  | .0000        | .12         |
| 13. Savings                | 82.14      | 5  | .0000        | .23         |

marriage (35%) and satisfaction with use of spare time (33%) accounted for the most variance while satisfaction with neighborhood (three percent) and Tucson as a place to live (five percent) accounted for the least.

Discriminant Function V: Quality of Life  
Variables as Predictors of Group Membership

As with the preceding criterion variables, quality of life items were entered into the discriminant function in a stepwise manner. Variables meeting the criteria for inclusion are listed in Table 21. The following variables are listed in descending order of their contribution to the function: satisfaction with marriage, satisfaction with friendships, and satisfaction with savings. Table 22 presents a summary of this discriminant analysis and shows that the difference between the two groups on the basis of these variables was statistically significant ( $p < .0000$ ). The amount of variance accounted for as 47.1 percent. In addition, on the basis of these three variables, cases were classified into the two groups with 85.2 percent accuracy.

Relationship Between Quality of Life  
(Domain-Satisfaction) and Happiness

Because of the suggestion that the satisfaction questions of Campbell et al. (1976) and the happiness questions of Bradburn (1969) might tap different things, nonparametric correlation procedures were performed to examine the relationship between the Quality of Life score and the happiness question included in a number of national surveys. A

Table 21. Variables Meeting the Criteria for Inclusion into Discriminant Function V.

| Variable                         | Standardized Discriminant Function Coefficients | Wilks' Lambda | Rao's V |
|----------------------------------|---|---------------|---------|
| 1. Satisfaction with marriage    | -0.58404  | 0.65977       | 107.261 |
| 2. Satisfaction with friendships | -0.56467  | 0.55010       | 170.115 |
| 3. Satisfaction with savings     | -0.30777  | 0.52840       | 185.640 |



Table 22. Discriminant Function V: Quality of Life Variables.

| Eigenvalue | Canonical Correlation | Wilks' Lambda | Chi-Squared | df | Significance |
|------------|-----------------------|---------------|-------------|----|--------------|
| 0.8925     | 0.6867*               | 0.52840       | 131.73      | 3  | .000**       |

\*Canonical Correlation Squared = .471

\*\*Percent of cases correctly classified = 85.2

nonparametric correlational procedure was selected because the happiness question did not yield interval-level data, and Kendall's tau was selected because a large number of cases were classified into a relatively small number of categories. For the clinic respondents, Kendall's tau was .243 ( $p < .001$ ) while for the community respondents, Kendall's tau was .323 ( $p < .001$ ).

Univariate Analyses of Happiness  
(Positive Affect) and Negative Affect

Although the present study utilized primarily a satisfaction approach, a number of questions that Bradburn (1969) described as tapping positive and negative affect were included. The following primary happiness question used in several national surveys since 1960 was of primary interest: "Taking all things together, how would you say things are these days--would you say you're very happy, pretty happy, or not too happy these days?" In response to this question, 35.5 percent ( $n = 77$ ) of the community respondents indicated they were very happy while 55.3 percent ( $n = 120$ ) indicated that they were at least a little happy. In contrast, only .9 percent ( $n = 1$ ) of the clinic respondents indicated they were very happy while 13.6 percent ( $n = 15$ ) indicated they were at least pretty happy. The Chi-square value of 186.83 is statistically significant ( $p < .0000$ ) and accounts for 57.1 percent of the variance.

A similar pattern was found for marital happiness with 60.4 percent ( $n = 96$ ) of the community respondents reporting that they were very

happy with their marriage and 33.3 percent ( $n = 53$ ) reporting a little happiness. In contrast only 8.5 percent ( $n = 5$ ) of the clinic respondents reported they were very happy while 44.1 percent ( $n = 26$ ) reported a little marital happiness. Moreover, community respondents indicated that they argued with their spouses less than the clinic respondents ( $p < .0000$ ) although this variable accounted for relatively little (6.2%) of the variance.

Happiness and Negative Affect  
as Predictors of Group Membership

Since happiness and satisfaction questions have been assumed to measure different things, it seemed reasonable to perform a separate discriminant analysis with the questions pertaining to positive and negative affect. However, discriminant analysis automatically eliminates all cases that contain any missing values on variables list to be analyzed, and the final analysis using these variables included only 20 clinic respondents and 17 community respondents. Although there is a SPSS option which allows computation ignoring all missing values indicators, it was decided that this would make interpretation of the results difficult. Thus, since any interpretation of results using so few cases is likely to be misleading, they will not be reported here. It is unknown why there were substantially more missing data on this particular set of variables.

Discriminant Function VI: Demographic Variables,  
Life Events, Social Supports, Daily Activities, and  
Quality of Life Variables as Predictors of Group Membership

After completing the discriminant analyses on the individual groups of variables, an overall discriminant function was performed using all the variables. Again, a stepwise procedure was selected, and the variables which met the criteria for inclusion are listed in Table 23. The following variables are listed in descending order of their relative contributions: married, spouse absent, major financial problem, satisfaction with work, satisfaction with friendships, and satisfaction with family life. Table 24 presents a summary of the results of the overall discriminant function which is statistically significant ( $p < .0000$ ) and accounts for 72.8 percent of the variance. In addition, using only these five variables cases were assigned group membership with 93.1 percent accuracy.

Cross-Validation Sample

As was described in the Method section, before any analyses were performed, cases were randomly assigned to two groups as outlined by Kerlinger and Pedhazur (1973). The first group was the screening sample and was used to perform the major analyses for this study while the second group was reserved as a calibration or cross-validation sample. Using the constant value plus the unstandardized correlation coefficients of the variables meeting the criteria for inclusion into the

Table 23. Variables Meeting the Criteria for Inclusion into Discriminant Function VI.

| Variable                         | Standardized Discriminant Function Coefficients | Wilks' Lambda | Rao's V |
|----------------------------------|---|---------------|---------|
| 1. Married, spouse absent        | -3.372665                                       | 0.397322      | 206.292 |
| 2. Satisfaction with work        | 0.243730  | 0.315504      | 295.057 |
| 3. Satisfaction with family life | 0.167837  | 0.294155      | 326.341 |
| 4. Satisfaction with friendships | 0.230095  | 0.281626      | 346.910 |
| 5. Major financial problem       | -0.940184                                       | 0.272178      | 363.672 |

Table 24. Discriminant Function VI: Overall.

| Eigenvalue | Canonical Correlation | Wilks' Lambda | Chi-Squared | df | Significance |
|------------|-----------------------|---------------|-------------|----|--------------|
| 2.67406    | 0.85312*              | 0.27218       | 173.72      | 5  | .0000**      |

\*Canonical Correlation Squared = .728  
\*\*Percent of cases correctly classified = 93.1

overall Discriminant Function VI (see Table 23), the following equation was derived:

$$\text{DFTOT} = 2.585612 - \text{MA2} \times 3.3727 + \text{P17} \times 0.2301 + \text{F16} \times 0.1678 - \\ \text{A85} \times 0.9402 + \text{W8} \times 0.2437$$

The value -2.585612 is the constant, MA2 represents married, spouse absent, P17 represents satisfaction with friendships, F16 represents satisfaction with family life, A85 represents a major financial problem, and W8 represents satisfaction with work. Next, the midpoint of the two group centroids was determined to be -0.816365. All cases for which the value obtained from the weighted equation was less than -0.816365 were predicted to be clinic respondents, and all cases for which the value was greater than or equal to -0.816265 were predicted to be community respondents. Since group membership was known, it was then possible to compare predicted group membership with actual group membership. A Chi-square analysis demonstrated that predicted group membership was significantly related to actual group membership ( $p < .0000$ ) accounting for 59.9 percent of the variance. In terms of hit rates, only nine percent of the cross-validation cases were misclassified on the basis of these variables resulting in a 91 percent accuracy rate.

## DISCUSSION

The overall results of the present study support Kessler and Albee's (1975) suggestion that a certain level of "quality of life" may increase the potential immunity of people to psychological problems. Discriminant function analyses of individual quality of life items indicate that community mental health center respondents report significantly less satisfaction than community respondents with important life domains. In addition, using only three life satisfaction domains (including marriage, friendships, and savings), respondents could be correctly classified with 85 percent accuracy as clinic or community.

The present results also support Andrews' (1974) contention that monitoring of both objective and subjective social indicators is necessary for adequately documenting changes in living conditions. Discriminant function analyses using only demographic variables indicate that respondents in this sample could be correctly classified with 86 percent accuracy as clinic or community. However, discriminant function analyses using both subjective and objective indicators increased the accuracy of classification to 93 percent. These results will be discussed individually and in detail below.

### Demographic Differences Between Community and Clinic Respondents

The demographic variables selected for this study fell into the category of objective social indicators as they included countable occurrences of phenomena such as age, education, employment, income, and



so forth. Univariate analyses produced statistical differences ( $p < .01$ ) between the clinic and community respondents on the following variables: age, sex, marital status, education, amount of time working, income, number of years in neighborhood, and number of years in Tucson. Clinic respondents were more likely to be young, female, married at least a second time, married with spouse absent, and married for a shorter period of time. In addition, they were more likely to be employed half-time or less, to have slightly more education and lower income than the community respondents.

It is important to examine some of these differences in more detail. For example, 25.4 percent ( $n = 16$ ) of the clinic respondents reported that they had been married two years or less while only 9.4 percent ( $n = 15$ ) of the community respondents reported this. Similarly, only 28.6 percent ( $n = 18$ ) of the clinic respondents reported that they had been married 10 years or more while 70 percent ( $n = 112$ ) of the community respondents reported this. Moreover, the percentage of clinic respondents (32.3%) reporting that they had been married at least two times more than doubled the percentage of community respondents (14.4%) reporting a second marriage. These findings suggest that on the average, marriages of the clinic respondents may tend to be more unstable than those of the community respondents.

The category of "married, spouse absent" is not typically included in categories of marital status. Most often respondents in this category are forced to report being either married or separated. In this sample, only 1.4 percent ( $n = 3$ ) of the community respondents reported being married, with spouse absent; however, a staggering 56.8

percent ( $n = 63$ ) of the clinic sample reported being in this category. Of course, one could make the case that this finding is unique to this subset of the population; however, one could also reasonably hypothesize that a substantial number of persons seeking mental health services are uncertain about their marital status. They may not be residing with their spouses, but there has been no legal separation and/or a formalized plan for divorce. In addition, there may be some persons who have not yet accepted the fact that they are separated, and it is less threatening to select "married, spouse absent" category. These persons might actually be at high-risk for needing mental health services because they are in an undecided or unclear status.

Despite the substantial amount of evidence linking marital disruption to psychopathology, the salient stresses involved are as yet unclear. Bloom (1977) outlines six stresses which may be involved: mourning the actual termination, employment stresses (particularly for women), legal and financial stresses, child-rearing problems related to becoming a one-parent family, housing and homemaking stresses (particularly for men), and difficulty finding new, satisfying social groups. In addition, despite the fact that those experiencing marital adjustment constitute a high-risk group, there have been few, if any, evaluated efforts to assist such persons. The present study suggests that simply including an additional category of "married, spouse absent" on assessment instruments may aid in the early identification of high-risk individuals. If future studies find similar results when including the "married, spouse absent" category, this variable may eventually be

used effectively by mental health planners to target these "high-risk" groups for outreach services.

Although the community respondents reported significantly higher income ( $p < .02$ ), an examination of the means and standard deviations suggests that the two groups were actually quite similar in terms of income. The community respondents report a mean income of \$21,715 (S.D. = \$11,677) while the clinic respondents report a mean income of \$18,420 (S.D. = \$12,213). In addition, income accounts for only 1.7 percent of the variance between the two groups. Thus, the statistical significance in this case might be misleading because of the large number of respondents. A similar case could be made for the statistical significance of number of years in Tucson accounting for only 2.7 percent of the variance.

#### Demographic Variables as Predictors of Group Membership

As mentioned in a preceding section, multiple univariate analyses do not take into account the correlations among variables; thus, these multiple comparisons are likely to yield a distorted picture of group differences. In the stepwise discriminant function, the category of "married, spouse absent" was by far the strongest predictor variable and further supports the suggestion that this variable may eventually be quite helpful in targeting high-risk groups for preventive mental health programs. Overall, this discriminant function indicated that 85.7 percent of the cases were accurately classified as clinic or community accounting for 88.7 percent of the variance by including only the

following variables: marital status, ethnicity, income, amount of time working, sex, education, and length of time married.

The results with demographic variables support the use of objective social indicators for assessing demand for mental health services. However, it is important to remember that objective indicators represent the inequitable distribution of resources in society. All who are subject to such inequitable distribution do not develop psychopathology or need mental health services. Thus, there must be some additional variables that may help in identifying those individuals who are high-risk.

#### Recent Life Event Differences Between Clinic and Community Respondents

The finding that clinic respondents reported twice as many recent life events occurring during the six months prior to completion of the questionnaire is consistent with the findings of Bell (1977), Birley and Brown (1968), Grant et al. (1981), Morrice (1974), and Paykel et al. (1975). Clinic respondents reporting a change of school, demotion, birth of a child, business failure, marital separation due to discord, pregnancy, divorce, major financial problem, and marriage more than tripled the number of community respondents reporting such events. However, despite these differences, the amount of variance accounted for was quite small. Although this finding is somewhat higher than the nine percent level that Rabkin and Struening (1976) report, the relationship must still be considered weak.

### Relationship of Recent Life Events to Quality of Life

Flynn (1979) found that number of recent life events were negatively correlated ( $p < .001$ ) with quality of life score in community respondents from two sets of census tracts. With the addition of a third set of census tracts, the present study also found that number of recent life events was negatively correlated ( $p < .05$ ) with quality of life score although the total number of life events accounted for only 1.3 percent of the variance. Similar results were obtained with the clinic sample where the number of life events was negatively correlated ( $p < .006$ ) with the composite quality of life score but accounted for only 5.7 percent of the variance. Thus, the hypothesis that as the number of stressful life events in both groups increases the perceived quality of life (domain satisfaction) decreases was confirmed. Yet, despite the statistical significance, the relationship between stressful life events must be considered weak because the variance accounted for was so small.

### Recent Life Events as Predictors of Group Membership

The stepwise discriminant function including recent life events indicated that marital separation due to discord and major financial problem were the strongest discriminating variables. Using only seven events including the preceding two along with demotion, divorce, unemployment for one month, marriage, and starting a new type of work, 76.5 percent of the cases were correctly classified as clinic or community respondents accounting for 21.0 percent of the variance. Thus,

by using seven objective, countable recent life events (four of which were related to working conditions while three were related to marriage) three-fourths of these cases were correctly classified. This finding supports previously cited research findings that recent stressful life events are significantly correlated with psychiatric status. These findings do not suggest that stressful life events cause emotional problems, but they do suggest that such events may alter individuals' susceptibilities and possibly serve as precipitating factors.

A drawback of the present study is that there was no analysis of the desirability of recent life events. The author attempted to measure this, but a substantial number of respondents omitted this information precluding meaningful analysis. Paykel (1974) and Dohrenwend (1978) have been unable to relate the desirability of events to psychiatric symptoms; however, Grant et al. (1981) have found that desirable events related less powerfully than undesirable events. Moreover, Grant et al. (1981) have found that this relationship was inverse in nature meaning that the reporting of desirable events was associated with decreases in psychiatric symptoms. The fact that in the present study, promotion was the only life event which community respondents reported more often than clinic respondents offers some indirect support for Grant et al.'s (1981) finding. Additional research should attempt to investigate desirability of recent life events in a systematic manner.

Finally, a drawback of the particular events selected for this study was that they were primarily of a personal nature. In the introduction, it was suggested that general social changes might affect an

individual's perceived quality of life, and Andrews and Withey (1976) and Kessler and Albee (1975) have suggested that general social and societal changes might affect mental health. Bachrach and Zautra (1980) have presented preliminary evidence suggesting that certain individuals (particularly whites and poorly educated individuals) who are demographically incongruent with their environment may experience more psychological impairment than those who are demographically congruent with their environment. Future research in life events should extend stressful life events to include more general social pressures and/or changes.

It is important to note that many of the studies in the area of stressful life events have compared the events of hospitalized psychiatric patients with non-hospitalized persons. The present study compared the life events of first-time, outpatients at a community mental health center with community residents in the same catchment area. Thus, on the average, these outpatients were probably less disturbed than the inpatients used in these other studies. The fact that these outpatients still reported twice as many recent stressful life events provides additional support for the contention that the occurrence of stressful life events may serve as an early signal of need for preventive mental health intervention.

Crisis theory (Caplan, 1964) suggests that the management of stressful life events through effective coping allows a person to learn new coping skills and strengthens problem-solving ability. Likewise, the use of ineffective coping methods more than likely will lead to a

deterioration in psychological functioning. Thus, the event as well as the coping strategy employed affect subsequent equilibrium or disequilibrium. Bell (1977) has suggested that psychiatric inpatients report significantly more stressful life events and are more likely to employ short-term coping methods to deal with these events. Thus, if a certain segment of the population is known to experience recent life events, then a potential preventive mental health strategy might include targeting these persons for teaching long-term, effective coping strategies.

#### Group Differences on the Basis of Social Support Variables

Univariate analyses yielded significant group differences on the number of organizations of which a member, number of organizations in which active, number of people to talk about personal problems, number of co-workers visited, times in past month visited co-workers, number of relatives seen regularly, times per week get together with friends, and times per day chat on telephone. In general, the support questions which tapped more active involvement yielded statistically significant differences whereas those questions tapping more passive involvement (e.g., number of co-workers known, number of relatives in Pima County, etc.) did not. Despite the statistical significance, the largest proportion of variance accounted for was only 13.9 percent which was obtained with number of organizations in which active.



### Social Support Variables as Predictors of Group Membership

The stepwise discriminant function using four social support variables including number of organizations of which a member, number of people with whom to talk about personal problems, number of different friends seen each week, and not getting together at all with friends during the week was statistically significant ( $p < .0000$ ). In addition, using only these four variables, 71.7 percent of the cases were correctly classified. These findings offer support for the suggestion that social supports may mediate the need for mental health services. Moreover, the present data suggest that the mere number of supports available may not be the salient factor. Rather, it is the supports with whom one is actively involved that may be most important in mediating life stressors. These findings are consistent with Barrera's (1980) findings that simply the number of supportive network members was not correlated with psychiatric symptoms measures. These findings are also consistent with Sarason's (1974) psychological sense of community.

Overall, these findings must be viewed as preliminary since social support and participations variables accounted for only 21.5 percent of the variance. The demographic variables reported previously allowed for substantially higher accuracy in classification and accounted for much more of the variance.

### Groups Differences in Daily Activities

One of the hypotheses of this study was that the community respondents would report a higher level of enjoyment in daily activities than clinic respondents. This hypothesis was confirmed. However, this

finding must be viewed with caution because the amount of variance accounted for was only 2.7 percent.

With reference to individual activities there were no striking differences on liking any specific activity. However, clinic respondents reported disliking performing their regular job, attending social and political activities, performing volunteer work, attending religious services, attending sports events, giving or attending a party with a meal, conversing with spouse, and relaxing, reflecting, and thinking at least twice as often as community respondents.

The author also attempted to analyze the frequency with which respondents engaged in these activities. However, these data proved to be unreliable, and a substantial number of respondents omitted this information. Thus, no analyses were performed on these data.

#### Daily Activities as Predictors of Group Membership

Despite the fact that the discriminant function entering leisure activities was statistically significant ( $p < .000$ ), this function accounted for the least amount of variance (11.9%) and achieved the lowest accuracy in terms of group classification (71.5%). Since this is the first study to examine detailed daily activity differences in community and clinic respondents, the present findings are preliminary and are not disappointing. It still seems reasonable to assume that enjoyment and frequency of engaging in activities for psychiatric patients and community residents may be quite different. This particular instrument may have been difficult to understand or too tedious to complete. In addition, the instrument's dependence upon a four-point

like-dislike scale rather than the seven-point satisfaction scales used by Campbell et al. (1976) and Andrews and Withey (1976) may have been too insensitive to detect differences. Finally, this was only the second section of a lengthy questionnaire, and respondents may have skimmed this section speedily. As previously mentioned, differences in the frequency of engaging in activities could not be analyzed since there was an inordinate amount of missing data.

#### Group Differences on Quality of Life Measures

As mentioned previously, 13 seven-point satisfaction questions were used to measure perceived quality of life in individual domains, and all 13 were summed to yield a composite Quality of Life score. The hypothesis that clinic respondents would have lower overall Quality of Life scores than community respondents was confirmed. Fifty-one percent ( $n = 112$ ) of the community respondents reported they were at least "a little satisfied" with their lives in general while only 13 percent ( $n = 14$ ) of the clinic respondents reported such satisfaction. With respect to specific individual domains, the hypothesis that clinic respondents would report significantly less satisfaction with family life and friends was also confirmed. Surprisingly, on all 13 measures, clinic respondents reported significantly less satisfaction. However, satisfaction with amount of education, Tucson as a place to live, and neighborhood accounted for very small amounts of variance (six percent) and must be considered questionable because of the large number of respondents.

### Quality of Life Measures as Predictors of Group Membership

The stepwise discriminant function entering quality of life measures was statistically significant ( $p < .000$ ) and accounted for a substantial amount of variance (47.1%). In addition, 85.2 percent of the cases were classified accurately using only three domain satisfaction items including marriage, friendships, and savings. This finding offers support to the proposal that certain levels of quality of life may offer immunity to the development of psychological problems (Kessler & Albee, 1975). In other words, as individuals' perceived quality of life increases their likelihood of seeking mental health services tend to decrease. Of all the other predictor variables except demographic variables, perceived quality of life accounted for the most variance in group membership and resulted in the highest percentage of accurate classification.

### Objective Indicators Versus Subjective Indicators

Andrews (1974) encouraged the monitoring of both objective and subjective indicators to allow for determination of ways in which explicit changes in living conditions affect people's sense of life quality and whether or not changes in life quality can be attributed to changes in external conditions. Flynn's (1979) work suggested that explicit living conditions as measured by selected demographic variables, social participation, and life events were statistically significant predictors of a perceived quality of life (domain satisfaction) measure. However, the fact that the multiple regression using the best objective predictors from each area accounted for only 32 percent of the variance in

Flynn's (1979) quality of life measures supports Andrews' (1974) proposal that both objective and subjective measures are needed since they seem to measure different things. In the present study, the author used both objective indicators and subjective indicators for prediction of group membership. Table 25 summarizes the results obtained with each individual group of predictor variables as well as the results obtained with the best predictors from each group. As can be seen from Table 25, the discriminant function using subjective quality of life indices accounted for 47.1 percent of the variance and resulted in 85.2 percent classification accuracy. When these subjective and objective indicators were combined for the final discriminant function, the accuracy of classification increased to 93.1 percent although the amount of variance accounted for was 72.8 percent which was less than that accounted for by objective indicators alone.

In interpreting the results of the discriminant function, it is important to remember that the stepwise procedure leads to the selection of an optimal set of variables instead of a maximal set because all possible subsets are not considered. The selection of a maximal solution requires testing all possible subsets to determine the best possible set of discriminating variables, and because of the number of variables this cannot ordinarily be achieved within a reasonable length of time. Thus, the selection of a stepwise procedure assumed that this is the most efficient means of determining the best set of discriminating variables (Nie et al., 1975). In the overall discriminant function, the final set of variables included were not the same as those entered in

Table 25. Summary of Discriminant Function I through VI.

| Discriminant Function                   | Eigenvalue | Canonical<br>Correlation<br>Squared | Percent of Cases<br>Correctly Classified |
|---|------------|-------------------------------------|--|
| I. Demographic variables                | 7.82487    | .887                                | 85.7                                     |
| II. Recent Life events                  | 0.26513    | .210                                | 76.5                                     |
| III. Social support variables           | 0.27359    | .215                                | 71.1                                     |
| IV. Daily activities                    | 0.13566    | .119                                | 71.5                                     |
| V. Quality of life variables            | 0.8925     | .471                                | 85.2                                     |
| VI. Best predictors from functions I-VI | 2.67406    | .728                                | 93.1                                     |

the separate discriminant functions for demographic variables and quality of life variables. This may have resulted in accounting for a smaller amount of variance. At any rate, a cross-validation procedure was performed because of this change and the fact that any procedure based on multiple regression is subject to overestimation of R since zero-order correlations are treated as if they were error-free. Since this is never the case, there is a certain amount of capitalization on the basis of chance which biases R upwards (Kerlinger and Pedhazur, 1973). Thus, the weighted equation derived with the screening sample in the overall discriminant function was applied to the same variables with the cross-validation sample. Group membership was predicted on this basis and compared with actual membership, and it was determined that the shrinkage of the multiple correlation was quite small. As Kerlinger and Pedhazur (1973) suggest, when shrinkage is small and the multiple correlation is considered to be meaningful by the researcher, then the weighted equation obtained with the screening sample can be applied to future predictions.

#### The Value of Using Multivariate Discriminant Function Analysis in Community Research

The value of using multivariate discriminant function analyses becomes clear when one compares the results of the series of univariate analyses with the discriminant function. For example, number of organizations in which active showed a statistically significant ( $p < .000$ ) difference in terms of univariate analysis; yet, it does not appear in the discriminant function. In addition, the groups did not differ

significantly in terms of number of friends seen each week on the univariate analyses, but this variable was a strong discriminator between groups in Discriminant Function III. As Tatsuoka (1970) points out, "Such are the disparities in conclusion engendered by our ignoring the intercorrelations among the variables as we do when we conduct a series of univariate analyses," (p. 55).

Kerlinger and Pedhazur (1973) have noted that discriminant analysis has not been widely used in clinical research although it has intriguing potential. It can be used in two primary ways: (1) in classification and diagnosis and (2) in studying the relations among variables in various groups and populations. The first use is likely to have more utility for preventive-oriented, community psychologists wishing to classify persons as needing mental health services versus not needing such services. Thus, if one has measures that seem to be related to need for mental health services in a community and also knows the actual status of a group of community residents then the measures and knowledge of need for services can be used in a discriminant function. If the prediction is generally successful, then this function can be extended to assess need for services in other community residents whose status is unknown, and preventive efforts might be directed in a more efficient manner.

As Flynn (1979) noted, the mental health establishment has long neglected the group of individuals that are least likely to seek mental health services and also report low levels of life quality and social participation, less positive demographic characteristics (e.g., lower



income, poorly educated, etc.) and more stressful life events. Until now no methodology has existed for identifying these persons. For example, (given adequate replication) such individuals and their specific problems may eventually be identified early and targeted for preventive mental health programs by using a combination of weighted objective and subjective indicators. This is not to suggest a causative relationship between such variables and psychological impairment; however, it does suggest that changes in variables such as life satisfaction may correlate with changes in mental health needs.

#### Limitations of the Present Study

The use of mental health services as an index of actual need for mental health services is imperfect. For example, many individuals may report high levels of emotional distress but never seek services while others may experience relatively low levels of distress and routinely seek out services. Siegel et al., (1974) suggested that the seeking of services may be affected by factors other than need such as publicity and cost. Similarly, when comparing "subjective" indices of need for mental health services with actual reported use of services, Schwab, Warheit, and Fennell (1975) found an underutilization of services for black, older, and lower income respondents. Perhaps an ideal study might employ utilization of services plus indices of psychological impairment and examine differences on both subjective and objective measures. However, despite the drawbacks of using utilization of services as the sole index of mental health needs, group differences were

obtained on both objective and subjective measures. Moreover, 91 percent of cases were correctly classified on the basis of these measures suggesting that helpseekers and nonhelpseekers (at least in this particular subset of the population) are clearly different. The objective conditions of life as well as the subjective perceptions of life quality of clinic outpatients clearly differ from community residents.

Another limitation of this study is the use of a self-report format. Because of this, the interpretation of these results is dependent upon the assumption that respondents answered questions accurately or that, at least, there was no systematic response set for either the community or the clinic group. The completion of the questionnaire was structured to minimize demand characteristics and the interaction between the interviewer and the respondents. However, the fact that the community respondents completed questionnaires in their homes while clinic respondents completed theirs in the clinic may have influenced responses. Of course, the ideal situation would have been to have interviewers ask clinic respondents to complete questionnaires in their homes prior to their coming in for their first appointment. However, this was not practical and sometimes clinically unfeasible in the present study.

Because of the exploratory nature of this study, it is important not to generalize from these results to other geographic areas. The results need to be replicated in other areas by other investigators before making any plans for implementation of preventive and/or inter-ventive strategies.

The final limitation of the present study concerns the fact that it was an assessment conducted at only one point in time. As many (Andrews, 1974; Campbell et al., 1976) have pointed out, the strength of social indicators research lies in the periodic assessment of looking at changes over time. Campbell and Converse (1972) have suggested that relationships assessed at only a single point in time are uncertain indicators of dynamic trends; thus, causal inferences depend upon continued monitoring across time. However, the present study was relatively inexpensive to complete as undergraduates were employed to collect the data, and at the very minimum, as Zautra and Simons (1978) suggest, it provides a baseline level for this community against which future interventions can be compared.

#### Conclusion

The weighted criterion variables selected for this study were able to accurately discriminate between clients and nonclients. Thus, this research has provided a means of identifying nonclients who are similar to a client population in terms of increased recent life events, few active social supports, and low life satisfaction. In addition, this research has provided some evidence for what might be changed in order to improve this life satisfaction. As with Zautra and Simons (1978), the present results suggest that social indicators data are particularly useful in identifying economic and social inequalities of communities of the indicators of social forces in this East Tucson community. Only five social indicator variables (including one demographic variable, one recent life event, and three domain satisfaction items)

were able to account for a major proportion of the variance in group membership.

As objective social indicators may pinpoint social inequities, they may be helpful in guiding the focus of outreach, interventive and preventive programs. However, psychological indices (or subjective indicators) may augment the objective indices by aiding the psychological problems in communities. For example, as noted in the introduction, many investigators have linked life and environmental stresses to psychiatric disorder. However, Hinkle (1974) has suggested that specific disorders may depend upon the particular vulnerabilities of individuals. Psychological indices such as were included in this study may provide crucial information regarding such vulnerabilities. Individuals who experience increased life stresses, have few social supports, and experience low life satisfaction may be particularly "high-risk" for developing emotional disorders.

#### Summary

The present study examined both subjective quality of life social indicators and objective social indicators obtained from 221 community respondents and 112 first-time, clinic respondents from the same catchment area. All groups of predictor variables including demographic variables, recent life events, social support and participation variables, daily activities, and perceived quality of life measures produced statistically significant discriminant functions. Amount of variance accounted for ranged from 11.9 percent with daily activities to

88.7 percent with demographic variables. Similarly, accuracy of classification ranged from 71.5 percent with daily activities to 85.7 percent with demographic variables. However, when objective and subjective indicators were combined, accuracy of classification increased to 93.1 percent although amount of variance accounted for decreased to 72.8 percent.

Despite this decrease in variance accounted for, the cross-validation analysis demonstrated a small amount of multiple correlation shrinkage using the same variables as the screening sample. Thus, this finding provides added support for using the overall weighted equation obtained with the screening sample in future predictions. Additional research of this kind employing multivariate analysis will hopefully aid in the delineation of the complex factors that impinge on individuals' mental health as well as aid in the formation of efficient preventive-oriented approaches.

## APPENDIX A

### COMMUNITY QUESTIONNAIRE

#### Community Project Consent Form

In this study we are interested in measuring the quality of life in Tucson. That is, the things people like and dislike about their homes, neighborhoods, jobs, and so on.

If you give your permission, we will ask you to fill out a questionnaire which includes questions on:

1. How you are feeling.
2. Important events that have occurred to you during the past year.
3. How you spend your time during the week
4. How you are getting along at work and home.
5. Your views of the community and its resources.

You should know that if you agree to participate:

1. You may look through the questionnaire before answering any questions.
2. You may ask questions or stop the interview at any time.
3. You may skip any question that you'd rather not answer.
4. Taking part in this survey is completely voluntary and will take about 30 minutes.
5. The information on the questionnaire will remain completely confidential. Even the people administering it will not know how you respond. All identifying information will be removed from the forms before the answers are analyzed. Once the analysis is complete the original questionnaires will be destroyed.
6. We shall assume that individuals who complete the questionnaire are thereby giving their consent to participate.

We hope you find the questionnaire thought-provoking and we appreciate your consideration whether or not you choose to take part.

IN THIS SECTION WE WOULD LIKE YOU TO CHECK EACH EVENT WHICH HAPPENED TO YOU OR TO A MEMBER OF YOUR IMMEDIATE FAMILY IN THE LAST YEAR. IF THE EVENT HAPPENED WE ALSO WANT TO KNOW IF YOU THINK IT WAS POSITIVE OR NEGATIVE AND THE MONTH AND YEAR IN WHICH IT HAPPENED.

FOR EXAMPLE:

IF YOU HAD AN ARGUMENT WITH A CLOSE FRIEND WHICH WAS BAD OR NEGATIVE AND WHICH HAPPENED IN JANUARY, 1977, YOU WOULD ENTER:

|  | Did it happen? |    | To whom? |        | Posi-<br>tive | Nega-<br>tive | MONTH | YEAR  |
|--|----------------|----|----------|--------|---------------|---------------|-------|-------|
| ARGUMENT WITH A CLOSE FRIEND . . . . . | YES            | NO | SELF     | FAMILY | +             | -             | _____ | _____ |

THE EXAMPLE SHOWS THAT "YES" THE EVENT HAPPENED, IT HAPPENED TO YOU, IT WAS NEGATIVE, AND IT OCCURRED IN JANUARY, 1977. DO THE SAME FOR EACH OF THE FOLLOWING EVENTS:

|  | Did it happen? |    | To whom? |        | Posi-<br>tive | Nega-<br>tive | MONTH | YEAR  |
|--|----------------|----|----------|--------|---------------|---------------|-------|-------|
| 01 Change of school or college . . . . . | YES            | NO | SELF     | FAMILY | +             | -             | _____ | _____ |
| 02 Retirement . . . . .                  | YES            | NO | SELF     | FAMILY | +             | -             | _____ | _____ |
| 03 Demotion . . . . .                    | YES            | NO | SELF     | FAMILY | +             | -             | _____ | _____ |
| 04 Birth of child . . . . .              | YES            | NO | SELF     | FAMILY | +             | -             | _____ | _____ |
| 05 Jail sentence . . . . .               | YES            | NO | SELF     | FAMILY | +             | -             | _____ | _____ |
| 06 Business failure . . . . .            | YES            | NO | SELF     | FAMILY | +             | -             | _____ | _____ |
| 07 Fired . . . . .                       | YES            | NO | SELF     | FAMILY | +             | -             | _____ | _____ |
| 08 Promotion . . . . .                   | YES            | NO | SELF     | FAMILY | +             | -             | _____ | _____ |

|    | Did it happen?  |     | To whom? |      | Posi-<br>tive | Nega-<br>tive | MONTH | YEAR  |       |
|----|---|-----|----------|------|---------------|---------------|-------|-------|-------|
| 09 | Finish full time education . . . . .  | YES | NO       | SELF | FAMILY        | +             | -     | _____ | _____ |
| 10 | Major change in work conditions<br>(New department or boss or big<br>reorganization) . . . . .    | YES | NO       | SELF | FAMILY        | +             | -     | _____ | _____ |
| 11 | Serious illness of close family<br>member (Spouse, child, parent,<br>sibling or fiance) . . . . . | YES | NO       | SELF | FAMILY        | +             | -     | _____ | _____ |
| 12 | Serious personal physical illness<br>(In hospital or 1 month off<br>work) . . . . .               | YES | NO       | SELF | FAMILY        | +             | -     | _____ | _____ |
| 13 | Court appearance for offense . . . . .  | YES | NO       | SELF | FAMILY        | +             | -     | _____ | _____ |
| 14 | Lawsuit . . . . .   | YES | NO       | SELF | FAMILY        | +             | -     | _____ | _____ |
| 15 | Moving (house) . . . . .  | YES | NO       | SELF | FAMILY        | +             | -     | _____ | _____ |
| 16 | Engagement . . . . .  | YES | NO       | SELF | FAMILY        | +             | -     | _____ | _____ |
| 17 | Marital separation due to discord . . . . .   | YES | NO       | SELF | FAMILY        | +             | -     | _____ | _____ |
| 18 | Start new type of work . . . . .  | YES | NO       | SELF | FAMILY        | +             | -     | _____ | _____ |
| 19 | Pregnancy . . . . .   | YES | NO       | SELF | FAMILY        | +             | -     | _____ | _____ |
| 20 | Unemployed for 1 month . . . . .  | YES | NO       | SELF | FAMILY        | +             | -     | _____ | _____ |
| 21 | Divorce . . . . .   | YES | NO       | SELF | FAMILY        | +             | -     | _____ | _____ |



|    |  | Did it<br>happen? |    | To whom? |        | Posi-<br>tive | Nega-<br>tive | MONTH | YEAR  |
|----|--|-------------------|----|----------|--------|---------------|---------------|-------|-------|
| 22 | Major financial problems (Very heavy debt or bankruptcy) . . . . . | YES               | NO | SELF     | FAMILY | +             | -             | _____ | _____ |
| 23 | Death of a close family member . . . . .                           | YES               | NO | SELF     | FAMILY | +             | -             | _____ | _____ |
| 24 | Family member leaves home . . . . .                                | YES               | NO | SELF     | FAMILY | +             | -             | _____ | _____ |
| 25 | Stillbirth . . . . .   | YES               | NO | SELF     | FAMILY | +             | -             | _____ | _____ |
| 26 | Marriage . . . . .   | YES               | NO | SELF     | FAMILY | +             | -             | _____ | _____ |
| 27 | Child engaged . . . . .  | YES               | NO | SELF     | FAMILY | +             | -             | _____ | _____ |
| 28 | Child married . . . . .  | YES               | NO | SELF     | FAMILY | +             | -             | _____ | _____ |

Community Research Group  
University of Arizona

Activity Survey

1. For those activities that you do AT LEAST ONCE A YEAR please circle the number that indicates how much you like or dislike spending time at each one.
2. For those activities that you do LESS THAN ONCE A YEAR please circle the "5" (Not Applicable).

|  | Like<br>Very<br>Much | Like a<br>Little | Dislike<br>a Little | Dislike<br>Very<br>Much | Not Ap-<br>plicable |
|--|----------------------|------------------|---------------------|-------------------------|---------------------|
|--|----------------------|------------------|---------------------|-------------------------|---------------------|

WORK AND ACTIVITY CONNECTED TO IT

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 01 Performing usual duties of regular job or profession . . . . . | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

How many hours per week do you spend at a regular job or profession?

\_\_\_\_\_ HOURS

|  |   |   |   |   |   |
|--|---|---|---|---|---|
| 02 Working at job tasks that you've brought home . . . . . | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|

How many times per month do you work at job tasks that you've brought home?

\_\_\_\_\_ TIMES PER MONTH

|   | <u>Like<br/>Very<br/>Much</u> | <u>Like a<br/>Little</u> | <u>Dislike<br/>a Little</u> | <u>Dislike<br/>Very<br/>Much</u> | <u>Not Ap-<br/>plicable</u> |
|---|-------------------------------|--------------------------|-----------------------------|----------------------------------|-----------------------------|
| 03 Working at a second job . . . . .                                    | 1                             | 2                        | 3                           | 4                                | 5                           |
| How many <u>hours per week</u> do you spend<br>working at a second job? |                               |                          |                             |                                  |                             |
| _____ HOURS   |                               |                          |                             |                                  |                             |

DOMESTIC WORK

|  |   |   |   |   |   |
|--|---|---|---|---|---|
| 04 Preparing and cooking food . . .                  | 1 | 2 | 3 | 4 | 5 |
| How many meals do you prepare in an<br>average week? |   |   |   |   |   |
| _____ MEALS  |   |   |   |   |   |

|  |   |   |   |   |   |
|--|---|---|---|---|---|
| 05 Indoor cleaning (sweeping, bedmaking,<br>dusting, laundry, ironing, etc.) . | 1 | 2 | 3 | 4 | 5 |
| About how many <u>hours per week</u> do you<br>spend at these tasks?           |   |   |   |   |   |
| _____ HOURS PER WEEK   |   |   |   |   |   |

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 06 Care of children . . . . .   | 1 | 2 | 3 | 4 | 5 |
| About how many <u>hours per week</u> do you<br>spend caring for children? |   |   |   |   |   |
| _____ HOURS PER WEEK  |   |   |   |   |   |

ACTIVITY SURVEY

FOR THE FOLLOWING ACTIVITIES, PLEASE INDICATE HOW OFTEN YOU DO EACH PER MONTH OR YEAR AS WELL AS HOW MUCH YOU LIKE OR DISLIKE EACH ONE. (Note that when you're indicating how often you do something, you should circle "MON" for month or "YR" for year.)

| <u>CIVIC OR OTHER GROUP OR COMMUNITY SERVICE ACTIVITIES</u>                                 | <u>Like Very Much</u> | <u>Like a Little</u> | <u>Dislike a Little</u> | <u>Dislike Very Much</u> | <u>Not Applicable</u> | <u>How Often</u> |
|---|-----------------------|----------------------|-------------------------|--------------------------|-----------------------|------------------|
| 07 Participation in a social, political or community service group . . . . .                | 1                     | 2                    | 3                       | 4                        | 5                     | ___ MON/YR       |
| 08 Non-paid volunteer work . . . . .  | 1                     | 2                    | 3                       | 4                        | 5                     | ___ MON/YR       |
| 09 Participation in religious organization activities and meetings (not services) . . . . . | 1                     | 2                    | 3                       | 4                        | 5                     | ___ MON/YR       |
| 10 Religious practices, services and ceremonies . . . . .                                   | 1                     | 2                    | 3                       | 4                        | 5                     | ___ MON/YR       |
| <u>ENTERTAINMENT AND SOCIAL LIFE</u>  |                       |                      |                         |                          |                       |                  |
| 11 Attending sports events . . . . .  | 1                     | 2                    | 3                       | 4                        | 5                     | ___ MON/YR       |
| 12 Going to a movie. . . . .  | 1                     | 2                    | 3                       | 4                        | 5                     | ___ MON/YR       |
| 13 Attending a play, concert or opera . . . . .   | 1                     | 2                    | 3                       | 4                        | 5                     | ___ MON/YR       |
| 14 Receiving visits of friends or going to visit friends . . . . .                          | 1                     | 2                    | 3                       | 4                        | 5                     | ___ MON/YR       |

|  | Like<br>Very<br>Much | Like a<br>Little | Dislike<br>a Little | Dislike<br>Very<br>Much | Not ap-<br>plicable | How<br>Often |
|--|----------------------|------------------|---------------------|-------------------------|---------------------|--------------|
| 15 Receiving visits of relatives<br>or going to visit relatives . . .              | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| 16 Giving or attending a party or<br>reception that includes a meal. .             | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| 17 Going to a cafe, restaurant, bar<br>or coffee house . . . . .                   | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| <u>SPORTS AND ACTIVE EXERCISE</u>  |                      |                  |                     |                         |                     |              |
| 18 Playing sports with others<br>(Baseball, golf, bowling, etc.) .                 | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| 19 Practicing a sport alone;<br>physical exercise by self . . . . .                | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| 20 Hiking, hunting, fishing,<br>camping . . . . .                                  | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| 21 Walks . . . . .   | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| 22 Technical hobbies, collections .  | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| 23 Needlework, dressmaking,<br>knitting . . . . .                                  | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| 24 Artistic creation (sculpture,<br>painting, pottery, literature,<br>etc. . . . . | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |

|   | Like<br>Very<br>Much | Like a<br>Little | Dislike<br>a Little | Dislike<br>Very<br>Much | Not Ap-<br>plicable | How<br>Often |
|---|----------------------|------------------|---------------------|-------------------------|---------------------|--------------|
| 25 Playing a musical instrument;<br>singing . . . . .                                     | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| 26 Social games (card games, chess,<br>bridge, backgammon, etc.) . . . . .                | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| 27 Sightseeing, looking at interesting<br>buildings, scenery . . . . .                    | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| <u>PASSIVE LEISURE</u>  |                      |                  |                     |                         |                     |              |
| 28 Daytime sleep, naps, or rest . . . . .   | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| 29 Listening to the radio . . . . .   | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| 30 Watching television . . . . .  | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| 31 Listening to records, tapes . . . . .  | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| 32 Reading books for relaxation (NOT<br>reading done as a school<br>assignment) . . . . . | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| 33 Reading magazines, newspapers,<br>journals, periodicals, etc. . . . .                  | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| 34 Conversations (NOT including tele-<br>phone conversations)                             |                      |                  |                     |                         |                     |              |
| with SPOUSE . . . . .   | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| with FRIENDS . . . . .  | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |
| with RELATIVES . . . . .  | 1                    | 2                | 3                   | 4                       | 5                   | ___ MON/YR   |

|   | <u>Like<br/>Very<br/>Much</u> | <u>Like a<br/>Little</u> | <u>Dislike<br/>a Little</u> | <u>Dislike<br/>Very<br/>Much</u> | <u>Not Ap-<br/>plicable</u> | <u>How<br/>Often</u> |
|---|-------------------------------|--------------------------|-----------------------------|----------------------------------|-----------------------------|----------------------|
| 35 Writing social letters . . . . .   | 1                             | 2                        | 3                           | 4                                | 5                           | ___ MON/YR           |
| 36 Relaxing, reflecting, thinking,<br>planning, doing nothing, no<br>visible activity . . . . . | 1                             | 2                        | 3                           | 4                                | 5                           | ___ MON/YR           |

NEIGHBORHOOD

N 1. How long have you lived in this neighborhood?

- Less than 1 year . . . . . 1
- 1 to less than 4 years . . . . . 2
- 4 to less than 10 years . . . . . 3
- More than 10 years . . . . . 4
- All my life . . . . . 5

N 1a. How long have you lived in Tucson?

\_\_\_\_\_ YEARS

N 2. Do most of your friends live in this neighborhood or do most of them live further away?

- Neighborhood . . . . . 1
- Half and half . . . . . 2
- Further away . . . . . 3
- Don't know . . . . . 4

N 3. How often do you visit in the homes of people who live right around here?

- Very often . . . . . 1
- Fairly often . . . . . 2
- Just once in a while . . . . . 3
- Not at all . . . . . 4

N 4. All things considered, how satisfied or dissatisfied are you with this neighborhood as a place to live?

|                         |                   |                       |         |                               |                        |                                 |
|-------------------------|-------------------|-----------------------|---------|-------------------------------|------------------------|---------------------------------|
| 1                       | 2                 | 3                     | 4       | 5                             | 6                      | 7                               |
| Completely<br>Satisfied | Very<br>Satisfied | A Little<br>Satisfied | Neutral | A Little<br>Dis-<br>Satisfied | Very Dis-<br>Satisfied | Completely<br>Dis-<br>Satisfied |



N 5. All things considered, how satisfied or dissatisfied are you with Tucson as a place to live?

|                      |                |                    |         |                        |                    |                          |
|----------------------|----------------|--------------------|---------|------------------------|--------------------|--------------------------|
| 1                    | 2              | 3                  | 4       | 5                      | 6                  | 7                        |
| Completely Satisfied | Very Satisfied | A Little Satisfied | Neutral | A Little Dis-Satisfied | Very Dis-Satisfied | Completely Dis-Satisfied |

---

HOME

D 1. How many rooms do you have here (for you and your family), not counting hallways and bathrooms?

\_\_\_\_\_ ROOMS

D 2. Do you own or rent?

Own . . . . 1  
Rent . . . . 2

D 3. How many people are living in this household? (Include yourself, children, people temporarily away, roomers, etc.)

\_\_\_\_\_ PEOPLE

D 4. Who lives here with you? (Circle ALL THAT APPLY)

Live alone . . . . . 1  
Spouse/boyfriend/girlfriend . . 2  
Children . . . . . 3  
Parents . . . . . 4  
Other relatives . . . . . 5  
Other (Specify) \_\_\_\_\_ 6

D 5. All things considered, how satisfied or dissatisfied are you with this house/apartment as a place for you and your family to live in?

|                      |                |                    |         |                        |                    |                          |
|----------------------|----------------|--------------------|---------|------------------------|--------------------|--------------------------|
| 1                    | 2              | 3                  | 4       | 5                      | 6                  | 7                        |
| Completely Satisfied | Very Satisfied | A Little Satisfied | Neutral | A Little Dis-Satisfied | Very Dis-Satisfied | Completely Dis-Satisfied |

---

E 1. What was the highest grade of school you completed?

- 8th grade or less . . . . . 1
- Some high school . . . . . 2
- High school graduate . . . . . 3
- Some college . . . . . 4
- College graduate . . . . . 5
- Graduate professional training 6

E 2. Are you currently a student (half time or more)? Yes . . . . . 1  
 No . . . . . 2\*

\*IF NO: How satisfied or dissatisfied are you with the AMOUNT of education you have received?

|                      |                |                    |         |                        |                    |                          |
|----------------------|----------------|--------------------|---------|------------------------|--------------------|--------------------------|
| 1                    | 2              | 3                  | 4       | 5                      | 6                  | 7                        |
| Completely Satisfied | Very Satisfied | A Little Satisfied | Neutral | A Little Dis-Satisfied | Very Dis-Satisfied | Completely Dis-Satisfied |

E 3. All things considered, how USEFUL do you think your education was for you personally? Please indicate how satisfied or dissatisfied you are with the USEFULNESS of your education?

|                      |                |                    |         |                        |                    |                          |
|----------------------|----------------|--------------------|---------|------------------------|--------------------|--------------------------|
| 1                    | 2              | 3                  | 4       | 5                      | 6                  | 7                        |
| Completely Satisfied | Very Satisfied | A Little Satisfied | Neutral | A Little Dis-Satisfied | Very Dis-Satisfied | Completely Dis-Satisfied |

W 1. Who is (or has been) the chief wage earner in your family?

- Self . . . . . 1
- Husband/wife . . . . . 2
- Parent(s) . . . . . 3
- Child(ren) . . . . . 4
- Other relative . . . . . 5
- A.D.C. family; no chief wage earner. . . . . 6
- Other (specify) . . . . . 7

W 2. Are you currently working?

- YES - 1/2 time or more . . . . . 1
- YES - less than 1/2 time . . . . . 2
- NO - Unemployed, laid off, etc. 3
- NO - On ADC or welfare . . . . . 4
- NO - Retired or on Social Security . . . . . 5
- Other (specify) \_\_\_\_\_ 6

IF YOU ARE UNEMPLOYED, LAID OFF, ON STRIKE OR RETIRED,  
ANSWER THE NEXT QUESTIONS IN TERMS OF YOUR LAST FULL-TIME JOB.

W 3. What kind of work do you do?

| W 4. How satisfied are you with:                                 | Very Satisfied | Somewhat Satisfied | Somewhat Dis-satisfied | Very Dis-satisfied |
|--|----------------|--------------------|------------------------|--------------------|
| a. Your earnings?  | 1              | 2                  | 3                      | 4                  |
| b. The kind of work you do?                                      | 1              | 2                  | 3                      | 4                  |
| c. Your boss or employer? (Note--do not answer if self-employed) | 1              | 2                  | 3                      | 4                  |

W 5. Some people really enjoy their work and find it a source of great satisfaction; others look on their work as something they have to do in order to make a living. Which way do you feel?

- Enjoy work . . . . . 1
- Just a way to make a living . . . 2
- Not employed . . . . . 3

W 6. All things considered, how do you feel about your work or business as a whole?

|                      |                |                    |         |                        |                    |                          |
|----------------------|----------------|--------------------|---------|------------------------|--------------------|--------------------------|
| 1                    | 2              | 3                  | 4       | 5                      | 6                  | 7                        |
| Completely Satisfied | Very Satisfied | A Little Satisfied | Neutral | A Little Dis-Satisfied | Very Dis-Satisfied | Completely Dis-Satisfied |

P 1. How many of your relatives live in Pima County (not counting any who live with you)?

\_\_\_\_\_ PEOPLE

Who are they? (Circle all that apply)

- Parent(s) . . . . . 1
- In-laws . . . . . 2
- Children . . . . . 3
- Brother(s)/Sister(s) . . . . . 4
- Other relatives . . . . . 5

How many of these people do you see or visit regularly - say every week or so?

\_\_\_\_\_ PEOPLE

P 2. Now how about FRIENDS other than relatives? During the past few weeks how many times did you get together with friends--for things like going out together or visiting in each other's homes?

- Not at all . . . . . 0
- Once . . . . . 1\*
- Twice . . . . . 2\*
- Three times . . . . . 3\*
- Four times . . . . . 4\*
- Five or more times . . . . . 5\*

\* IF GOT TOGETHER WITH ONE OR MORE FRIENDS:

P 2a. About how many different people was that? \_\_\_\_\_

P 3. On the average during the past few weeks, how many times a day did you chat with friends on the telephone?

- None . . . . . 0
- Less than once a day . . . . . 1
- Once a day . . . . . 2
- Twice a day . . . . . 3
- Three times a day . . . . . 4
- Four or more . . . . . 5

P 4. Thinking of people including relatives whom you consider really good friends--that is, people you feel free to talk with about personal things--about how many such friend would you say you have?

\_\_\_\_\_ FRIENDS

P 5. How many organizations such as church and school groups, labor unions, or social, civic and fraternal clubs do you belong to? \_\_\_\_\_

P 6. How many do you take an active part in? \_\_\_\_\_

P 7. How many people do you know at work well enough to call by name?

Don't work . . . . . 99 \_\_\_\_\_ PEOPLE

P 8. How many of the people that you know at work do you visit or go out together with during non-work hours?

Don't work . . . . . 99 \_\_\_\_\_ PEOPLE\*

\*If one or more: During the past month, how often did you do that? \_\_\_\_\_ TIMES

P 9. All things considered, how satisfied are you with your friendships--with the time you can spend with friends, the things you do together, the number of friends you have, as well as the particular people who are your friends?

|                      |                |                    |         |                        |                    |                          |
|----------------------|----------------|--------------------|---------|------------------------|--------------------|--------------------------|
| 1                    | 2              | 3                  | 4       | 5                      | 6                  | 7                        |
| Completely Satisfied | Very Satisfied | A Little Satisfied | Neutral | A Little Dis-Satisfied | Very Dis-Satisfied | Completely Dis-Satisfied |

P 10. Overall, how satisfied are you with the ways you spend your spare time?

|                      |                |                    |         |                        |                    |                          |
|----------------------|----------------|--------------------|---------|------------------------|--------------------|--------------------------|
| 1                    | 2              | 3                  | 4       | 5                      | 6                  | 7                        |
| Completely Satisfied | Very Satisfied | A Little Satisfied | Neutral | A Little Dis-Satisfied | Very Dis-Satisfied | Completely Dis-Satisfied |

H 1. Taken all together, how would you say things are these days-- would you say that you are very happy, pretty happy, or not too happy?

Very happy . . . . . 1  
 Pretty happy . . . . . 2  
 Not too happy . . . . . 3

H 2. Compared with your life today, how were things four or five years ago? Were things happier for you then or not quite as happy as now?

Happier then . . . . . 1  
 Not as happy then . . . . . 2  
 About the same . . . . . 3

H 3. Do you have any long-standing physical or health problems?  
 (Note: Include shorter problems that occur over and over.)

Yes . . . . . 1\*  
 No . . . . . 2

\*If YES: a. Does this keep you from doing any of the things  
 you might like to do?

Yes . . . . . 1  
 No . . . . . 2

H 4. Does anyone in your household other than you have any long-standing or health problems?

Yes . . . . . 1\*  
 No . . . . . 2

\*If YES: a. Does this keep you from doing any of the things  
 you might like to do?

Yes . . . . . 1  
 No . . . . . 2

H 5. Of course most people get sick now and then, but overall, how satisfied or dissatisfied are you with your own health?

1                      2                      3                      4                      5                      6                      7

|            |           |           |         |           |           |            |
|------------|-----------|-----------|---------|-----------|-----------|------------|
| Completely | Very      | A Little  |         | A Little  |           | Completely |
| Satisfied  | Satisfied | Satisfied | Neutral | Dis-      | Very Dis- | Dis-       |
| Satisfied  | Satisfied | Satisfied | Neutral | Satisfied | Satisfied | Satisfied  |

H 6. Have you ever felt that you were going to have a nervous breakdown?

Yes . . . . . 1\*  
 No . . . . . 2

\*If YES: a. Have you felt this more than once?

Yes . . . . . 1  
 No . . . . . 2

H 7. Have you ever consulted anyone in connection with a nervous or emotional problem?

Yes . . . . . 1  
 No . . . . . 2

\*If YES: a. Who did you consult? (Circle all that apply)

Friend . . . . . 1  
 Relative . . . . . 2  
 Clergy . . . . . 3  
 Physician . . . . . 4  
 Lawyer . . . . . 5  
 Mental health center . . . . . 6  
 Hospital . . . . . 7  
 Psychiatrist . . . . . 8  
 Police . . . . . 9  
 Other (specify) \_\_\_\_\_ 10

H 8. Has anyone in your family other than you ever consulted anyone in connection with a nervous or emotional problem?

Yes . . . . . 1  
 No . . . . . 2

\*If YES: a. Who in your family was that?

Spouse . . . . . 1  
 Child . . . . . 2  
 Parent . . . . . 3  
 Parent-in-law . . . . . 4  
 Other (specify) \_\_\_\_\_ 5

b. Who was consulted? (Circle all that apply)

Friend . . . . . 1  
 Relative . . . . . 2  
 Clergy . . . . . 3  
 Physician . . . . . 4  
 Lawyer . . . . . 5  
 Mental health center . . . . . 6  
 Hospital . . . . . 7  
 Psychiatrist . . . . . 8  
 Police . . . . . 9  
 Other (specify) \_\_\_\_\_ 10  
 Don't know . . . . . 11

F 1. What is your marital status?

|                                  |   |   |
|----------------------------------|---|---|
| Married . . . . .                | 1 | CONTINUE WITH FOLLOWING QUESTIONS   |
| Married, spouse absent . . . . . | 2 | CONTINUE WITH FOLLOWING QUESTIONS   |
| Separated . . . . .              | 3 | Skip to question F 10.  |
| Divorced . . . . .               | 4 | Skip to question F 10.  |
| Widowed . . . . .                | 5 | Skip to question F 10.  |
| Never married . . . . .          | 6 | Skip to question F 10.  |
| Living together . . . . .        | 7 | CONTINUE WITH FOLLOWING QUESTIONS<br>AND ANSWER AS THOUGH YOUR RELATIONSHIP IS A MARITAL ONE. |

F 2. How long have you been married?

|                              |   |
|------------------------------|---|
| Less than one year . . . . . | 1 |
| 1 - 2 years . . . . .        | 2 |
| 3 - 5 years . . . . .        | 3 |
| 6 - 10 years . . . . .       | 4 |
| More than 10 years . . . . . | 5 |

F 3. Is this your first marriage or were you married before?

|                                  |   |
|----------------------------------|---|
| First marriage . . . . .         | 1 |
| Married more than once . . . . . | 2 |

F 4. Would you say that your marriage is very happy, pretty happy or somewhat happy?

|                         |   |
|-------------------------|---|
| Very happy . . . . .    | 1 |
| Pretty happy . . . . .  | 2 |
| Not too happy . . . . . | 3 |

F 5. Is your spouse currently working?

|  |   |
|--|---|
| YES - 1/2 time or more . . . . .             | 1 |
| YES - less than 1/2 time . . . . .           | 2 |
| NO - unemployed, laid off, etc. . . . .      | 3 |
| NO - on ADC or welfare . . . . .             | 4 |
| NO - retired or on Social Security . . . . . | 5 |
| Other (specify) _____                        | 6 |

F 6. What kind of work does your spouse do? (If he/she is unemployed, laid off, on strike or retired, answer this question in terms of last full-time job.)



F 7. Husbands and wives sometimes agree and sometimes disagree about the following things. Please indicate which ones caused differences of opinion or were problems in your marriage during the past few weeks.

|  | YES | NO |
|--|-----|----|
| Time spent with friends                    | 1   | 2  |
| Household expenses . . .                   | 1   | 2  |
| Being tired . . . . .                      | 1   | 2  |
| Being away from home<br>too much . . . . . | 1   | 2  |
| Disciplining children . .                  | 1   | 2  |
| In-laws . . . . .                          | 1   | 2  |
| Not showing love . . .                     | 1   | 2  |
| Your (husband's) job . .                   | 1   | 2  |
| How to spend<br>leisure time . . . . .     | 1   | 2  |
| Religion . . . . .                         | 1   | 2  |
| Irritating personal<br>habits . . . . .    | 1   | 2  |

F 8. Do you have any children? Yes . . . . . 1\*  
No . . . . . 2

\*If YES: a. How many?  
b. Compared to most children, how many problems would you say your children have given you?

|                       |   |
|-----------------------|---|
| A lot . . . . .       | 1 |
| Quite a few . . . . . | 2 |
| Some . . . . .        | 3 |
| Only a few . . . . .  | 4 |
| No problems . . . . . | 5 |

c. All things considered, how satisfied are you with your family life--the time you spend and the things you do with members of your family?

| 1                    | 2              | 3                  | 4       | 5                      | 6                  | 7                        |
|----------------------|----------------|--------------------|---------|------------------------|--------------------|--------------------------|
| Completely Satisfied | Very Satisfied | A Little Satisfied | Neutral | A Little Dis-Satisfied | Very Dis-Satisfied | Completely Dis-Satisfied |

F 9. All things considered, how satisfied are you with your marriage--  
the relationship between you and your husband/wife?

|                      |                |                    |         |                        |                    |                          |
|----------------------|----------------|--------------------|---------|------------------------|--------------------|--------------------------|
| 1                    | 2              | 3                  | 4       | 5                      | 6                  | 7                        |
| Completely Satisfied | Very Satisfied | A Little Satisfied | Neutral | A Little Dis-Satisfied | Very Dis-Satisfied | Completely Dis-Satisfied |

IF YOU ARE MARRIED SKIP TO THE NEXT PAGE

IF YOU ARE CURRENTLY UNMARRIED OR LIVING TOGETHER, CONTINUE ON

F 10. Would you like to get married (again)?

Yes . . . . . 1\*  
No . . . . . 2

\*If YES: Do you expect to be married in the next few years?

Yes . . . . . 1  
No . . . . . 2

F 11. How concerned are you about not being married--very concerned,  
moderately concerned, a little concerned or not at all concerned?

Very concerned . . . . . 1  
Moderately concerned . . . . . 2  
A little concerned . . . . . 3  
Not at all concerned . . . . . 4

B 1. What was the highest grade of school completed by your FATHER (or  
your mother if she was the primary wage earner for the family)?

8th grade or less . . . . . 1  
Some high school . . . . . 2  
High school graduate . . . . . 3  
Some college . . . . . 4  
College graduate . . . . . 5  
Graduate professional  
training . . . . . 6

B 2. What was your FATHER's usual occupation while you were growing  
up? (or your mother's if she was the primary wage earner for  
the family)? \_\_\_\_\_

B 3. What is the highest grade of school your husband/wife completed?

|   |   |
|---|---|
| 8th grade or less . . . . .                 | 1 |
| Some high school . . . . .                  | 2 |
| High school graduate . . . . .              | 3 |
| Some college . . . . .                      | 4 |
| College graduate . . . . .                  | 5 |
| Graduate professional<br>training . . . . . | 6 |
| Don't know . . . . .                        | 7 |

B 4. What is your religious preference?

|                            |   |
|----------------------------|---|
| Catholic . . . . .         | 1 |
| Protestant . . . . .       | 2 |
| Jewish . . . . .           | 3 |
| Mormon (LDS) . . . . .     | 4 |
| Atheist/Agnostic . . . . . | 5 |
| Other (specify) _____      | 6 |

B 5a. What is your date of birth:

|       |     |      |
|-------|-----|------|
| Month | Day | Year |
|-------|-----|------|

B 5b. What is your SEX?

|                  |   |
|------------------|---|
| Male . . . . .   | 1 |
| Female . . . . . | 2 |

M 1. In this survey of Tucson families, we are trying to get a clear picture of people's financial situations. Taking into consideration all sources of income, what was your total family income before taxes in 1976?

|                             |   |                               |    |
|-----------------------------|---|-------------------------------|----|
| Nothing or loss . . . . .   | 1 | \$10,000 - \$11,999 . . . . . | 7  |
| Under \$2,000 . . . . .     | 2 | \$12,000 - \$15,999 . . . . . | 8  |
| \$2,000 - \$3,999 . . . . . | 3 | \$16,000 - \$19,999 . . . . . | 9  |
| \$4,000 - \$5,999 . . . . . | 4 | \$20,000 - \$24,999 . . . . . | 10 |
| \$6,000 - \$7,999 . . . . . | 5 | \$25,000 - \$29,999 . . . . . | 11 |
| \$8,000 - \$9,999 . . . . . | 6 | Over \$30,000 . . . . .       | 12 |

M 2. How often do you worry that your total family income will not be enough to meet your family's expenses and bills.

|                             |   |
|-----------------------------|---|
| All of the time . . . . .   | 1 |
| Most of the time . . . . .  | 2 |
| Some of the time . . . . .  | 3 |
| Just now and then . . . . . | 4 |
| Never . . . . .             | 5 |

M 3. The things people have--housing, car, furniture, recreation and the like--make up their standard of living. Some people are satisfied with their standard of living, others feel it is not as high as they would like. How satisfied are you with your standard of living?

|                      |                |                    |         |                        |                    |                          |
|----------------------|----------------|--------------------|---------|------------------------|--------------------|--------------------------|
| 1                    | 2              | 3                  | 4       | 5                      | 6                  | 7                        |
| Completely Satisfied | Very Satisfied | A Little Satisfied | Neutral | A Little Dis-Satisfied | Very Dis-Satisfied | Completely Dis-Satisfied |

M 4. How satisfied are you with your family's situation as far as savings and investments are concerned?

|                      |                |                    |         |                        |                    |                          |
|----------------------|----------------|--------------------|---------|------------------------|--------------------|--------------------------|
| 1                    | 2              | 3                  | 4       | 5                      | 6                  | 7                        |
| Completely Satisfied | Very Satisfied | A Little Satisfied | Neutral | A Little Dis-Satisfied | Very Dis-Satisfied | Completely Dis-Satisfied |

APPENDIX B

COMMUNITY QUESTIONNAIRE--SHORT FORM

Answering the following questions should only take about 1 - 1 1/2 minutes and will help us to know who we have missed in the survey. Thank you very much for your consideration whether or not you decide to answer the questions.

---

1. What is your date of birth?

|  | Month | Day | Year |
|--|-------|-----|------|
|--|-------|-----|------|

|                      |                  |   |
|----------------------|------------------|---|
| 2. What is your sex? | Male . . . . .   | 1 |
|                      | Female . . . . . | 2 |

---

3. What was the highest grade of school you have completed?

|  |   |
|--|---|
| 8th grade or less . . . . .              | 1 |
| Some high school . . . . .               | 2 |
| High school graduate . . . . .           | 3 |
| Some college . . . . .                   | 4 |
| College graduate . . . . .               | 5 |
| Graduate professional training . . . . . | 6 |

---

4. What is your current employment status?

|  |   |                             |   |
|--|---|-----------------------------|---|
| Currently working (1/2 time or more) . . . . . | 1 | Full time student . . . . . | 5 |
| Currently working less than 1/2 time . . . . . | 2 | Other (specify              |   |
| On strike . . . . .                            | 3 | _____                       | 6 |
| Retired . . . . .                              | 4 |                             |   |

---

5. What is your marital status?

|                                  |   |
|----------------------------------|---|
| Married . . . . .                | 1 |
| Married, spouse absent . . . . . | 2 |
| Separated . . . . .              | 3 |
| Divorced . . . . .               | 4 |
| Widowed . . . . .                | 5 |
| Never married . . . . .          | 6 |
| Living together . . . . .        | 7 |

---

6. What was the highest grade of school that your spouse completed?

|   |   |
|---|---|
| 8th grade or less . . . . .                 | 1 |
| Some high school . . . . .                  | 2 |
| High school graduate . . . . .              | 3 |
| Some college . . . . .                      | 4 |
| College graduate . . . . .                  | 5 |
| Graduate professional<br>training . . . . . | 6 |

7. What is your spouse's usual occupation?

8. What was the highest grade of school completed by your father (or by your mother if she was the primary wage earner for the family)?

|   |   |
|---|---|
| 8th grade or less . . . . .                 | 1 |
| Some high school . . . . .                  | 2 |
| High school graduate . . . . .              | 3 |
| Some college . . . . .                      | 4 |
| College graduate . . . . .                  | 5 |
| Graduate professional<br>training . . . . . | 6 |

9. What was your FATHER's usual occupation while you were growing up?  
(Or your mother's if she was the primary wage earner for the family)?

## APPENDIX C

### RESEARCH ASSISTANT INSTRUCTIONS

#### Survey Procedures

- A. Picking up and returning materials, receiving messages, etc.
  - 1. Lists of addresses will be available in the Psychology Clinic on March 11, 1977 (Friday)--check the bulletin board for instructions.
  - 2. Room 224 in the Psychology Clinic has been reserved for the Community Research Group while the survey is in progress. The secretary (or Todd or Reda) can let you in when you
    - a. need to pick up new materials, or
    - b. drop off completed questionnaires.
- B. Research teams
  - 1. Should decide which member will take primary responsibility for picking up and returning materials, coordinating with Reda or Todd, etc.
  - 2. Please let Todd or Reda know if major problems of any sort arise--we will do our best to rearrange the teams or do whatever we can to remedy the problem.
- C. Houses that you should NOT approach:
  - 1. If, in your opinion, there is any possible danger to you or your partner (e.g., a loud argument going on inside, a vicious looking/sounding dog between you and the door, etc.).
  - 2. If someone answers who is intoxicated, stoned, etc. DO NOT GO IN--see if you can get short form information then leave.
  - 3. Indicate on the Observation Record why the house was missed.

D. General procedures for acceptable houses:

1. Remove the Observation Record forms from the envelope before approaching the house.
2. Introduce yourselves and the survey, and give the letter of introduction and consent form as follows (generally):

"Hello. We're from the Community Research Group at The University of Arizona and we're conducting a survey of the life-style in Tucson. This letter will introduce us and explain a little bit about the survey. (Hand letter to respondent, offer ID if that seems appropriate).

"We'd like to tell you more about the survey before we ask you to take part if that's O.K. (Pause).

"In this survey, we are interested in measuring the quality of life in Tucson--that is, the things people like and dislike about their homes, neighborhoods, jobs and so on.

"This form (hand the person the consent form) will explain still more about this survey. (Pause to let the person read the consent form).

"We think you'll find the questionnaire thought-provoking and interesting and would very much appreciate your taking part. Would you be willing to do that?"

a. Once inside:

"If there are other adults here who you think might be willing to take part, that would be very helpful." (If there are others willing to listen, repeat your spiel from the top).

b. Remember:

- (1) The respondent should remove the questionnaire from the envelope, fill it out, return it to the envelope and seal the envelope.



- (2) If the respondent has any questions, ask where he/she is and find the appropriate place on YOUR COPY OF THE QUESTIONNAIRE. DO NOT look at the respondent's questionnaire.
- c. IF THE PERSON IS WILLING TO FILL OUT THE QUESTIONNAIRE BUT DOES NOT HAVE THE TIME, SEE IF YOU CAN ARRANGE ANOTHER TIME TO RETURN.
- (1) If you can't arrange a time, get short form information and note the time when the person will be home. Notify Reda or Todd so that another team can be sent out.
  - (2) In any case, do NOT leave the questionnaire to be filled out and returned.

APPENDIX D

LETTER OF INTRODUCTION

COMMUNITY RESEARCH PROJECT

INTERVIEWERS: \_\_\_\_\_

\_\_\_\_\_

Dear Community Resident:

This letter is meant to serve as introduction of the two interviewers named above. They are University of Arizona students conducting interviews in conjunction with the Community Research Project currently taking place under my direction. They have a written form which explains the nature of the project and requests your consent to be interviewed. I hope you will agree to participate in what we hope will be an important and meaningful project. Thank you for your time and consideration.

Sincerely,

Philip Balch, Ph.D.  
Assistant Professor & Coordinator  
Community Research Project

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