An Investigation of the Relations Among Stressors,

Social Resources, and Psychological Distress

in a Rural Area of Uganda.

by

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A Thesis Submitted

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in Partial Fulfillment of the Requirements for the Degree of

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Acknowledgements

Abstract

This study explored the relations among stressors, resources, and distress in Apac district, a rural area of Uganda. The theoretical framework of this study was based on Warheit's (1986) model of stress. Briefly, Warheit's model posits that psychological distress is a function of the stressors that are placed on an individual in relation to his/her various coping resources. A socio-demographic questionnaire (SDQ) was designed to measure stressors and resources relevant to rural Ugandan culture and that have been shown to be good predictors of psychological distress. The SDQ included stressors related to physical health, AIDS, war, farming, and relationships. Resources included SES, marital status, social support, and community resources. Symptoms of psychological distress were measured by the Self Report Questionnaire (SRQ-20) and the General Health Questionnaire (GHQ-12), two psychiatric screening instruments that have been utilized in a wide range of cultures. Two hundred and three adults, from seventeen communities were sampled. Data was analyzed using analyses of variance, and correlation coefficients. As expected, stressors were positively correlated with distress and resources were negatively correlated with distress (but only for married, and not unmarried respondents). In addition, women reported more symptoms of distress than did men, and unmarried respondents reported more symptoms of distress than did married respondents.

Introduction

This first goal of this study was to develop measures that could assess stressors, resources, and symptoms of psychological distress in rural northern Uganda. Canadian Physician's Aid and Relief [CPAR], a health and environmental non-governmental organization working with rural communities in Uganda, required a valid and reliable instrument to measure psychological distress within the context of their HIV/AIDS counselling programme. An important component of this research was, therefore, to determine whether the 20-item Self Report Questionnaire (SRQ-20) could be adapted to assess psychosocial distress in rural northern Uganda in order to meet CPAR's needs. It is important to note that the Canadian Bureau for International Education (CBIE) funded this study and that the study was made possible only because of CPAR's sponsorship and on-field logistical assistance.

The second objective of this study was to explore the relation among stressors, social resources, and symptoms of distress in Apac district, a rural area of Uganda. Firstly, the theoretical framework, based on Warheit's (1986) model of stress, is discussed. Briefly, Warheit's model posits that when a person is faced with a given stressor that overwhelms his or her resources, that person will experience psychological symptoms of distress. Secondly, the role of stressors and resources in relation to distress is discussed theoretically. Thirdly, stressors, resources and symptoms of psychological distress that were assessed in the Ugandan context are examined. Measurement, procedural, and sampling issues within a Ugandan context are then addressed. Lastly, results of the study are presented and discussed.

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Theoretical Model

The term 'stress' has been used in three major ways: to refer to a stimulus, a reaction, and a process. For the purpose of this study, the term 'stressor' will refer to a stimulus, 'stress' will refer to an altered state of an organism which occurs when demands exceed an individuals capacity to respond (Warheit, 1986), and 'distress' will refer to an outcome of stress (Kasl, 1990) that is expressed in terms of observable symptoms.

The theoretical framework of this study is based on Warheit's model of stress (1986). Warheit's model postulates that stressors arise from the following sources: "(1) the individuals's biological constitution; (2) the individual's psychological characteristics; (3) the culture; (4) the social structure (including interpersonal relationships); and (5) the geophysical environment" (Warheit, 1986, p.199). Therefore, stressors encompass specific events commonly associated with the stress and crisis literature, such as the death of a child, loss of employment, or a serious physical illness; events arising from the sociocultural environment such as nuclear accidents or prolonged economic recession; events whose origins are in the social realm such as civil disorder; or events in the geographical environment such as earthquakes.

The degree of stress experienced is presumed to be a function of the number, frequency, intensity, and duration of the demands placed on the individual in relation to his or her various coping resources. Resources available to individuals as they attempt to meet the demands placed on them by life events include the individual's unique biological and psychological constitutions, social and economic resources, familial and other interpersonal relationships, and the secondary organizations provided by society and

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community. This model was used as a framework within which the relations between stressors, resources, and symptoms of distress in a rural area of Uganda were studied.

Stressors

Research on "common" stressful events (often refered to as life-events) has been criticized as tautological. Stressors are often defined as events which produce a stress response and are seen as negative because they are associated with unwanted consequences (Solomon & Maser, 1990). Similarly, in traumatic stress research, an event is defined as a traumatic stressor because its consequences are traumatic. Consequently, there is little agreement about which terms are most accurate as well as which events are appropriate for study within the field of stress research (Green, 1990).

In order to identify events that constitute stressors, many researchers have attempted to create dimensions along which stressor-events could be described (Green, 1990). The potential value of a stressor taxonomy is multiform. Conceptual distinctions among stressors may improve researchers' understanding of the cause-effect relation between stressors and symptoms (Kasl, 1990). A taxonomy would also provide researchers with a more consistent information base about which aspects of events put people most at risk for short-and long-term psychological problems and symptoms (Green, 1990). Understanding the factors that differentiate stressors and knowing how these factors behave both independently and together, would allow researchers to better predict the psychological consequences of stressors. Research that can identify aspects of stressor-events that put individuals at highest risk for distress is essential for planning effective intervention (Solomon & Maser, 1990). Nonetheless, conceptual distinctions are

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not helpful if they prevent an understanding of the commonality in cause-effect

relationships across different stressor-events (Kasl, 1990). Furthermore, Kasl (1990)

argues that because there is still a lack of definitive consensus on the conceptualization

and measurement of stress, it is premature to address the next-level issue, namely the

usefulness of distinctions among classes of stressors.

Stressor Dimensions

Wheaton (1994) has developed a three dimensional classification system of

stressors which includes an acute-chronic dimension, a micro-macro dimension, and a

seriousness dimension (Wheaton, 1994). The acute-chronic dimension often refers to the

duration of the stressor, in the sense that the event that initiates the stress process may be

short-lived or persistent (Baum et al., 1990). However, as chronic stressors are often the

source of acute life-events the interrelationship of these two sources of stress is

complicated to untangle (for example, discrimination, a chronic stressor, may be the

source of losing one's job, an acute stressor) (McLean & Link, 1994). Furthermore, Baum

et al. (1990) argue that stressors are not single, short events but rather constellations of

major events and subsidiary events that follow. Whether these other aspects of a stressful

situation - these secondary events following a major stressor- are part of the stressor or

should be considered seperately is not clear.

Wheaton (1994), however, argues that the distinctions between chronic stressors

and life-events involve differences in the ways in which chronic stressors develop, exist,

and end. In this case, the term chronic has been applied less to designate a time course

than to designate the fact that this subclass of stressors will have a typical time course very

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unlike that of an event. Chronic stressors are continuous in an approximate sense, standing

for problems and issues that are either so regular in the enactment of daily roles and

activities or so defined by the nature of daily role enactments of activities that they behave

as if they are continuous for the individual (e.g. discrimination, poverty, chronic

unemployment) (Wheaton, 1994). McLean & Link (1994) conceptualize chronic stressors

as falling into four broad areas: (a) persistent life difficulties or chronically stressful

situations that can be considered as corollaries of life events, such as a chronic disability or

illness; (b) role strain, including the strain within specific roles as well as the strain of

holding multiple roles, such as being a parent and working full-time outside the home (c)

chronic strain that derives from societal responses to characteristics of a person that

include him or her as part of class of persons, such as racism or sexism, (d) chronic

community-wide strains that may operate at an ecological level, such as the chronic strain

of residence in a high crime area or residence near an environmental threat.

The micro-macro dimension refers to the unit of analysis at which the stressor

occurs (Wheaton, 1994). There are, for example, stressors that occur at the macro or

social system level and almost by nature cannot be considered features of daily life at the

interpersonal level (e.g. unemployment rate, divorce rate, infant deaths, high school drop

out rate, disasters). The micro dimension refers to a stressor that occurs at the level of an

individual. As a group these stressors contain both event and chronic concerns.

The dimension of seriousness refers to the order of magnitude of the stressor.

Wheaton (1994) argues that the only truly distinguishing feature of a traumatic stressor is

its level of seriousness, which is regarded to be of a higher order of magnitude than that of

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a life-event. Other researchers, however, have produced a tentative list of important

dimensions and characteristics of traumatic stressors (e.g. Green ,1990). These include

and controllability (Kasl, 1990). There is now strong evidence that sudden, negative,

unexpected, and uncontrollable events are more likely to predict illness than events that

are positive, expected, gradual in onset, or under personal control (Taylor, 1986). Other

dimensions have also been proposed but have been criticized for being complex and

multidimensional, difficult to scale and to explain conceptually or to analyse (Kasl, 1990).

Such dimensions include severity of threat to life, or threat of injury (to self or to

important others), receipt of intentional injury or harm, witnessing grotesque or unnatural

injuries, mutilations or deaths, violent/sudden loss of a loved one, witnessing or learning of

violence to a loved one, learning exposure to a noxious agent, causing death or severe

harm to another, destruction of home or property and loss of personal belongings, and

disruption in one's life and of community's life (including aspects of uprooting, such as

evacuation) (Green, 1990; Kasl, 1990). Kasl (1990) argues that this list of dimensions is

undoubtedly incomplete and that the measurement challenges represented by those

dimensions are formidable. The list of dimensions reveals an absence of sharp

discontinuities between the study of traumatic stressors and the familiar stressful life

events. In fact, Kasl (1990) rejects the notion of trauma as a domain seperate from that of

general stress research. He views traumatic stressors as continuous to stressful life-events.

Measurement of Stressors

Despite thousands of studies on the relation between stressors and the onset of

illness, controversy remains about the importance of the findings (McLean & Link, 1994).

Correlation coefficients between life-events measures and illness are typically quite low, hovering around .12 (McLean & Link, 1994). There has even been criticism of the interpretability of these modest associations as causes of psychopathology rather than consequences. Many items in the most commonly used measures of life events in industrialized countries were rated by clinical psychologists as more likely to be psychological symptoms than measures of environmental circumstances (McLean and Link, 1994). Such limitations, however, are inherent to correlational designs and cannot be avoided unless a longitudinal study is conducted.

The inconsistency in findings may also be partly explained by the limited population from which stressors are sampled. The content areas covered in life-event inventories have often been criticized for leaving out socially controversial events (e.g. abortion, infidelity), and emphasizing the events of young adulthood, thereby leaving out events associated with other periods in the life cycle. Furthermore, most life-event checklists underrepresent or omit events that are more common to women, to ethnic groups, or to the lower social class (McLean and Link, 1994). Using such restricted lists of events may lead investigators to miss important variations in the impact of recent life experiences across different social or ethnic groups or between men and women. The omission of important events may also lead to lower correlations between life events and illness.

Furthermore, many life-event checklists include both positive and negative life-events. In her review of the literature of life events and their psychological consequences, Thoits (1983) found that all but three of the 20 studies indicated that psychological

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disturbance was more highly correlated with total undesirable change than with total amount of change. Thoits (1983), therefore, concluded that undesirability is a crucial dimension of events, implicated in the etiology of psychological disturbance. Nonetheless, few studies have adequately assessed the possible buffering effect of positive life events.

Most studies of life-events restrict their scope to those events that happen to the respondent because these clearly have an impact on one's mental well-being. However, there is evidence that events that occur to other people in a respondent's close social network (e.g., a close friend or family member) may be particularly important for women and may partly account for their higher levels of depression. Women seem to be affected emotionally not only by the wellbeing of their immediate family but also by the lives of those to whom they may be less intimately related. Men by comparison are less affected emotionally by events occuring to people outside their immediate family (Wethington et al., 1987). McLean and Link (1994), therefore, suggest that network events be include in the measurement of stressors.

Evidence regarding the relation between the onset of distress and the time at which stressors occur is inconsistent. There is evidence supporting the proposition that many events exert their strongest effects only from a few weeks to a few months after they occur. McLean & Kessler (1990), for example, report evidence that events have a significant impact on acute onset of clinical disorders for no more than 12 months. Unfortunately, it is unclear as to whether the onset of distress is different depending on the dimension of the stressor (e.g., acute vs chronic).

McLean & Link (1994) suggest that the perception of the persistence of stressors

may be an independent predictor of outcome, and that the appraisal of threat or demand associated with the stressor may be brief, continuous, or periodic. Kasl (1990), however, takes issue with the notion that subjective appraisal of an event can in itself be a meaningful predictor of psychological outcome. He suggests that researchers commit themselves to the strategy of measuring dimensions of exposure in "objective" terms (i.e., not involving an individual's cognitive and emotional processing) rather than subjective perceptions of exposure and subjective reactions to exposure. The reason for objective measurement of exposure is to avoid confounding retrospective accounts of exposure with outcomes at the time of the interview (e.g. levels of distress). Therefore, the minimum requirement is that there be an objective measurement of the most global distinction, that is, exposed versus not exposed, and that researchers demonstrate group differences in outcome (Kasl, 1990). Once this requirement has been met, it then becomes possible to include a variety of measures: objective measures of exposure; additional objective characteristics of the situation and of the individuals exposed, so that subtypes of exposure can be generated; objective characteristics of individuals that may be moderator variables; evaluations and appraisals of exposure; affective reactions to exposure, etc. Additional measures may add to the explained variance in outcome, however such variables should be linked to outcome only among the exposed.

Similarly, Hobfoll (1989) argues that an objective view of stressors is needed to determine the difference between the actual stressors and the symptoms. Hobfoll (1989), however, proposes that a taxonomy would provide researchers with an environmental or objective view of stressors, as opposed to a subjective view based uniquely on individuals'

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perceptions. Thus, "By creating a taxonomy of stressful events we set an anchor point by which the differences in how people react can be compared and through which the nature of the events themselves can be further categorized" (Hobfoll, 1989, p.514). If the stressful stimulus is a known, categorized entity, understanding how people respond to the stimulus will enable us to anchor the perceptive component.

Resources

Not all people who face undesirable events or ongoing difficulties experience psychological distress (Munroe & McQuaid, 1994; Thoits, 1983). Psychological distress may, therefore, depend upon the joint occurrence or interaction of stressors and buffering factors (Thoits, 1983). Buffering factors are aspects about the individual or the individual's social world that may decrease or mitigate the likelihood of problems in the face of a stressor. The opposite of buffering factors are vulnerability factors. The presence of vulnerability factors may increase the likelihood of problems in the face of a stressor (Munroe & McQuaid, 1994).

Psycho-social resources may act as vulnerability or buffering factors (Thoits, 1983). These resources typically are subdivided into coping strategies thought to be efficacious, social support availability, socio-economic status, and demographic variables such as marital status. Many vulnerability factors, however, can be confounded with stressors. Divorce, death of spouse, or best friend moving, for example, can be characterized both as stressors and as a change in social support (Munroe & McQuaid, 1994).

Demographic Variables

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In a review of the disaster literature, Gibbs (1989) reports that several studies of disasters suggest that women are more seriously affected by disasters than are men. Similarly, the impact of life events on emotional distress has been found to be significantly greater for women than for men even though there are no gender differences in the number of life events experienced (Ensel, 1986; Wethington et al., 1987). This general finding, however, may not be universally applicable to all life events. It may in fact be the case that women and men are significantly affected by different types of life events. It is also possible that men and women are significantly, but differently, affected by the same kinds of stressors.

Various explanations exist for gender differences in distress. Women's social roles are generally thought to be more stress provoking and less fulfilling than the roles occupied by men (Wethington et al., 1986). It is possible that in the context of disasters, women's social roles may place especially burdensome social demands on women as compared to men (Gibbs, 1989). Differences may also be a function of differential use of social support. It is now widely documented that the psychological impact of network events is significantly greater among women than men (Wethington et al., 1987). Others have suggested that women's socialization experiences produce susceptibility to depression through the learning of a "helpless" style in coping with stressors (Gibbs, 1989; Wethington et al., 1986). Methodological biases may also explain findings of sex-differences in psychological distress. In a review of disaster research, rates of psychopathology were found to be equivalent between men and women when diagnoses of drug and alcohol abuse as well as other diagnoses such as depression or anxiety disorders

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were included (Gibbs, 1989).

Findings regarding the role that marital status plays in the life-event distress relation are less definitive than those regarding gender differences in distress. Generally speaking, non-married individuals have higher rates of depression than do married individuals. When faced with stressors such as economic hardship and social isolation, nonmarried individuals are more likely to be depressed than those who are married (Ensel, 1986). Marital status, however, is often used as an indicator of social support. Ensel's (1986) findings indicate that married individuals who have experienced recent life-events and who report low social support are more than twice as depressed as those who have experienced life-events and report high social support or those who have not experienced any life-events and report high social support. Ensel, therefore, concludes that it is incorrect to assume that marital status is always a source of social support.

Socio-Economic Status (SES)

Mcleod & Kessler (1990, p.162) report that "one of the most consistently documented associations in psychiatric epidemiology is the association between socioeconomic status and psychological distress." Early research in this area focused on the hypothesis that greater exposure to stressful life experiences accounts for the high rates of distress among low-status groups. Empirical evidence, however, failed to support this hypothesis (McLeod & Kessler, 1990). Research has now turned to the study of differential vulnerability. The theory of differential vulnerability posits that members of lower-status groups are disadvantaged not only in their likelihood of experiencing events but also in the resources they have available to cope with those events. Although empirical

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evidence clearly supports this hypothesis, little is known about the specific nature of the vulnerability (McLeod & Kessler, 1990).

Social support

In this study, social support will be defined as the "perceived or actual instrumental and/or expressive provisions supplied by the community, social networks and confiding partners" (Lin, 1986, p.18). This definition recognizes that both perceived and actual support are important to the individual.

The most general layer of social support consists of relationships with the larger community and reflects a sense of belongingness in the larger social structure. Among the three layers, this is the layer that has the least effect on the individual's well-being. A layer closer to the individual consists of the social networks through which he or she has direct and indirect access to a relatively large number of individuals. These relationships provide a sense of bonding and should have a stronger effect on the person's well-being than community relations. The innermost layer consists of relations among confiding partners. Here the relationship tends to be binding in the sense that reciprocal and mutual exchanges are expected and responsibility for one another's well-being is understood and shared by the partners. This layer is the most significantly related to the individual's well being.

The instrumental dimension of the definition involves the use of the relationship as a means to achieve a goal (e.g. getting a loan, finding someone to babysit). The expressive dimension involves the use of the relationship as an end as well as a mean. It is the activity of sharing sentiments, ventilating frustrations, reaching understanding on issues and problems, and affirming one's own as well as the other's sense of worth and dignity.

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There is now considerable evidence linking social support with psychological

distress generally and suggesting that level of support may be particularly relevant for

depression (Turner, 1983). Pearlin et al. (1981, in Turner, 1983) suggest that social

support can reduce chronic stressors that may occur following a life event and prevent the

loss of self-esteem and sense of mastery that chronic stressors and life events may

produce. Implicit in the view of social support is the idea that feeling loved and cared

about enhances the individual's own self-efficacy, realistic appraisal of threat, and coping

repertory (Sarason et al., 1994).

Symptoms of distress

In an overview of psychosocial research in traumatic stress, Gibbs (1989) reports

that about 25% of individuals who are exposed to an extreme stressor (e.g., rape, seeing

others killed or badly injured, war experience) go on to develop full blown Post Traumatic

Stress Disorder (PTSD) syndrome. Other disorders that are commonly reported outcomes

of traumatic stressors include anxiety diagnoses, depression, somatization, and substance

abuse (Gibbs, 1989; Green, 1994). There are, however, important gender differences in

the types of stress-related disorders experienced: alcohol abuse/dependence is more

prevalent among men, whereas major depression, agoraphobia, simple phobia, dysthymia,

somatization disorder, and panic disorder are significantly higher for women (Cleary,

1986).

Responses to stressors have been explained both by cognitive and emotion-based

models. Wilson & Raphael (1993), for example, discuss responses to traumatic events in

terms of processing new information that is incongruent with preexisting inner mental

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models. According to this cognitive model, the first processing of the news of a stressful

event involves a rapid appraisal of how best to cope with it. At this time, a low level of

inhibitory regulation leads to the excitation of emotional systems and to the behaviors

associated with emotional outcry. The amount of information required to change cognitive

models is usually so great that complete processing and integration are impossible in a

short time. Inhibiting regulatory efforts are later initiated so that the stressful information

can be gradually assimilated. Excessively high inhibitory controls may interrupt the

assimilation and accomodation process. A high level of control leads to the denial and

numbing phase of a stress-response whereas failures of control lead either to a

continuation of outcry or to an intrusive state (e.g., flashback, nightmare).

Emotion-based models suggest that stressors such as undesirable life-events may

have psychological impact because they cause individuals to view themselves negatively

(Thoits, 1983). Thoits (1983) argues that the maintenance and enhancement of self-regard

is assumed either explicitly or implicitly to be a fundamental human need and to have

important implications for one's psychological state. Stressors and their persistent

undesirable consequences may decrease self-regard by decreasing a person's sense of

mastery or control over life. The loss of valued roles or inadequate performance in

remaining roles may lower the value of individuals in their own and others' eyes. Distress

may, therefore, be the result of the meanings people attach to or the cognitive

interpretations people make of events and their aftermaths with respect to the self.

Lowered self-esteem and loss of sense of control may generate the symptoms of anxiety

and depression typically captured on psychological distress scales. Efforts to regain self-

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regard by severely threatened individuals may result in unacceptable pathological

behaviours or the deviant emotional and thought patterns of the more serious

psychological disorder.

Uganda

Uganda has a population estimated to be over 18 million and is one of the least

urbanized countries in Africa with over 90% of the population living in rural areas (United

States Agency for International Development [USAID], 1994). Baseline data of a survey

conducted in Apac district (Whitby, 1993) estimates the population of Apac at 454,721.

The proportion of the population under age 25 is 62.5%, and the proportion of those aged

under 15 is 43.3%. Lango society in Apac is both patrilineal and patriarchal. Inheritance

flows mainly from fathers to sons, although women occasionally inherit resources from

their father. The official head of the family is the man, and the main unit of production and

residence is the nuclear family. Approximately 6.7% of marriages are polygamous. In

general, different wives, married sons and elderly parents comprise separate households.

Newly married young men and their wives, however, are often included in their parents'

household if they still depend on them for support. The average household surveyed

comprises 6.19 members. Female-headed households in the survey comprise 13.4% of the

total. Among household members surveyed, the average educational attainment of men is

4.38 years, whereas for women it is 2.44 years. For the purpose of this study, households

were defined as a group of individuals fitting the following criteria (Canadian Physicians

for Aid and Relief [CPAR], 1993): cook together, eat together, cultivate land in common,

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and store food in common.

In Uganda, farming is labour intensive with 60%-80% of the labour for food and cash crops for household consumption and local markets provided by women (Topouzis, 1994). The division of labour in agriculture is task specific. In general, men are responsible for clearing the land. Both men and women prepare the soil for planting. Women are responsible for planting crops, tending to them until they mature, harvesting, and storing them. Men are involved in the sale of cash crops, and sometime in the sale of food crops whereas women sell food surplus locally. Decisions about which crops to plant and how much to sell are taken by men and women jointly.

Stressors

Few studies have looked at the relation between life events and psychological distress in Africa. Those that have examined the relation report that life events do correlate with psychological distress. Tafari et al. (1991) measured life-events using Holme's and Rahe's Social Readjustment Scale (1967), with some modifications on a sample of rural Ethiopians. Certain financial events such as mortgages were excluded, whereas events such as changes in the amount of water and food available were added. Because the readjustment values assigned to each life change in the original scale had not been validated in Ethiopia, the authors used the number of life changes experienced in the past year as the respondent's stress score. Out of a total of 12 events, the authors found that 19.5% of the sample had a stress score of 6 and above, and that these stress scores were highly related to scores on the Self Report Questionnaire (SRQ) (Harding et al., 1980) (the odds of having high stress was 2.71 times greater among neurotics than among

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normals). Unfortunately, the authors do not report what specific life-events were most highly correlated with distress.

Myambo (1990) also utilized Holme's and Rahe's (1967) 48-item Scale on a rural population in Zimbabwe. The author added an additional eight items to represent local life events relating to rural life such as food supplies and agricultural activites. Subjects were asked to indicate the stress level associated with each life event on a scale from 0 (no stress) to 5 (maximum stress). No life events received scores in the maximal stress range (scores of 4 and 5). However, four health-related items, two items related to changes in financial state, and three to insufficient supplies of basic requirements such as food and water received scores in the moderate stress range (scores of 2 and 3).

Similarly, in a study of young adults in Khartoum (Sudan), Idris et al. (1989) reported that high scores of life-events, as measured by the Life Events Scale, were found to be correlated with high scores on the SRQ (p< 0.01). Vadher & Ndetei (1981) attempted to find out whether depressed patients in an urban Kenyan setting had significantly more life events in the twelve months before they were assessed for depression. The authors report that 67% of the patient group, but only 8% of the non-patient and community subject group had experienced at least one severe event. Separation (undesirable emotional separation in family members, friends, and love relationships, and in some cases family members leaving home for prolonged periods of time to look for jobs) or threatened separation were most highly related to depression. Loss events in general were the most commonly reported events and the difference between the loss and non-loss events and their relation to depression was highly significant

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$(X^2 = 25.79; df=2; p<0.001)$.

In a study of Tunisian women (Hays & Zouari, 1995), significant differences were found between rural, village, and urban women's reports of stressors and symptoms of depression as measured by the Symptom Checklist-90 (SCL-90) (Derogatis, 1977). Specifically, the rural women reported significantly greater numbers of depressive symptoms than did either the urban or village group $(t(42)=3.47, p<0.05$ and $t(42)=3.29, p<0.05$ respectively) and significantly higher stressor levels than the urban group $(t(42)=3.80, p<0.05)$.

A total of 1.5 million Ugandans are now estimated to be currently living with HIV infection (USAID, 1994). In Loro, a sub-county of Apac district, Acquired Immune Deficiency Syndrome (AIDS) is frequently mentioned as a cause of death in the 16-35 age group (43.5% of deaths in this age group) and it accounts for nearly 10% for all deaths recorded at all age groups. The members of the society with the most productive capability are, therefore, also the ones with the highest rates of illness with AIDS (Topouzis, 1994; USAID, 1994). As a result of HIV/AIDS mortality and morbidity, there has been a decrease in the area of land cultivated, a decreased range of crops, decreased agricultural production, and a change from labour intensive crops to those which are not as labour intensive (Topouzis, 1994; USAID, 1994). The economic consequences are exacerbated by a diversion of income from investment and savings to consumption of health care services (Topouzis, 1994; USAID, 1994). The impact of AIDS on the agricultural systems is very much dependent on the stage of the epidemic in that area (Topouzis, 1994). However, communities in early impact or pre-impact stages of the

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epidemic are still vulnerable to the impact of AIDS, particularly if other conditions such as drought also occur (USAID, 1994). Given the extent of the AIDS epidemic in Uganda, and its socio-economic impact on communities, AIDS was studied as a stressor. AIDS was conceptualized as a chronic stressor and was studied at the micro (individual) level. The relation between distress and the objective report of other major illnesses or illness-related loss affecting either the participant or people from his/her close social network was also studied.

When identifying stressors in a rural community it is important to consider whether there are unique stressors associated with the dominant occupation of the area. In a baseline survey conducted in Loro sub-county, Apac district (Whitby, 1993), 99% of the households ranked subsistence agriculture as their most important source of livelihood. Therefore, it seemed important to assess stressors that are associated with farming. Weigel (1981, cited in Kenkel, 1986) attempted to delineate the stressors associated with farming in a sample of men and women farmers in Iowa. The author reports that stressors such as 'machinery breakdown' and 'disease outbreak' were rated as more stressful than 'divorce' or 'major illness'. Getting married was seen as only minimally stressful, while high ratings were assigned to 'valuable animal dies', 'loss of help or no help when needed', 'high debt loans', 'production loss to disease or insects', and 'weather-caused delays'. In a study of Manitoban farmers, Walker and Walker (1987) report that over half the stressors they had identified as being predictive of distress levels were situations associated with farm life (e.g., farming-related accident, feeling isolated on the farm). Consequently, the relation between distress and culturally relevant farming stressors were explored in this study.

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These occupational stressors were assessed at the micro level and were conceptualized for the most part as acute events occuring within the previous 12 months.

This study also attempted to examine the relation between war related stressors and distress. War and civil strife have had a profound effect on every facet of people's lives in Uganda (Topouzis, 1994). In some districts (e.g., Gulu) many men and women have had to abandon their villages and flee to the towns in search of security because of war and civil strife (Topouzis, 1994). Parents have been forced to send their children away and remain separated from them for extended periods of time, sometimes even years. Moreover, the majority of young men who joined the army during the war were from the northern districts of Uganda. Consequently, many families have lost relatives in the war. Therefore, war-related loss and migration were included as micro, traumatic stressors within this study.

Lastly, relationship stressors that are considered to be negative across cultures, such as major conflict with spouse, relatives, or friends were also measured at the micro level and were assessed as acute stressors occuring within the last 12 months.

Resources

Demographic Variables

Few studies have examined the relation between socio-demographic variables and psychological distress in developing countries. An exception is Tafari et al.'s (1991) study in rural Ethiopia. The authors examined the association between demographic variables and the neurotic scores of the SRQ-24. They concluded that more neurotics than non-neurotics were female ($X^2 = 31.91$; $p<0.001$), divorced or widowed ($X^2 = 112.38$;

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p<0.001), illiterate (X^2 = 4.38; p<0.05), between the ages of 35 and 44 (X^2= 37.07; p< 0.001), and had a family history of mental illness (X^2 = 26.24; p<0.001).

In a study of earthquake survivors in Ecuador, Lima et al. (1989) report that of the sociodemographic variables studied, only marital status was predictive of emotional distress. Survivors who were either single, seperated, or widowed were significantly more likely to be emotionally distressed (as measured by the 20 item Self Report Questionnaire [SRQ-20]) than married survivors. Bahar et al. (1992), using the 30-item General Health Questionnaire (GHQ-30) in an urban area of Indonesia, reported no statistical difference across age groups, or between men and women. The authors do report a non-significant trend for married people to have better mental health than those who are not married and report that persons who had migrated from elsewhere in Indonesia had a higher case rate than those belonging to southern Sumatera (X^2 = 16.1; df=1; p<0.0001). Similarly, Idris et al. (1989) report no statistical significant sex differences or differences between single and married subjects in the prevalence of mental disturbance in a sample of young adult Sudanese.

Based on the research findings from industrialized and developing countries, it was expected that women and non-married respondents would report higher levels of distress. In order to address the issue of gender issues in the type of stress related disorders, questions on alcohol abuse were added to the measures.

Socio-economic Status

The association between socio-economic status and psychological distress has not been well documented in developing countries. Furthermore, researchers who have

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examined the association report inconsistent findings. Bahar et al.'s (1992) epidemiological study in an urban area of Indonesia revealed that people living in the poorer traditional dwellings had a strikingly higher case rate, as measured by the GHQ, compared to those in more permanent houses (X^2= 15.9; df=1; p 0.001). A marked gradient was found with income, with case rates of 23%, 14% and 11% respectively in those with lower, middle, and upper income. Finally, the prevalence of GHQ cases by access to television, electricity, and tap water showed a markedly higher case rate for those who did not have these amenities. The authors concluded that the study consistently showed the strong link between poverty and psychological symptoms.

Tafari et al. (1991) failed to correlate economic status with scores on the SRQ-24 in a sample of rural Ethiopians. Economic status, however, was measured only by the presence or absence of oxen. Rahim & Cederblad (1989) report that psychiatric morbidity was significantly lower among participants engaged in traditional occupations (agriculture and manual labour) than among those in modern occupational sectors, in a sample of urban Sudanese. Psychiatric symptoms were also more common in those who had stable occupations, than in those who were engaged in unstable work such as day-to-day self-employment. The authors, however, failed to report the income or education level of the participants.

The inconsistency of findings from research conducted in developing countries may be partially due to differences in methodology, in particular to differences in the definition and measurement of SES. In industrialized countries, socio-economic classifications are based on income, occupation or literacy. Furthermore, due to

administrative and organizational problems few attempts have been made to compile

national registers of socio-economic status in developing countries. The indices used in

industrialized countries, however, are inappropriate to use in developing countries because

of the economic differences between both developing and industrialized countries. An

index of socio-economic status should reflect the different socioeconomic and cultural

aspects of the way of life in developing countries and, for the purposes of this particular

study, of the Ugandan Republic (Cortinovis et al., 1993). Consequently, the index of

socio-economic status that was utilized in this study was based on an index that was

constructed for a survey in Mbarara, a rural area in the south-west of Uganda (Cortinovis

et al., 1993) and modified so as to take into account the socio-economic realities of Apac

district.

Social Support

In developing countries, the few studies that have looked at the relation between

social support and psychological distress have operationalized social support as marital

status, marital discord, number of members living in the same household, or feelings of

loneliness. For example, in a study of young adults in Khartoum (Idris et al., 1989),

subjects who reported marital discord and divorce had a significantly higher rate of

psychiatric morbidity than those who were married without conflict or divorce (37.5% and

10.5% respectively) ($p<0.05$). SRQ scores also correlated positively with the degree of

social isolation as measured by the loneliness scale ($p< 0.001$). The authors interpreted

high scores on the loneliness scale as an expression of uprootedness, isolation and lack of

social support. In a study in Indonesia (Bahar et al., 1992), the GHQ case rate was highest

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for people living alone. Similarly, in a study of survivors of a volcanic eruption in Columbia, living alone was the only personal variable significantly associated with emotional problems as measured by the SRQ-20 (Lima et al., 1987).

In Africa, belonging to a family is propagated through numerous bonds, ranging from consanguinity, affinity, and adoption to surname identification. The African family, however, is witnessing a process of radical change. The cooperative and caring obligations widely cherished between and among kin are being gradually circumvented by the exigencies of economic stress, urbaniztion, education, christianity and neo-colonial cultural influences (Ankrah, 1993). Nonetheless, the African family still remains an extensive network with a diversity of assured contacts, especially in rural areas. Consequently, social support is the backbone of African culture and is an important resource when facing stressors.

Community Resources

The current health care system in Uganda is characterized by recurrent shortages of drugs, inadequate hospital beds in both government and non-government health facilities, and few trained health workers (USAID, 1994). In the study of a rural population in Zimbabwe (Myambo, 1990) "distance to medical clinic" was identified by subjects as being a moderate stressor. Similarly, Walker & Walker (1987) reported that "having to travel long distances for service" was an important predictor of total distress symptoms in Manitoban male farmers (R^2=.58). It can, therefore, be argued that the close proximity and availability of community services and facilities could act as important buffering factors that decrease the likelihood of problems in the face of stressors.

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In this study, the relation between community resources and symptoms of distress were assessed. The measurement of community resources was based on Myambo's (1990) methodology. Myambo assessed the availability of community services and facilities (e.g. drinking water, medical clinic) available within a 3 kilometre radius of a sample of rural adults in Zimbabwe. The author chose the distance of 3 kilometres because it was considered by rural-dwelling persons to be a reasonable walking distance.

Measuring symptoms

The prevalence of mental illness in developing countries, generally defined as the presence of Diagnostic Statistic Manual (DSM IV) psychiatric disorders, has been found to be similar to that of industrialized countries. In the World Health Organization (WHO) Collaborative Study on Strategies for Extending Mental Health Care in four developing countries, the recorded frequency of psychiatric disorders - between 10.6 and 17.7%- was just below the percentages found in industrialized countries (Harding et al., 1980). Tafari et al. (1991), utilizing the SRQ-24, report a prevalence rate of 17.2% in a rural population of Ethiopia. De Jong et al (1986), however, estimated a psychiatric morbidity rate of 12%, using the SRQ at health facilities in rural Guinee-Bissau. Idris et al. (1989) using a wide range of psychometric batteries (e.g. SRQ, Eysenck Personality Inventory) on a population of adult urban Sudanese, report that 23.7% of their sample suffered from mild subclinical complaints and 16.6% from moderate to severe symptoms that warranted a clinical diagnosis. A recent review of mental surveys in Africa reported that 20.4% of a rural Ugandan population showed evidence of psychiatric distress at threshold levels, as assessed by the Present State Examination (PSE) (German, 1987). Based on his review of

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studies looking at the prevalence of mental illness in Africa, German (1987) concludes that the extent of mental illness in black Africa is at least as substantial, if not greater, than in other parts of the world where data have been obtained.

Kleinman (1987), however, argues that there is a tacit professional ideology among psychiatrists and psychologists which functions to exaggerate what is universal in psychiatric disorder and de-emphasize what is culturally particular. He criticizes most approaches in cross-cultural psychiatry for ignoring subjects who fail to fit the template, the very subjects, he argues, who are of greatest interest from a cultural perspective because they could be expected to reveal the greatest amount of cultural diversity.

Researchers have also criticized the measures that are used to assess mental illness and psychological distress in developing countries. Thoits (1983), for example, remarks that many instruments used in epidemiological studies contain a physical health bias. The presence of psychosomatic items in these instruments makes it likely that physically ill respondents will obtain high scores, thus confounding the presence of physical illness with psychological distress (Thoits, 1983). For people with loss of energy due to malaria, appetite disturbance owing to anemia or hookworm, sleeplessness associated with chronic diarrhoeal disease, and dysphoria owing to poverty or powerlessness, high scores on psychosomatic items may mean that they will be misclassified as a case (Kleinman, 1987). However, the prevailing assumption in the literature is that people from developing countries are more likely to report somatic symptoms than psychological complaints (e.g. Ebigbo, 1982). Therefore, measuring psycho-somatic complaints remained an important component of this proposed study. Nonetheless, the researcher attempted to avoid

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confounding physical illness with psychological distress by questionning subjects about their physical health.

Kleinman (1987) further questions the validity of western-developed instruments when used in cross-cultural settings. To adequately assess cultural differences, Kleinman argues that it is essential to translate local idioms of distress and add them to standard questionnaires. Gaviria et al. (1984, cited in Kleinman, 1987) working with a translation of the Diagnostic Interview Schedule (DIS) in Peru detected several problems in its validity that offer a broader sense of problems in translation. First, Gaviria et al. (in Kleimnan, 1987) noted that western-developed instruments that have been translated may lack content validity. By content validity they meant that the content of the instrument must be relevant in the culture into which the instrument is translated. For example, many substances in the substance abuse section of the DIS were unavailable in Peru, yet coca paste, a major drug in Peru, did not appear in the DIS. Secondly, semantic validity requires that the words used in the original and the new instrument have the same meaning. Thirdly, technical validity is an issue in societies where languages are not written, schooling is limited and rates of illiteracy are high. In this context, the process of answering a questionnaire is foreign and one may elicit answers that represent a misunderstanding of intentions more than an accurate reflection of affect or thought. Lastly, conceptual validity requires that responses to an interview relate to a theoretical construct within the culture.

In order to address the issue of conceptual validity in this study, the spontaneous reactions made by the respondent when giving their yes or no answers were noted in a

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logbook while the questionnaire was being administered. The respondents were also asked, after having completed the questionnaires, to explain their yes-answers. In this manner, the researcher attempted to identify any differences in conceptual meaning accorded to the measures by the interviewer and by the respondent. Moreover, in order to address issues of semantic validity, all measures were translated and back-translated by persons who are bilingual in English and Luo (the local language). Lastly, technical validity was addressed through the training of interviewers.

Method

Instruments

The 20-item Self Reporting Questionnaire (SRQ-20)

The SRQ-20 was developed by Harding et al. (1980) as a psychiatric disturbance screening instrument for developing countries (see Appendix A). It has been used either as a self-administered or as an interviewer administered questionnaire. The SRQ-20 omits the four questions on psychotic symptoms in the original version developed by WHO and consists of 20 questions on neurotic symptoms, 4 of them related to somatic complaints. Each question has to be answered by yes or no. A score of 1 indicates that the symptom was present during the past month, a score of 0 indicates that the symptom was absent. The maximum score is therefore 20. No global, generally applicable cut off score can be recommended for the SRQ and each study should determine its own (WHO, 1994). The score depends upon the language used, the method of administration, the population answering it, as well as the needs of the research design.

The SRQ-20 has been utilized in several African countries (e.g., Sudan, Ethiopia,

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Kenya, Zimbabwe) and has been translated into at least 17 languages. A search of the litterature, however, revealed that it had apparently never been utilized in Uganda.

Content Validity

Because the SRQ-20 was developed to detect probable cases of mental distress, in particular neurotic disorders, it is not equivalent to a clinical diagnostic instrument. Consequently, content validity with respect to "mental disorders" is quite low. On the other hand, the content validity related to "neurotic disorders" (e.g., depression, anxiety-related disorders, somatoform disorders) is high. Kortman (1987), however, reports problems in transcultural communication. Non-Western subjects may not understand the questions posed to them by researchers who have received their training in the West. In a study conducted in rural Ethiopia, Kortman (1987) found that the primary source of problems of communication lay in the difference in conceptual meaning which were accorded to the SRQ questions by the questioner and by the Ethiopian respondent. Twenty-six percent of the yes answers proved to be invalid for the purposes of psychiatric diagnosis due to these differences in conceptualization. For example, question 2: "Is your appetite poor?" was incomprehensible for those respondents among the Ethiopians who had to wage a daily struggle to stay alive. This question was frequently interpreted as being an inquiry into the availability of food. Question 3 "Do you sleep badly?" proved to have a narrower meaning in the Ethiopian culture than in a Western one. It was seen as inquiring into whether or not one's sleep had been disturbed as a result of nightmares or sleepwalking; respondents failed to realize that information was also being sought concerning inability to fall asleep, or to stay asleep throughout the night.

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<u>Criterion validity</u>

The most appropriate criterion is a clinical assessment by a trained investigator using a structured research interview of known reliability. The higher the correlation between the scores, the stronger the evidence favouring criterion validity. Correlation coefficients between the Clinical Interview Schedule and different translations of the SRQ have been found to be between +.69 and +.74 (WHO, 1994).

<u>Sensitivity and Specificity</u>

These measures are designed to indicate how well the results from the SRQ match the results from the criterion instrument, a psychiatric interview. Sensitivity is a measure of a screening instrument's ability to detect the true cases of mental disorder identified by the criterion instrument. Specificity is a measure of the screening instrument's ability to identify true non-cases identified by a criterion instrument. Sensitivity and specificity will vary with the cut-off value used in a study to distinguish a probable case from a probable non-case. Sensitivity figures range from 62.9% to 90%, whereas specificity figures range between 44% and 95.2% (WHO, 1994). In a rural sample of 130 Kenyans, for example, sensitivity was of 89.7% and specificity of 95.2% (WHO, 1994). The variability of the validity indices highlights the fact that a screening instrument such as the SRQ needs to be validated in a variety of settings with different populations.

<u>Reliability</u>

There are few reported data on the reliability of the SRQ. Two studies looked at the inter-rater reliability; findings from one study in Brazil (Iacoponi & Mari, 1989 cited in WHO, 1994) yielded an intra-class correlation of 0.963 (χ^2=198.32; df=26). In a study in

Ethiopia (Kortman & Ten Hom, 1988) the pairwise interrater congruency between the

four raters varied between 66% and 78%.

The 12-item General Health Questionnaire (GHQ-12)

The GHQ, developed by Goldberg (1972), is a first stage screening instrument

aimed at the detection of minor psychiatric disorders in community and primary care

settings (Piccinelli et al., 1993). The GHQ was constructed from a pool of 140 items

selected so as to cover four areas of psychosocial enquiry (unhappiness, anxiety, social

inadequacy, and hypochondriasis) (Mari & Williams, 1985). The original version of the

GHQ contained 60 items (GHQ-60). However, several shorter versions of the

questionnaire have subsequently been developed (GHQ-30, GHQ-28, GHQ-20, GHQ-12).

The GHQ has been used in its original and shorter versions in community settings, general

practice, hospital out-patients, and hospital in-patients and has been translated to not less

than 36 languages (Sriram et al., 1989). It has a 4-point response scale which is usually

scored in a bimodal fashion (symptom present: "not at all" (0), "same as usual" (0); "rather

more than usual" (1); "much more that usual" (1))

Of particular interest to this study is the GHQ-12 (Goldberg & Williams, 1988 in

Botega et al., 1995) (see Appendix B). It was derived from the original 60-item version by

first excluding the items endorsed by physically ill respondents and then selecting the six

positive and six negative items that had the steepest discrimination slopes in the original

item analysis (Piccinelli et al., 1993). Among all the versions of the GHQ, the GHQ-12 is

being widely used as the most convenient screening instrument when the limited time

available precludes the use of longer GHQ versions (Piccinelli et al., 1993), when there is

widespread illiteracy and the questionnaire has to be read to respondents (Gureje, 1991), and when the GHQ must be translated (Sriram et al., 1989).

On the basis of an extensive review and meta-analysis, Goldberg and Williams (1988, cited in Botega et al., 1995) have concluded that the validity of the GHQ-12 is comparable to that of longer versions of the questionnaire. Piccinelli et al. (1993) report that at least seven validity studies of the GHQ-12 have been conducted but that in four of these, validity was derived by disembedding the relevant questions from a longer set of items. In general, however, validity coefficients have been found to be almost as good as those of longer GHQs (sensitivity: $M=74\%$; specificity: $M=82\%$; misclassification rate $M=18\%$) (Chan & Chan, 1983; Piccinelli et al. 1993). Sociodemographic variables, however, have been associated with the misclassification of subjects by the GHQ. Studies using the GHQ in Europe have shown that sensitivity is consistently lower (i.e., false negatives are commoner) in men that in women (Araya et al., 1992).

Studies examining the validity of the GHQ-12 in languages other than English have shown that the validity coefficients are comparable to those of the English version (Chan, 1985; Sriram et al., 1989). Sriram et al. (1989) report that although translated versions are comparable at the scale and dimension level, there are differences at the item level attributable to linguistic and cultural factors. These authors conclude that it simply may not be possible to obtain precise semantic equivalence to certain words and phrases in different language. Laslty, results of reliability assessments show that the GHQ-12 has a high degree of internal consistency, with alpha values ranging between 0.82 and 0.90 (Gureje, 1991).

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Comparison of the SRQ-20 and the GHQ-12

  Mari & Williams (1985) carried out a comparison between GHQ-12 and the SRQ-20 in three primary care clinics in the city of Sao-Paulo, Brazil. The authors found a linear relationship between the GHQ-12 and the SRQ-20 total scores for each of the clinics and interpreted the results as indicating the reliability or consistency of the information provided by the patients attending the three clinics. The two questionnaires showed similar results both when the total sample was examined and when the samples for each primary care unit were analyzed separately. The sensitivity of both questionnaires was higher than 80% for all the clinics and the specificity was lower than 80% only in the clinic with the poorest clientele. Both sex and education exerted a significant influence on misclassification in the study. Poorly educated people were more likely to be classified as false positive and women as false negative. The authors nonetheless concluded that both questionnaires were good discriminators in each of the clinics.

  Araya et al. (1992) conducted a study in a primary care clinic, serving a large poor urban area of Chile. The authors report small differences between the GHQ and the SRQ. The SRQ was slightly more specific than the GHQ (77% vs 73%) which in turn was somewhat more sensitive (76% vs 74%). Of the 163 subjects interviewed, 42 were misclassified by the GHQ (21 false negative and 21 false positives) and 40 by the SRQ (22 false negatives and 18 false positives). As in Mari & Williams (1985) study, less well-educated people were more likely to be classified as false positives by both questionnaires. The divorced, separated, and widowed were more likely to be false positives on the SRQ and a similar non-significant trend was also found with the GHQ. The authors did not find

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any sex differences in false positive misclassification however. Subjects with secondary education and men were more likely to be misclassified as false negatives with the GHQ and similar effects were evident with the SRQ although these just failed to reach conventional levels of statistical significance.

Chan & Chan (1983) compared scores of the GHQ-30 and the SRQ-20 with a sample of 224 Chinese university students. Chan & Chan's results indicated that the GHQ-30 correlated .54 with the non-psychotic items of the SRQ. In general, sensitivity and specificity rates using the 2 profiles as criterion measures were similar to previous community studies but lower than those found in general practice settings.

CAGE Questionnaire

CAGE is a four-item questionnaire developed by Ewing and Rouse (1970) as a screening instrument for the presence of alcohol-related problems (Heck & Williams, 1994). It is one of the most widely used questionnaires for detecting alcohol abuse and dependence (Liskow et al., 1994). The term CAGE is an acronym for the four questions it contains: "Have you ever felt you ought to cut down on your drinking?"; "Have people annoyed you by criticizing your drinking?"; "Have you ever felt bad or guilty about your drinking?"; "Have you ever had a drink frist thing in the morning to steady your nerves or to get rid of a hangover (eye-opener)?". A cutoff score of two or more indicates a positive test result.

The CAGE has been demonstrated to have a sensitivity of 75-91% and a specificity of 77-96% when used for the detection of alcohol dependence or abuse in various medical, surgical, and psychiatric inpatient settings (Liskow et al., 1994). The

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CAGE has also demonstrated its utility as a screening instrument within a more general population (Heck & Williams, 1994). A search of the litterature, however, revealed that the CAGE has apparently never been utilized in an African setting.

Socio-demographic Questionnaire (SDQ)

The Socio-demographic questionnaire was specifically designed for this study to access demographic information and to measure stressors and resources relevant to the Langi culture of Apac district, Uganda (see Appendix C). The choice of stressors and resources included in the SDQ was based on findings of previous studies revealed in a review of the stress literature. More specifically, the questionnaire includes groups of items measuring war (see items 40-44), AIDS/HIV (see items 51-55), illness (see items 45-50), relationships (see items 25 and 28-30 of the SDQ), and farming stressors (see items 18-23). Groups of items measuring social support (see items 31-39) and community resources (see item 15) are also included. The questionnaire also includes one open-ended question about stressors so that culturally relevant events that had been omitted from the study could be identified.

Each stressor and resource item was coded for its presence or absence. If the stressor or resource item was present, it received a code of 1, if it was not present it received a code of 0. Social support was calculated by adding items 31 to 39, community resources by adding the sub-components of item 15, relationship stressors by adding items 25 and 28 to 30, and farming stressors by adding items 18 to 23. The war stressor score was calculated by summing the items 40, 41, 43, and 44 of the SDQ. Item 43, however, refers to how many persons the respondent has lost to war. It was found that, in this

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groups of respondents, the maximum number of persons lost to war was 5. If a respondent had answered yes to items 40, 41, 42 and 44, and had lost a total of 4 persons to war, his/her war stressor score would be 7 out of a possible total of 8. Similarly, illness stressors were calculated by adding items 45, 47, 48, and 50. If a respondent answered yes to items 45, 46, 48, and 49, and knew 2 persons close to him/her who were suffering from a major illness, and had lost 4 persons to illness, then that respondent's score would be of 8 out of a possible 12 (the maximum number of persons either lost to illness or suffering from a major illness was 5). The AIDS stressors were calculated using the same method as for war and illness stressors.

Items 9-14 assessed socio-economic status. These items were designed on the basis of a socio-economic index constructed by Cortinovis et al. (1993) to use in a nutrition and health survey in Mbarara, a rural area in the south-west of Uganda. In constructing the index, the authors considered variables that involved different socioeconomic and cultural aspects of the way of life in developing countries and in the Ugandan Republic. They found that with the modalities of 5 variables, most of the households could be classified into 7 groups with very stable characteristics, or socioeconomic levels (see Appendix D.). The 5 variables were father's occupation, father's education, mother's education, father's professional position, and the ownership of a radio. The authors also reported that the households with missing data were more frequently in the lower socio-economic levels. There did not, however, seem to be any other systematic differences. Preliminary results of the statistical analyses of the Mbarara project data suggest a good reliability of the socio-economic index.

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Cortinovis et al. (1993) noted that in Mbarara as in other parts of Uganda, everybody is involved in some agricultural activity even if they work in other sectors, such as trading or government. A civil servant owning land, however, has different living conditions and characteristics from a worker whose occupation is full-time farming. Therefore the authors decided to classify a person as a "government worker" if this person was a government worker and also had farm land. The same applied to other nonagricultural categories such as policemen, artisans, butchers, etc. Those who were involved in agriculture only were classified as 'cattle keepers' if they owned cows and cattle, 'export' crop farmers if they produced coffee, tea or tobacco, and 'subsistence farmers' if they were producing crops other than export crops and they did not have small livestock such as goats, sheep, etc (see item 11).

Education was measured by the number of years of schooling. Education was measured separately for the household head and the household head's spouse. The household head's professional position was determined by whether the respondent hired labour or whether the respondent worked on other people's land. Once all the data were collected, the researcher determined what socio-economic group the respondent belonged to by comparing the participants' responses on the five SES variables to the descriptions of the 7 socio-economic groups provided by Cortinovis et al. (1993). The seven socio-economic groups are presented in Appendix D. The groups at highest risk for poor health conditions are at the last levels of the index (groups 6 and 7).

Translation

A review of the literature revealed that no previous instrument measuring stressors

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or distress had been translated into Luo (the language of Apac district). The SRQ-20,

GHQ-12, CAGE, and Socio-demographic Questionnaire were translated from English into

Luo by a bilingual research assistant. The Luo version was then independently back-

translated into English by a second person bilingual in English and Luo. Differences

between the original English version of the questionnaires and the English back-translated

version were discussed until the two translators came to an agreement.

Sampling Procedure

Across communities

CPAR provided a list of Apac district communities from which a total of eighteen

villages (three rural communities from each of six sub-counties of Apac) were selected

using a table of random numbers. Loro, Inomo, Chegere, Ayer, Aber, and Acaba sub-

counties were chosen because of CPAR's ongoing involvement there and also because of

the sub-counties' geographical proximity and safety. The number of villages to be sampled

was chosen so that the interviewers could finish their interviews within one day, thus

avoiding the contamination of results in overwhelmingly small communities. Of the

original sample of eighteen villages, one village in Aber had to be omitted due to insecurity

(proximity of the Lord's Resistance Army to the village).

Within communities

Because socio-economic status was a variable of considerable interest in this study,

a stratified random sampling procedure was utilized to ensure that groups from different

socio-economic levels were represented by an adequate sample size. A wealth ranking

exercise previously utilized by CPAR was therefore carried out within each sampled

village. This exercise consisted in meeting with one or more representatives of the Village Resistance Council and as many villagers as possible. The representatives and villagers were first asked to name all the heads of households of the village. A written list of all the heads of households was made. The paper list of names was then cut up so that each name was on a separate piece of paper. Secondly, the definition of wealth was discussed until all those present understood the definition used for the study (see Footnote [1]). Thirdly, villagers divided the households into two groups: "wealthy" and "less wealthy". Each head of household's name was read out loud from the pieces of paper and the villagers then decided whether the head of the household belonged to the wealthy or poorer group. The pieces of paper with the names written on them were therefore physically divided into two groups: wealthy and poor. The names belonging to the wealthy group were put into a hat and 6 names were chosen. The same procedure was used for the poorer group. Two heads of households were thus randomly assigned to each interviewer. When it was necessary (when the person to be interviewed did not meet the proper criteria for selection) additional households were sampled using the same procedure. Sex of the respondent was randomly determined for each household and the criteria for selection included gender, age (minimum age of 15), being head of the household or the spouse of the head of the household, and residence.

Interview procedure

The questionnaires were completed through face to face interviews at the

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[1] Villagers were asked to consider various indicators of wealth (e.g. house, education, things owned, cattle) rather than only cattle which is the traditional indicators of wealth.

respondent's home. In order to be culturally sensitive, only female interviewers

interviewed female respondents and only male interviewers interviewed male respondents.

The household was visited at least three times before it was considered vacant. If the

chosen household did not have an inhabitant with the required characteristics (e.g. female,

spouse of the head of household), it was replaced by another one randomly selected at the

beginning of the study.

Upon his or her arrival, the interviewer introduced him/herself and asked to talk to

the person selected as respondent. The interviewer carried credentials issued by CPAR. In

order to ensure standard interviewer administration, interviewers introduced themselves in

a standard way and gave a standard explanation about the objectives of the research (see

Appendix E). To ensure confidentiality, the interviewer asked the respondent to choose

the place that would be the quietest to conduct the interview so that the interviewer and

respondent could be alone. Because of high rates of illiteracy, the use of a written consent

form was not appropriate. Therefore, oral consent was judged to be sufficient. The

interview began with the Socio-demographic Questionnaire, followed by either the GHQ

or the SRQ, and ended with the CAGE. The order of the SRQ-20 and GHQ-12 was

counterbalanced. Based on an interviewing technique used by Kortman (1987) in Ethiopia,

interviewers also noted in a logbook any spontaneous comments made by the respondent.

The respondents were also asked, after having completed the SRQ-20, to explain their

yes-answers. The purpose of this procedure was to identify any differences in conceptual

meaning accorded to the questionnaire items by the interviewer and by the Ugandan

respondent. The whole interview protocol lasted an average of 45 minutes.

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Interviewers and training

Six interviewers, three males and three females, were recruited from Apac district. The interviewers all had good knowledge of English, were fluent in Luo, had at least some secondary school education, were 25 years old or more, and had either previously been trained by CPAR, participated in community development work, or had already been involved in survey work. The interviewers received a stipend established according to local CPAR payment norms.

The interviewers underwent a two day training. During the training great attention was paid to ensure that interviewers understood the study rationale, adopted a non-judgmental attitude, recorded responses correctly, and treated responses with total confidentiality.

Interviewers met with one of the research assistants or myself once every three days to discuss any problems they had been experiencing. Questionnaires were also handed in at that time so as to ensure that responses were being recorded correctly.

Pre-test

A pre-test was conducted on twelve respondents in Loro sub-county. This gave interviewers a chance to practice and to raise any concerns they had. The pre-test also provided an estimate of the length of the interviews (45 minutes). As a result of pre-testing, certain items on the questionnaire that needed to be reworded were modified accordingly, other items that were considered to be repetitive or culturally inappropriate were omitted, and important items identified through the open-ended question, were added (e.g. item 17).

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Demographic variables

The rate of refusal was extremely low (only two persons refused to participate). A total of 203 respondents were interviewed (104 men and 99 women). The mean age of participants was 38 years, the youngest participant being 16 and the oldest 86. The mean number of people belonging to a single household was 5.3 (range=1-13) with a mean number of 3.6 children (range=0-11). The majority of participants reported being married (83%) and involved in a monogamous relationship (63%). Approximately 16% of the respondents were involved in a polygamous marriage which included two wives, 4.5% in one which included three wives, and one participant in a marriage which included four wives. Most of those who were not married were widowed (11%) and few were divorced, separated, or single (2%, 2.5%, and 1.5% respectively). Of the 23 respondents who were widowed, 16 of them were women. Moreover, none of the men were divorced and none of the women were single.

Participants were assigned to one of the seven wealth groups based on the five-variable wealth index created by Cortinovis (1993). Ten percent of all participants belonged to the two wealthiest groups, 21% belonged to wealth groups 3 and 4, 49% belonged to groups 5 and 6, and 17% belonged to the poorest group. However, the five-variable wealth index was found to have very low internal consistency (Cronbach's alpha=.35). Therefore, the wealth variable used in the following analyses is one based on the two wealth groups ("wealthy" and "poor") as defined by the village members during the sampling process. Eighty-nine respondents were thus assigned to the "poorer" group,

and 111 to the "wealthier" group. The number of men and women in each wealth group was approximately equal. However, 77% of all unmarried respondents were in the poorer group and 23% in the wealthier group. Likewise, 62% of all married respondents were in the wealthier group and 38% in the poorer one.

The majority of participants reported receiving between four to seven years of education (47%). Only 9% reported receiving 8 to 12 years, 16% reported receiving one to three years, and 25% reported receiving no formal education at all. Large differences were found in the level of education of men and women. Thirty nine percent of women and 13% of men reported receiving no education at all whereas 3% of women and 15% of the men reported receiving between 8 to 12 years of education. Furthermore, more "wealthy" than poor people reported having received some education. Seventeen percent of all wealthy respondents had one to three years of education as compared to 14% of all poorer respondents; 50% of the wealthy had four to seven years of education as compared to 46% of the poor; 10% of the wealthy and 9% of the poor had between eight to twelve years of education, and 30% of the wealthy and 22% of the poor reported having no education at all.

Descriptive Statistics on Measures

Stressor measures

Descriptive statistics for the stressor measures are shown in Table 1. A low degree of internal consistency (Cronbach's alpha) was found for all stressor sub-categories, particularly for the war stressor category. The overall stressor index (total stressors) also has a low degree of internal consistency although it is approaching a satisfactory level.

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Furthermore, the mean score of each stressor measure is below the mid-point.

Table 1.

Descriptive Statistics of Stressor Measures

Stressor Measures	Descriptive Statistics				
	M	SD	Range	Possible range	alpha
AIDS	1.6	1.4	0-7	0-8	.57
Farming	2.5	1.5	0-6	0-6	.63
Illness	2.7	1.7	0-7	0-12	.42
Relation	0.9	1.0	0-4	0-4	.52
War	1.4	1.4	0-6	0-8	.21
Total	9.2	4.6	0-24	0-38	.64

Resources measures

Descriptive statistics for the resource measures are shown in Table 2. Only the

community resources index approaches a satisfactory degree of internal consistency (see

Footnote [2]).

Symptom measures

Descriptive statistics for measures of symptoms are shown in Table 3. Following

Kortman's method (1987), the SRQ was reviewed and the participants were asked to

clarify their "yes" answers with examples which the interviewers recorded in a log book.

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[2] In order to increase the internal consistency of both stressor and resource sub-measures, items were either omitted or re-grouped. However, no new sub-measures reached a satisfactory level of internal consistency

Two raters read the participants' examples and judged the "yes" answers invalid if they had

Table 2.

Descriptive Statistics of Resource Measures

Resource Measures	Descriptive Statistics				
	M	**SD**	Range	Possible range	alpha
Community	3.7	2.1	0-8	0-9	.74
Social support	4.2	2.6	0-9	0-9	.58
Emotional	2.1	1.3	0-3	0-3	30
Instrument	2.2	2.1	0-6	0-6	.62
Total	7.9	3.5	1-1	0-18	.56

not been clarified with an example, if they reflected a non-psychological cause, or if there

was an obvious difference in the conceptual meaning accorded to the question by the

investigator and the participant. The interater reliability was $k= 0.70$ (Cohen's kappa) (Lee

& Suen, 1984). A total of 26% of the answers were judged to be invalid. Over 60% of the

yes answers were judged to be invalid for questions 5, 18, and 20 whereas less than 10%

of the yes answers were judged to be invalid for questions 4, 6, 7, and 9 to 14. Many yes

answers could not be substantiated by an example. Other yes answers were judged to be

invalid due to differences in conceptual meaning (e.g. in answer to the question "Is your

daily work suffering?", many respondents explained that their work was suffering because

of a lack of money or manpower, or because they were physically unable to attend to their

work due to a broken hand, or to the fact that they were away for a funeral). Lastly many yes answers were judged to be invalid due to physical bias (e.g. in answer to the question "Do you often have headaches?" many respondents explained that they had a headache because of a tooth ache, malaria, or tuberculosis, etc.).

A conservative cutoff score of 10/20 was chosen. This cutoff score represents the score above which the respondent is considered to have psychiatric problems, based on previous clinical studies in which the SRQ was compared to a previously validated measure of psychological distress. Fifteen percent of respondents scored above the cutoff on the uncorrected SRQ scores whereas only 10% of participants did on the corrected version (9.6% of men and 11% of women). In the following analyses, the recoded version of the SRQ is used (see Footnote [3]).

A satisfactory level of internal consistency (alpha=.80) was found for the Luo version of the SRQ. However, the rate of internal consistency of the GHQ (alpha=.50) found in this study is quite low. Moreover, 46% of respondents scored above a cutoff score of 6/12 on the GHQ. The percentage of respondents scoring above the cutoff point for the GHQ is far greater than that for the SRQ (10%).

The internal consistency of the CAGE is also low (alpha=.50). Nineteen percent of respondents (28% of men and 8% of women) were found to have a drinking problem as measured by the CAGE (a score of two or more).

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[3] The statistical analyses using the uncorrected version of the SRQ revealed results largely similar to those of the corrected version.

Table 3.

Descriptive Statistics of Symptom Measures

Distress	Descriptive Statistics				
	M	SD	Range	Possible range	alpha
measures					
SRQ-20	4.7	4.2	0-18	0-20	.80
GHQ	6.2	2.2	1-1	0-12	.50
CAGE	0.9	0.9	0-4	0-4	.50

Relations among the SRQ, the GHQ, and the CAGE

As expected, the SRQ and the GHQ were found to correlate ($r=.55$, $p<.001$). Only a small positive correlation between the GHQ and the CAGE ($r=.16$, $p<.02$) was found and no correlation was found between the SRQ and the CAGE.

Relations among Demographic Variables and Measures

Stressor measures

Respondents' scores on the measures of stressors (AIDS, farming, illness, relationship, and war stressors) were analysed using 2(sex of respondent) x 2(marital status: married, unmarried) x 2(wealth:low, high) ANOVAs. Any significant interactions were further analysed using the Bonferronni test (Winer, Brown, & Michels, 1991, p.158).

There was a significant main effect for marital status on relationship stressors, $F(1,192)=7.75$, $p<.01$. Married respondents ($M=1.05$) had higher scores on relationship stressors than did unmarried respondents ($M=0.49$). There was also a significant main effect for sex of respondent on relationship stressors, $F(1,192)=8.25$, $p<.005$. Women

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(M=1.14) scored higher on relationship stressors than did men (M=.78). When looking at the relation between sex of respondent and relationship stressors for married respondents only, married women (M=1.29) scored higher on relationship stressors than did married men (M=.84), $t(166)= 2.72$, $p<.01$.

A significant main effect for wealth on illness stressors was found, $F(1,192)=7.82$, $p<.01$. Participants belonging to the wealthier group reported having more illness stress (M=2.99) than did participants belonging to the poorer group (M=2.39). There was also a significant sex of respondent by marital status interaction on illness stressors, $F(1,192)=6.07$, $p<.02$. Married men (M=3.03) reported significantly more illness stress than did married women (M=2.32) (see Table 4).

Table 4.

Effects of sex of respondent and marital status on illness stressors

	Sex of respondent	
Marital status	Men	Women
Married	3.03[a]	2.32[b]
Unmarried	2.15	3.18

[ab]Means with different superscripts are significantly different ($p < .05$) according to the Bonferonni test.

A significant sex by marital status interaction for farming stressors was found, $F(1,192)=4.82$, $p<.05$. However, the Bonferronni test revealed that no two groups were significantly different at the .05 level (see Table 5). Furthermore, no significant main effects or interactions were found for AIDS or war related stressors.

Table 5.

Effects of Sex of Respondent and Marital Status on Farming Stressors

	Sex of respondent	
Marital status	Men	Women
Married	2.81	2.30
Unmarried	1.85	2.68

The total stressor index was created by summing the respondents' scores across all stressor measures. Participants' scores on total stressors were analysed using a 2(sex of respondent) x 2(marital status) x 2(wealth:low, high) ANOVA. A significant main effect for wealth on total stressors was found, $F(1,192)= 6.87$, $p<.01$. Wealthier respondents ($M=10.02$) scored higher on the total stressor index than did respondents from the poorer group ($M=8.18$).

Measures of resources

Respondents' scores on resource measures (community resources and social support) were analysed using 2(sex of respondent) x 2(marital status) x 2(wealth:low, high) ANOVAs. There was a significant main effect for marital status on social support, $F(1,192)=5.37$, $p<.02$. Married participants ($M=4.46$) scored higher on measures of social support than did unmarried participants ($M=3.09$). A significant main effect for sex of respondent was also found, $F(1,192)=4.97$, $p<.03$. Men scored higher on measures of social support ($M=4.65$) than did women ($M=3.76$). A significant sex of respondent by marital status interaction was found on social support, $F(1,192)=11.75$, $p<.001$. The Bonferonni test indicated that married men ($M=5.02$) reported receiving significantly more

social support than did unmarried men ($\underline{M}$=2.15) or married women ($\underline{M}$=3.70) (see Table

6).

Table 6.

Effects of Marital Status and Sex of Respondent on Instrumental Support.

	Sex of respondent	
Marital	Men	Women
Married	2.84[a]	1.87[b]
Unmarried	0.46[b]	1.36[b]

[ab]Means with different superscripts are significantly different ($\underline{p}$ < .05)

according to the Bonferonni test.

A significant sex by wealth interaction was also found on social support,

$\underline{F}$(1,192)=5.95, $\underline{p}$<.02. The Bonferronni test indicated that wealthier men ($\underline{M}$=4.66) and

poorer men ($\underline{M}$=4.64) received more social support than did poorer women ($\underline{M}$=3.12) (see

Table 7).

Table 7.

Effects of Wealth and Sex of Respondent on Social Support.

	Sex of respondent	
Wealth	Men	Women
Low	4.64[a]	3.12[b]
High	4.66[a]	4.25

[ab]Means with different superscripts are significantly different ($\underline{p}$ < .05)

according to the Bonferonni test.

As discussed earlier, the definition of social support encompasses both an

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instrumental and an expressive (emotional) dimension. The social support measure was

thus constructed to include both of these dimensions (3 questions about emotional support

and 6 questions about instrumental support). Two 2(sex of respondent) x 2(marital status)

x 2(wealth:low, high) ANOVAs were, therefore, used to analyse participants' scores on

the separate measures of emotional and instrumental support. A main effect for marital

status was found on instrumental support, $F(1, 192)=11.91$, $p<.001$. Married participants

($M=2.42$) scored higher on instrumental support than did unmarried participants

($M=1.03$). There was a significant main effect for sex of respondent on instrumental

support, $F(1,192)=4.88$, $p<.03$. Men scored higher on instrumental support ($M=2.54$) than

did women ($M=1.79$). A sex of respondent by marital status interaction was also found,

$F(1,192)=9.69$, $p<.002$. A Bonferronni test revealed that married men ($M=2.84$) reported

receiving more instrumental support than any other group (see Table 8).

Table 8.

Effects of Marital Status and Sex of Respondent on Instrumental Support.

	Sex of respondent	
Marital status	Men	Women
Married	2.84[a]	1.87[b]
Unmarried	0.46[b]	1.36[b]

[ab]Means with different superscripts are significantly different ($p < .05$)

according to the Bonferonni test.

A sex of respondent by wealth interaction was found on instrumental support,

$F(1,192)=6.22$, $p<.02$. Poorer men scored higher on the index of instrumental support

($M=2.68$) than did poorer women ($M=1.38$) (see Table 9). Furthermore, no significant

main effects or interaction were found for measures of emotional support or community resources.

Table 9.

Effects of Wealth and Sex of Respondent on Instrumental Support.

Wealth	Sex of respondent	
	Men	Women
Low	2.68^a	1.38^b
High	2.43	2.12

[a,b]Means with different superscripts are significantly different ($p < .05$) according to the Bonferonni test.

The total resources index was constructed by summing participants' scores on community resources and social support measures. Respondents' scores on the total resources index were anlysed using a 2(sex of respondent) x 2(marital status) by 2(wealth:low, high) ANOVA. There was a significant main effect for marital status on total resources, $F(1,192)=5.26$, $p<.03$. Married participants scored higher on the total resources index ($M=8.21$) than did unmarried participants ($M=6.49$). A significant wealth by sex of respondent interaction was found, $F(1,192)=5.24$, $p<.03$. The Bonferronni test revealed that married men ($M=8.57$) scored higher on the index of total resources than did unmarried men ($M=5.61$) (see Table 10).

A significant marital status by sex of respondent interaction was also found on total resources, $F(1,192)=5.11$, $p<.03$ (see Table 11.). However, the Bonferronni did not reveal any significant difference for the wealth by sex interaction.

Table 10.

<u>Effects of Sex of Respondent and Marital Status on Total Resources.</u>

	Sex of respondent	
Marital status	Men	Women
Married	8.57[a]	7.67
Unmarried	5.61[b]	7.00

[ab]Means with different superscripts are significantly different ($p < .05$)

according to the Bonferonni test.

<u>Measures of symptoms</u>

Participants' scores on the SRQ and the CAGE were analysed using 2(sex of respondent) x 2(marital status) x 2(wealth: high, low) ANOVAs. There was a significant main effect for sex of participant on the SRQ $F_{(1,192)}=16.41$, $p<.001$. Women had higher scores ($M=6.0$) than did men ($M=3.6$). There was also a significant main effect for marital status, $F_{(1,192)}=8.99$, $p<.003$. Respondents who were not married ($M=6.8$) scored higher than did those who were married ($M=4.3$).

A main effect for sex of respondent on the CAGE was found, $F_{(1,192)}=17.55$, $p<.001$. Men reported more symptoms of alcohol abuse as measured by the CAGE ($M=1.2$) than did women ($M=.71$). There was a main effect for wealth, $F_{(1,192)}=6.05$, $p<.02$. Participants belonging to the wealthier group scored higher on the CAGE ($M=1.08$) than did those belonging to the poorer group ($M=.82$).

<u>Relations among Stressors, Resources, and Symptoms</u>

To examine the relations among stressors, resources, and symptoms, Pearson correlations among these measures were computed. In addition, because Warheit's (1986)

model posits that distress is a function of stressors relative to resources, the discrepancy between stressors and resources was computed and correlated with symptoms. This discrepancy is simply the difference between total stressor and total resource scores.

The correlations for all respondents are shown in Table 11. As expected, symptoms as measured by the SRQ are significantly positively correlated with scores on the stressor measure and negatively correlated with scores on the resource measure. In addition symptoms are positively correlated with the discrepancy scores (the extent to which stressors exceed resources). Furthermore, symptoms of alcohol abuse as measured by the CAGE are positively correlated with stressors but are not correlated with resources (see Footnote [4]).

This correlation matrix was then computed for four groups, married men, married women, unmarried men, and unmarried women. These correlations are shown in Tables 12 and 13. The correlations between stressors, resources, discrepancy scores, and symptoms were found to be significant for married men and women, but not for unmarried men and women. In addition, the correlations between stressors and the CAGE scores were significant for married men and unmarried women, but the correlation between resources and the CAGE were significant for married men only.

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[4] All measures of association remained significant when using Gamma and Lamda correlations for non-parametric data.

Table 11.

Correlations between Total Stress, Total Resources, Discrepancy, and SRQ and CAGE scores for All Respondents.

	SRQ	CAGE
Stressors	.26*	.15*
Resources	-.24**	-.08
Discrepancy	.34**	.16*

*p < .05   **p < .01

Table 12.

Correlations between Total Stress, Total Resources, Discrepancy, and SRQ and CAGE scores for Men.

	Unmarried men		Unmarried men	
	SRQ	CAGE	SRQ	CAGE
Stressors	.32	.38	.33*	.31*
Resources	.27	.12	.30*	-.20
Discrepancy	-.21	.33	.38**	.31**

ᵃn=13 for unmarried men   *p < .05   **p < .01

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Table 13.

Correlations between Total Stress, Total Resources, Discrepancy, and SRQ and CAGE

scores for Women.

	Unmarried Women		Married Women	
	SRQ	CAGE	SRQ	CAGE
Stressors	.45**	-.45*	.45**	.03
Resources	.13	.02	-.16	.02
Discrepancy	-.07	-.44*	.45*	.04

*p < .05   **p < .01

Discussion

The first objective of this research was to assess the appropriateness of the SRQ as

a measure of psychological distress for rural Ugandans in Apac district. The second

objective was to explore the relations among demographic variables, stressors, resources,

and symptoms of distress in a rural area of Uganda. Instruments that could assess stressors

and resources in rural Uganda were therefore developed.

Instrument development

Stressor measure

The total stressor measure did not have a satisfactory level of internal consistency.

An open-ended question was included in the Socio-demographic Questionnaire in order to

identify stressors that were culturally specific to northern Uganda and that were not

present in the questionnaire. Two-hundred and one respondents answered the question

and most mentioned a stressor that had already been included in the questionnaire (e.g.

fear of catching AIDS, family member's health, school fees, respondent's health).

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Interviewers introduced themselves as working for CPAR, a non-governmental health organization, and added that CPAR wanted to utilize the survey results to help them expand their health and AIDS counselling projects. Therefore, even though health-related stressors may certainly have been of real concern to many of the participants, it is possible that they were over emphasized in the open-ended question because of the context of the interview. However, some examples of new stressors that were not included in the socio-demographic questionnaire and that were mentioned are: theft, lack of food and money, loss of family member due to violent death, infertility, and not being married. These new stressors, however, represented only 19.5% of all responses to the open-ended questionnaire but could certainly be incorporated into a revised stressor measure.

All stressor sub-measures had low levels of internal consistency. Nonetheless, some categories of stressors did differentiate among demographic groups. The relationship stressors' measure, for example, did differentiate between the married and the unmarried respondents and between men and women. Married participants scored higher on relationship stress than did unmarried participants. One of the four items assessing relationship stress, however, dealt with problems within the marriage and another item dealt with child discipline. Therefore, those participants who were not married or who did not have children (as was the case of many of the unmarried) could not possibly obtain the maximum score on the measure of relationship stressors.

Women also scored higher on relationship stress than did men. Firstly, it is possible that women were less satisfied about their marriage than were the men because of the subservience demanded from women within a marriage. Secondly, because women are the

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principal caretakers of children they probably face more problems disciplining their children than do men.

The internal consistency of the illness stressor measure was also unsatisfactory. Nonetheless, married men scored higher on illness stressors than did married women. Although women are the ones who traditionally take physical care of the sick, men may perhaps bear the burden of the financial obligations of care. Men, for example, may be sending money to a sick relative without necessarily having that sick relative staying in their house. This financial obligation may in turn lead to economic stress.

HIV/AIDS, war, and farming related stressors all had unsatisfactory levels of internal consistency and none differentiated among demographic groups. Although it is difficult to explain the findings as they relate to war and farming stressors, it is likely that due to the sensitive nature of HIV/AIDS, participants did not always feel comfortable about disclosing HIV/ AIDS related information. It is also possible that HIV/AIDS related stress was assessed indirectly by other stressor measures which are highly related to issues faced by people with HIV/AIDS and their families, like illness stressors and relationship stressors for example.

Resource measures

The levels of reliability of the resource measures were all unsatisfactory. Moreover, the measures of resources in this study were only assessing the availability of resources and not the usage of these resources. Community resources, for example, were not found to be related to either stressors, demographic variables, or symptoms of distress. Based on Myambo's method (1990), the availability of community resources was

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measured by whether the respondent was within walking distance of the resource. However, distance is not sufficient to measure the availability of a resource. Although resources such as medical clinics or secondary schools may be at roughly equal distances for people in a same village, there may certainly exist a difference in whether a villager can afford to utilize these resources. Therefore, the community resource index utilized in this study may not have been adequate. Furthermore, as with stressor measures, an open-ended question could be added at the end of the measure during the pre-test in order to identify resources that may have been omitted.

Social support resources, and instrumental support in particular, were found to differentiate among certain groups. Married men had higher scores on instrumental support than any other group. In this study, instrumental support was conceptualized as whether or not help in the form of manpower or financial support was available. In rural Uganda, married men have the greatest access to such support because: a) of traditional entitlement, b) they are married and therefore have more status in society than unmarried men or women, c) are married and therefore can expect their wives to prepare food, take care of children, and work in the fields, something which married women cannot expect their husbands to do.

Poorer men also scored higher on instrumental support than did poorer women. Once again, this finding can be explained by the distribution of power within rural Ugandan society. Men may have access to resources that women cannot have access to, simply because they are men.

Appropriateness of the SRQ and the CAGE

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The internal consistency of the Luo version of the SRQ is satisfactory and comparable to the internal consistency of other translated versions of the SRQ (WHO, 1994). The interviewers reported that they understood the SRQ easily and that participants had no problems responding to it. In fact, none of the respondents terminated the interview, or failed to complete the SRQ.

The SRQ was also found to correlate with the GHQ, albeit at a lower magnitude than that reported in previous studies (e.g. $r=.72$, Mari & Williams, 1985). This correlation may have been attenuated by the low reliability of the GHQ in this study. In previous studies, the GHQ has attained much higher rates of internal consistency of (e.g. .83 to .90 Gureje, 1991). The low level of internal consistency in this study may in turn be due to an unsatisfactory translation of the GHQ or to the 4-point response scale which may have been too complex for respondents to understand or for interviewers to administer (as reported by the interviewers). Moreover, the GHQ was not corrected for invalid responses as was the SRQ.

Despite satisfactory reliability, 26% of the SRQ yes answers were judged by two raters to be invalid. Invalid answers, however, may be identified if interviewers review all 'yes' answers with the respondent. Furthermore, 'yes' answers resulting from differences in conceptual meaning may be avoided by carefully rephrasing problematic questions identified through a pre-test.

Fifteen percent of respondents scored above the cutoff score on the uncorrected version of the SRQ. Furthermore, the cutoff score used in this study was a particularly conservative one. Nonetheless, the percentage of respondents scoring above the cutoff in

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this study was similar or slightly below the percentage found in previous studies (e.g. Tafari et al., 1987). However, only 10% scored above the cutoff on the corrected version of the SRQ. It is, therefore, probable that previous studies using an uncorrected version of the SRQ may in fact have been reporting an inflated number of cases due to a high number of false positives.

As discussed in the introduction, it was expected that women and participants who were not married would report higher levels of psychological distress. Statistical analyses did in fact reveal that women had higher scores on the SRQ than did men. This finding may be explained by the distribution of power in rural Uganda. Although life conditions are very harsh for both men and women, men are granted much more respect and power than are women. Women perform most of the agricultural work on which families depend to survive, they are taught to obey their husbands, suffer high rates of physical abuse, are responsible for the children and the sick, and are often isolated from their family when widowed or divorced.

Secondly, as expected, respondents who were not married scored higher on the SRQ than did those who were married. In rural Uganda, because marriage provides both men and women with the opportunity of having children, it confers manhood onto men and womanhood onto women. Moreover, in a labour intensive agricultural society such as that in Apac, having a spouse is essential for survival.

Contrary to expectations, socioeonomic status was not related to participants' psychological distress scores. As discussed in the introduction, although relations between wealth and psychological disorders have been well documented in the West, findings

remain inconsistent for developing countries. It is possible that the methods used to assess

wealth in this study were inadequate. Another explanation for the absence of a relation

between socioeconomic status and SRQ score is that the differences in wealth between the

rural people of this area of Uganda are so small that they cannot predict differences in

psychosocial symptoms of distress. Lastly, it is also possible that socioeconomic status is

simply not related to symptoms of distress in this culture.

Men had higher scores of alcohol abuse as measured by the CAGE than did

women. This finding is consistent with that of previous studies which have reported

important gender differences in the types of stress-related disorders experienced, with

alcohol abuse/dependence being more prevalent among men than women. Women's lower

scores on the CAGE, however, may be moderated by the stigma associated with drinking

for Ugandan women. Wealthier respondents also reported higher scores on alcohol abuse

than did poorer respondents. This difference is probably due to the fact that poorer people

cannot afford to buy alcohol.

Relations among demographics, stressors, resources, and symptoms.

As expected, higher stressor scores significantly predicted higher distress scores.

However, within cell correlations revealed that stressors predicted distress scores for

married respondents only. Although attempts were made to identify important acute and

chronic stressors relevant to the lives of most rural northern Ugandans, the stressors

measured in this study seem to have been those that are relevant to married people only.

There is, therefore, a need in future research to identify the social, economic, and personal

stressors that the unmarried face. Examples of such stressors could be loneliness, lack of

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status, poverty, loss of previous rights (especially for widowed or divorced women), etc.

Secondly, higher resource scores significantly predicted lower distress scores but only for married men. As with stressor measures, resource measures seemed to have been assessing resources important to married but not unmarried respondents. Moreover, the measure used seemed to have only been adequately assessing the availability of instrumental support. In the future, it would, therefore, be important to measure not only the physical availability of different sources of support but also how often people actually use these sources. Furthermore, there is a need to develop measures that adequately assess other types of support relevant to all demographic groups, including community (e.g. what resources the community posesses to deal with a crisis) and individual coping skills.

Future Research and Practical Applications

Future research

The findings reported in this study are the result of a first attempt at measuring and exploring the relations among stressors, resources, and psychosocial distress in a rural area of Uganda. The findings reveal that the Luo version of the SRQ-20 has satisfactory internal reliability and can be used as an adequate measure of distress for populations living in rural northern Uganda. This study also partially confirmed an expected relation among stressors, resources, demographic variables and distress within a new cultural setting, thus adding to the stress literature.

This study has yielded important information on the method of applying the SRQ in new cultural settings. Firstly, it is crucial that the SRQ be pre-tested. It is recommended that during this pre-test, all 'yes' answers on the SRQ be reviewed with the respondent.

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The interviewers must understand the rationale behind each SRQ item and be trained to probe. By doing so, the researcher is ensured that enough information will be recorded so as to determine whether the yes answer is valid or not. The explanations or examples given by the respondent should ideally be recorded by audiotape, but if this option is not feasible, then they should be recorded by hand. The recorded examples should then be translated and back-translated. Lastly, the recorded information could be used so as to train interviewers to recognize valid and invalid answers. After sufficient training, interviewers would only have to note the examples that they are unsure of. In this manner, the SRQ can be used as a quick and reliable measure of psychological distress.

This study has also illustrated the need to include a wide range of relevant stressors. Any future research should, for example, include a measure of socio-political stressors, such as the political environment, crime rate, unrest and violence, and harassment by conflicting political groups. Spangenberg & Pieterse (1995), for example, reported a positive correlation between psychological distress as measured by the GHQ-20 and life events of a socio-political nature in a South African township ($r=.44$, $p<.01$). The authors concluded that the adverse sociopolitical conditions in South Africa and the stress that resulted from them may have had a stronger negative effect on the mental health of a group of black women than did stressful events of a personal nature. Socio-political stressors may have been extremely relevant to the people of Apac district. The interviews were conducted two weeks before the general elections and many people were worried about possible violence or insurrection. Furthermore, at the time of the research, an armed religious group (the Lord's Resistance Army) ambushed a local bus killing 60 people. As a

result, all transportation from Apac to the capital took place within an armed convoy. The same armed group had also been looting homes, setting fire to villages, killing innocent bystanders, and kidnapping young men and women just north of Apac. Two weeks before the end of the study, there were rumours that the armed group was approaching Apac (which was subsequently revealed to be true).

Furthermore, as indicated in Warheit's (1986) model, distress is the function of the number, duration and intensity of the stressors. In future research, once the basic requirement of measuring whether the respondent was exposed to the stressor or not has been met, sub-types of exposure could be generated. Thus, measures of the duration and the intensity of the stressor could be included for the participants who have been exposed to the stressor.

Lastly, it is recommended that in the future, qualitative research methods be used to design stressor and resource measures. The researcher could create focus groups, in which people of similar or different demographic groups (e.g., only women, or married and unmarried men) can be brought together to discuss the stressors that they face. Multiple sources of information should also be accessed when creating a stressor or resource measures including members of the community, health workers, non-governmental organizations (NGOs), local universities, etc. By taking measures such as these, symptoms of distress could be better predicted.

Practical Applications

This research project was undertaken with the goal of providing CPAR with a valid and reliable instrument to measure psychological distress. The instrument is to be

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used within the context of CPAR's HIV/AIDS counselling programme which aims to address the psychosocial distress and behavioral change that people with AIDS and their families face. An appropriate intervention could help these individuals and their families to strengthen their capacity to alter high risk sexual behaviour. Without appropriate intervention, the psychological distress related to impoverished environments and AIDS can impair coping, decision making, and problem solving capabilities and consequently limit people's ability to make significant changes to risk taking behaviour related to HIV/AIDS.

The results of this study would seem to indicate that the Luo version of the SRQ-20 has sufficient reliability and validity to be used to assess the distress of populations living in conditions of extreme poverty and hardship with the cultural characteristics of northern Ugandans. Within their AIDS counselling programme, CPAR can utilize the SRQ as a rapid means of appraising the size and composition of the population affected by distress, to help them plan an appropriate and effective mental health intervention, and to collect pre and post intervention baseline data to evaluate the effects of intervention.

With appropriate pre-testing, the SRQ could be used in the future in different African countries as a screening instrument in order to detect distress in the following populations:

a) workers and volunteers in high-stress helping professions,

b) primary health care patients, so as to ensure that people with mental health problems are identified and directed towards appropriate care,

c) refugees living in a camp, so as to ensure that those in need of mental health

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interventions are identified,

d) general population after natural or man-made disasters

In conclusion, this research project has studied the relations among stressors, resources, and distress in a new cultural setting, thus contributing to psychological stress research. By demonstrating the adequacy of an instrument that can be used to assess psychological distress in northern rural Uganda, the study has also helped to bridge the gap between theory and practice and contributed to the battle against HIV/AIDS in Uganda.

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<u>The SRQ-20</u>

Do you often have headaches?	yes/no
Is your appetite poor?	yes/no
Do you sleep badly?	yes/no
Are you easily frightened?	yes/no
Do your hands shake?	yes/no
Do you feel nervous, tense or worried?	yes/no
Is your digestion poor?	yes/no
Do you have trouble thinking clearly?	yes/no
Do you feel unhappy?	yes/no
Do you cry more than usual?	yes/no
Do you find it difficult to enjoy your daily activities?	yes/no
Do you find it difficult to make decisions?	yes/no
Is your daily work suffering?	yes/no
Are you unable to play a useful part in life?	yes/no
Have you lost interest in things?	yes/no
Do you feel that you are a worthless person?	yes/no
Has the thought of ending your life been in your mind?	yes/no
Do you feel tired all of the time?	yes/no
Do you have uncomfortable feelings in your stomach?	yes/no
Are you easily tired?	yes/no

Luo Version of the SRQ-20

1. Iwinyo icel icel abar wic?

2. Koni cem pe ye dogi?

3. Koni pe inino aber?

4. Koni ibedo alwor alwora onyo komi to inong oyoto yot?

5. Koni cingi myel?

6. Koni iwinyo onyo ibedo il woro, myel kom onyo para?

7. Koni cem pe loloka onyo woto iyi aber?

8. Koni itye ipeko, itam aber?

9. Koni iwinyo wang yic?

10. Koni ikok adok okato kare?

11. Koni inwongo tek me maro tici me mino ducu?

12. Koni inwongo tek me miyo tamoro?

13. Koni tici me nino ducu tye anwongo peko onyo obale?

14. Koni yin pe iromo timo ginoro akonyo kwo?

15. Koni cunyi owuku jami o?

16. Koni, cunyi winyo ni yin idano akonyere po?

17. Onyo tam me giko kwo ni obbedo iwii?

18. Koni, iwinyo i ool icawa ducu?

19. Koni, itye iwinyo yii pe teri aber?

20. Koni, i ool oyot oyot?

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Appendix B

<u>The GHQ-12</u>

Have you recently: not at all / same as usual / rather more than usual / much more than usual

1. Been unable to concentrate on whatever you are doing?

2. Lost much sleep over worry?

3. Felt that you are playing a useful part in things?

4. Felt capable of making decisions about things?

5. Felt constantly under strain?

6. Felt that you could not overcome your difficulties?

7. Been able to enjoy your normal day-to-day activities?

8. Been able to face up to your problems?

9. Been feeling unhappy and depressed?

10. Been losing confidence in yourself?

11. Been thinking of yourself as a worthless person?

12. Been feeling reasonably happy, all things considered?

Luo Version of the GHQ-12

Pe kadi acel (0) / Rom ikare lung (0)/ Kato me kare lung (1)/ Kato me kare lung atek ateka (1)

1. Pe ibedo keto cunyi ikom gmoroi ame itiyo?

2. Pe ibedo nino pi para?

3. Cunyi owinyo ni itye itimo gimoro akonyo?

4. Cunyi owinyo ni iromo miyo tam ikom ginoro?

5. Cunyi owinyo ni icawa ducu itye ioolo?

6. Cunyi owinyo ni pe iromo cobo ginoro arek obini?

7. Ibin ibedo maro tici me nino inino?

8. Ibin ibedo nwongo ni iromo ganyo peki ni?

9. Ibin ibedo iyic ape yom onyo iwang cuny?

10. Ibin ibedo rwenyo gen ikomi keni?

11. Ibin ibedo tamo ni an adano akonyere pe?

12. Ibin ibedo winyo yom cuny ikom jami ducu ame ineno ite tam atut iye?

Appendix C

<u>Socio-Demographic Questionnaire</u>

First, I would like to ask you some questions about your household.

1. How many people belong to this household?

_____ -

NR......9

2. I would also like to ask you about the age and sex of all members of this household and

how you are related to them. First starting with you....

Relationship to respondent: 01 Rspdnt   05 son 09 friend

                                     02 spouse   06 daughter   10 other

                                     03 mother   07 sibling   99 NR

                                     04 father   08 relative

            1 Male   Age   Relationship to R

            2 Female

Respondent   _____1_____

Person 2

Person 3

Person 4

Person 5

Person 6

Person 7

Person 8

Person 9

3. Who is the head of your household?

1 Rspdnt   9 NR

2 Spouse

4. How long have you lived in this village?

_____ (code number of years. If less than 12 months, code as 00)

NR....99

5. What is your current marital status (official and clan)?

married.............1 (if woman go to Q6; if man go to Q7)

divorced...........2 (go to Q8)

seperated..........3 (go to Q8)

widowed............4 (go to Q8)

single..............5 (go to Q8)

    NR........9 (go to Q8)

6. How many official and clan wives does your husband have?

_____

    NA.....7

    DK.....8

    NR.....9

7. How many official and clan wives do you have?

_____

NA....7   NR.....9

8. How many children do you have?

_____

NR....99

9. What is the highest level of education that the head of the household (or you) have

completed?

_____

DK....................88

NR....................99

If the respondent is not the head of the household ask Q10. If the respondent is the

head of the household, skip to Q11.

10. What is the highest level of education that you have completed?

_____

NR..................99

11. What is the occupation of the head of your household? or What is your occupation? (if

respondent is the head of household)

_____

_____

DK...8

NR...9

(PROBE: If respondent answers 'farmer' ask if R owns any cattle or cows, goats,

sheep or chicken; what is the purpose of the crop, to be sold or for household food.

What kind of government worker?)

Is the head of your household... or Are you....(if respondent is the head of the household)

12. Hiring labour?

yes...1   DK...8

no....2   NR...9

13. Working for other people on their land?

yes...1   DK...8

no....2   NR...9

14. Do you have a radio in your home?

yes....1

no.....2 NR....9

15. Are you 3 km from:

yes.....1 DK....8

no.......2 NR....9

drinking water?   _____

your fields?   _____

a secondary school?   _____

a traditional healer?   _____

a market?   _____

a grinding mill?   _____

a medical clinic?   _____

a hospital?   _____

the place where you collect firewood?_____

16. In the past year, has your financial status improved, stayed the same, or or gotten worse?

improved.............1   DK...8

stayed the same.....2   NR...9

gotten worse........3

17. Are you able to pay school fees for your children?

yes...1

no....2

not for all the children....3

NR......9

In the past year, have you...

yes....1

no.....2   NR....9

18. Lost a staple crop to disease or insects?

_____

19. Lost a staple crop to bad weather?

_____

20. Lost a valuable animal to theft or disease?

_____

21. Been involved in a conflict over land?

_____

22. Been involved in a land-claim dispute?

_____

23. Have you lost your rights to use land?

_____

If the respondent is married ask Q24-26. If not married skip to Q27.

24. In the past year have you been seperated from your spouse because he/she is working

elsewhere?

yes...1 NA...7

no....2 NR...9

25. In the past year, have you had any problems in your marriage?

yes...1 NA...7

no....2 NR...9

If respondent is a women, ask Q26. If respondent is a man skip to Q28.

26. In the past year, has your husband married a new wife?

yes...1   NA...7

no....2   NR...9

27. Are you unhappy that your husband took a new wife?

yes...1 NA...7

no...2 NR...9

For respondent with children, ask Q28. If doesn't have children, skip to Q29.

28. In the past year, have you had major problems disciplining your children?

yes...1 NA...7

no....2 NR...9

29. In the past year, have you had a major conflict with your neighboors?

yes...1

no....2 NR...9

30. In the past year, have you had a major conflict with any close relatives?

yes...1

no....2 NR...9

31. Do you have someone in particular that you can confide in when you have a problem?

yes....1 **(go to Q33)**

no.....2 **(go to Q35)**

NR.....9 **(go to Q35)**

32. Does this person live close-by?

yes....1   NA....7

no.....2   NR....9

33. Are you satisfied when you go to him/her?

yes....1   NA....7

no.....2   NR....9

34. Is there someone in particular from whom you can borrow money when you need it?

yes....1 **(go to Q36)**

no.....2 **(go to Q38)**   NR.....9 **(go to Q38)**

35. Does this person live close-by?

yes....1   NA....7

no.....2   NR....9

36. Are you satisfied with the help that you receive from this person?

yes....1   NA....7

no.....2   NR....9

37. Do you have someone in particular who can help you when you have too much work

to do alone (for e.g. in the field, cooking, taking care of the children)?

yes....1 **(go to Q39)**

no.....2 **(go to Q41)**

NR......9 **(go to Q41)**

38. Does this person live close-by?

yes....1   NA....7

no.....2   NR....9

39. Are you satisfied with the help that you receive from this person?

yes....1   NA....7

no.....2   NR....9

40. Have you ever lived in a war zone?

yes....1   NR....9

no.....2

41. Have you ever fought in a war?

yes....1   no.....2   NR....9

42. Have you lossed any close friend(s) or relative(s) because of the war?

yes....1 **(go to Q44)**

no.....2 **(go to Q45)**   NR.....9 **(go to Q45)**

43. How were you related to that person/those people?

spouse....01 daughter....05 other....09

mother....02 sibling.....06   NA....77

father....03 relative....07   NR.:..99

son.......04 friend......08

        1 Male   Relationship to R

        2 Female

Person 1

Person 2

Person 3

44. Have you been permanently displaced because of the war?

yes....1   NR....9

no.....2

45. As far as you know, are you suffering from any major illness other than AIDS?

yes...1 NR...9

no....2

46. Do you have a close relative or friend presently suffering from a major illness other than AIDS?

yes....1 **(go to Q50)**

no.....2 **(go to Q51)**   NR.....9 **(go to Q51)**

47. How are you related to that person(s)?

spouse....01 daughter....05 other....09

mother....02 sibling......06   NA....77

father....03 relative....07   NR....99

son.......04 friend......08

          1 Male   Relationship to R

          2 Female

Person 1

Person 2

Person 3

48. Are you presently taking care of someone who has a major illness?

yes...1

no....2 NR...9

49. Have you ever lost a close friend(s) or relative(s) to a major illness other than AIDS?

yes....1 **(go to Q53)**

no.....2 **(go to Q54)**

NR.....9 **(go to Q54)**

50. How were you related to that person(s)?

spouse....01 daughter....05 other....09

mother....02 sibling.....06   NA....77

father....03 relative....07   NR....99

son.......04 friend......08

| | 1 Male | Relationship to R |
| | 2 Female | |

Person 1

Person 2

Person 3

51. Have you ever lost a close friend(s) or relative(s) to AIDS?

yes....1 **(go to Q55)**

no.....2 **(go to Q56)**

NR.....9 **(go to Q56)**

52. How were you related to that person(s)?

spouse....01 daughter....05 other....09

mother....02 sibling.....06   NA....77

father ...03 relative....07   NR....99

son.......04 friend......08

       1 Male   Relationship to R

       2 Female

Person 1

Person 2

Person 3

53. Do you personally feel at risk for catching HIV/AIDS?

yes...1 DK...8

no....2 NR...9

54. Have you ever been tested for HIV/AIDS?

yes...1

no....2 NR...9

55. Do you fear that ar the moment you may have HIV/AIDS?

yes....1   DK....8

no.....2   NR....9

56. In the past year, have there been any oher events that we have not talked about that have caused you to fell stressed? If yes; what was/were those events?

<u>Luo Version of the Socio-demographic Questionnaire</u>

1. Jo adi obedo jo me paco ni?

_____

NR.........99

2. Yon no obedo wat ango boti?

Relationship to respondent: 01 Rspdnt   05 son
                                              02 spouse   06 daughter
                                              03 mother   07 sibling
                                              04 father   08 relative
                                              09 friend
                                              99 NR

                              1 Male   Age   Relationship to R
                              2 Female

Respondent   _____1_____

Person 2

Person 3

Person 4

Person 5

Person 6

Person 7

Person 8

Person 9

3. Nga adwong alo paco ni nie?

Respondent.....1

Spouse.........2

NR.............9

4. Ibedo iwangtic kan dong pi mwaki adi??

_____ (in number of years; if less than 12 months,
code as 00)

NR.........99

5. Inyomere wunu iya pe?

married.........1 (if woman, go to Q6; if man, go to Q7)

divorced........2 (go to Q8)

seperated.......3 (go to Q8)

widowed.........4 (go to Q8)

single..........5 (go to Q8)

NR..............9 (go to Q8)

6. Mon adi acwari tye kede?

_____

NA...........7

NR...........9

7. Mon anyoma adi ayin itye kede?

_____

NA............7
NR............9

8. Itye wunu otino adi?

_____

NR...........99

9. Yin/adwong paco ni ogik ikilaci adi?

_____

DK............88 NR.............99

(IF RESPONDENT IS THE HEAD OF THE HOUSEHOLD, SKIP Q10 AND GO TO Q11. IF RESPONDENT IS NOT THE HEAD OF THE HOUSEHOLD, ASK Q10.)

10. Yin ikwano igik ikilaci adi?

_____

NR.............99

NA.............77

11. Ibedo atic ango?/ Adwong paco ni ticare ngo?

_____

_____

(PROBE: if farmer, what kind of crops do they grow, do they own any cattle, goats, or chicken, for what purpose do they grow the crop; if government worker, what kind of government worker)

12. Ngat alo paco ni/ yin itye ipango jo me tic piri?

yes.......1

no........2

DK........8

NR........9

13. Itye itio bot ngatoro?

yes.......1

no........2

DK........8   NR........9

14. Itye iradio turi?

yes.......1

no........2

NR........8

15. Itye iyi akina kina bor ping ame romo wot me km 3 ya:

yes........1   DK.......8

no........2   NR.......9

Ipii amata?_____

Ikan abac cung iye?_____

Icinia?_____

Itung ajoka onyo ate jo?_____

Iduka?_____

Ikidi rego?_____

Iklinic?_____

Idakatal adwong?_____

Ika mwodo yen?_____

16. Imwaka okato ni, lim icingi omede, odok cen; iya nyo obedo ikite?

improved.............1

stayed the same.......2

gotten worse..........3

DK.....................8

NR.....................9

17. Imwongo ni iromo culu piji me kwan otino ni?

yes.....1

no......2

not for all the children.....2

NR......9

18. Imwaka okato, two onyo kudi oba cemi ipoto?

yes.....1

no......2

NR......9

19. Inwaka okato ni, kot onyo ceng obin obalo cemi ipoto?

yes.....1

no......2

NR......9

20. Iwaka okato ni ibin irwenyo lee ni moro apire tek iyore me kwo onyo two oneko?

yes.....1

no......2   NR......9

21. Iwaka okato ni ibin ilaro wunu lobo?

yes.....1

no......2

NR......9

22. Inwaka okato ni obin omao lobo oko iboti?

yes.....1

no......2

NR......9

23. Ibin irwenyo twero me tic kede lobo ni?

yes.....1

no......2

NR......9

(IF RESPONDENT IS MARRIED, ASK Q24-26. IF RESPONDENT IS NOT MARRIED, SKIP TO Q27)

24. Imwaka okato ni ibim ipokere kede cwari/ cegi pi tic ame en tio kan okene, pi kare moro kong?

yes......1

no.......2

NA.......7

NR.......9

25. Onyo tye peko moro ame inwongo ibot cegi/ cwari?

yes......1

no.......2

NA.......7

NR.......9

(IF RESPONDENT IS A WOMAN, ASK Q26. IF RESPONDENT IS A MAN SKIP TO Q27)

26. Imwaka okato ni cwari dok obin onwongo dako okene?

yes......1

no.......2

NA.......7
NR.......9

27. Itye iton cwiny pien cwari dok tye idako anyen?

yes.......1

no........2

NA.........7

DK........8   NR........9

(IF RESPONDENT HAS CHILDREN, ASK Q28. IF DOESN'T HAVE CHILDREN, SKIP TO Q29)

28. Imwaka okato ni ibin inwongo peko me loyo otino ni?

yes........1

no.........2

NA.........7
NR.........9

29. Ibin itubere kede awoti ingeti?

yes........1

no.........2

NR.........9

30. Ibin itubere kede wati moro ot acel?

yes........1

no.........2

NR.........9

31. Itye ingatoro aromo diyo cunyi ka itye ipara?

yes........1   no.........2
NR.........9

(IF RESPONDENT ANSWERED YES TO Q32, ASK Q33-34. IF ANSWERED NO OR NR, SKIP TO Q35)

32. En dano ni bedo acocok?

yes........1

no.........2

NA.........7   NR.........9

33. I yeng itam ame en mi ka itwoto bote?

yes........1

no.........2

NA.........3

NR.........4

34. Itye ingatoro ame iromo deno cente bote ka imito?

yes........1

no.........2

NR.........3

(IF RESPONDENT ANSWERED YES TO Q34, ASK Q35-36.·IF ANSWERED NO OR NR, SKIP TO Q37)

35. En dano ni bedo acocok?   .

yes.........1

no..........2

NA..........7

NR..........9

36. Inwongo kony oromo kit ame imito?

yes.........1

no..........2

NA..........7

NR..........9

37. Itye ingatoro ame romo konyi ka itye itic adwong amyero itim piri keni bala tedo kede en okene?

yes.........1

no..........2   NR..........9

(IF RESPONDENT ANSWERED YES TO Q37, ASK Q38-39.·IF ANSWERED NO OR NR, SKIP TO Q40)

38. En dano ni bedo acocok?

yes...........1

no...........2

NA...........7

NR...........9

39. Inwongo kony oromo ibote?

yes...........1

no............2

NA...........7

NR...........9

40. Anaka kong ibedo kan alweny tye iye?

yes...........1

no............2

NA...........7

NR...........9

41. Anaka kong ilwenyo lweny me oduku?

yes...........1

no............2

NR...........9

42. Obin oneko awoti / wati moro ame imaro atek ilweny me oduku?

yes...........1

no............2   NR...........9

(IF RESPONDENT ANSWERED YES TO Q42, ASK Q43. IF ANSWERED NO OR NR, SKIP TO Q44)

43. En ato/atoo naca onwongo obedo wat ango boti?

spouse....01   daughter....05   other....09

mother....02   sibling.....06   NA.......77

father....03   relative....07   NR.......99

son.......04   friend......08

	1 Male 2 Female	Relationship to R
Person 1		
Person 2		
Person 3		
Person 4		
Person 5		

44. Ibin idak onyo idago dong atwal, ya ikan okene?

yes........1

no.........2

NR.........9

45. Kit ayin ingeo kede piri keni onyo itye itwo two moro alit atek apat kede two jonyo?

yes.........1

no..........2

NR..........9

46. Itye iwati / awoti moro ame imaro ame tye itwo alit atek?

yes..........1
no...........2   NR...........3

47. En dano/ jonaca obedo nga ni?

spouse....01 daughter....05 other....09
mother....02 sibling.....06   NA....77
father....03 relative....07   NR....99
son.......04 friend......08

	1 Male	Relationship to R
	2 Female	
Person 1		
Person 2		
Person 3		

48. Amani itye itwoyo onyo igwoko dano moro ame tye itwo alit atek apat kede two jonyo?

yes..........1

no...........2

NR...........9

49. Onyo awoti / wati moro apire tek obin otoo itwo alit apat itwo jonyo?

yes...........1

no............2

NR...........9

(IF RESPONDENT ANSWERS YES TO Q48, ASK Q49. IF ANSWEED NO OR NR, SKIP TO 50)

50. En dano / jo naca abedo nga ni?

spouse....01   daughter....05   other....09
mother....02   sibling....06   NA.......77
father....03   relative...07   NR.......99
son.......04   friend.....08

                1 Male   Relationship to R
                2 Female

Person 1

Person 2

Person 3

51. Onyo ibin irwenyo dani moro pi peko me two jonyo?

yes......1

no.......2

NR.......9

52. En ato/ atoo naca onwongo obedo ango boti?

spouse....01   daughter....05   other....09
mother....02   sibling.....06   NA.......77
father....03   relative....07   NR.......99
son.......04   friend......08

                1 Male   Relationship to R
                2 Female

Person 1

Person 2

Person 3

53. Itamo ni iromo nwongo two jongo ica moro keken?

yes......1

no.......2

DK......8   NR......9

54. Onyo ibin ipimere pi two jonyo?

yes......1

no......2

NR......9

55. Onyo itye ilworo ni amani dong itye ikudi me two jonyo?

yes......1

no......2

DK......8

NR......9

56. Onyo tye ginoro imwaka okene doki ame omii para atek imwaka okato iye?

_____

_____

_____

_____

Nene ka pe kede angwaloro onyo dul kome ducu tio / tye aber.

Appendix D.

Seven Socio-economic Groups

Group   Description

Group 1   Made up of households in which the parents have the highest
            level of education. The father is mainly a civil servant or a
            teacher, but there are also professionals, traders, and export
            crop growers. In comparison with other groups these families
            usually hire labour and own a radio.

Group 2   Parents have a relatively high level of education. The
            most frequent occupations are those dealing with the public
            and private sectors, but dependent workers of the private
            sector are also included. There are also cattle rearers, and
            mixed crop growers with a professional position of hiring
            labour. These households usually hire labour and most or all
            own a radio.

Group 3   Characterized by families in which the father is a
            cattle-rearer or export crop grower in relatively favourable
            socio-economic conditions. Parents have completed primary
            school or attended it for some years. There is a high
            prevalence of radio owners although less than in the previous
            two groups. The family members do not hire labour but they
            do not work on other people's land either.

Group 4   Agricultural occupations become prevalent, especially cattle
            rearers. Although the economic conditions are still favourable
            the educational level is low. There are fewer radio owners.

Group 5   Consists of the most disadvantaged conditions of the
            professional occupations, export crop growers, and cattle
            keepers. The parents have primary education and the
            ownership of radios is low. This group, along with groups 3
            and 4, form a sort of wide middle class between comfort and
            poverty. These groups are characterized by a mixture of
            conditions such as families with a good economic status and
            low educational level versus families with poorer economic
            conditions but with a relatively high level of education.

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Group 6   Contains those with disadvantaged conditions. There are a
           few cattle rearers and export crop growers and many
           subsistence farmers with small livestock. These families have
           a low educational level, and very few own a radio.

Group 7   The most disadvantaged group, mainly composed of
           subsistence farmers frequently working on other people's
           land, with no education. Almost nobody has a radio.

.

Introduction

- introduce themselves, greetings

- ask to speak to the head of the household

- explain that they are doing a survey for CPAR, explain who CPAR is, explain that the results will be used to try to get extra funding for HIV/AIDS counselling programme, and community health programmes.

- briefly describe the contents of the questionnaire

- ask whether person would agree to be interviewed

- explain that all answers will be kept confidential and anonymous; that they can stop at any moment, that they don't have to answer any questions that make them feel uncomfortable; explain that they need to be in private area to answer questionnaires

- thank the respondent for their participation

DONYO IPACO ADANO:

- Go kodi

- Mi amot

- Tuc nyingi, kabedo ni, tici.

- Tit ngo oteri (CPAR - ngec - yot kom, kony, jo-Apac)
Peny ka en alo paco no onyo dako me oot no.
Kwae ka ye me i penye.
Ka oye, dok ikwae me ibed wun aryo keken.

- Cak dong penye.

- Ka ityeko, pwoe, yeye dang me penyi.

Appendix F.

The CAGE

1. Have you ever felt you ought to cut down on your drinking? yes/no

2. Have people annoyed you by criticizing your drinking? yes/no

3. Have you ever felt bad or guilty about your drinking? yes/no

4. Have you ever had a drink first thing in the morning to
steady your nerves or to get rid of a hangover (eye-opener)? yes/no

Luo Version of the CAGE

1. Kong ibin itamo ni kong idwok mato knogo ni cen?

2. Nyo kong jo obin owango yii kun oloko ikomi arac pi mati?

3. Nyo ibin inwongo lewic ikom mato kongo ni?

4. Nyo ibin icako mat odiko pi kato kongo ikomi onyo me yabo wii?