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Development of the Inventory of Life Span Events

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DEVELOPMENT OF THE INVENTORY OF LIFE SPAN EVENTS

by

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ABSTRACT

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The possible relationship between stressful life events and subsequent illness has been studied in the past few decades, resulting in several widely-used questionnaires. However, these measures tend to focus on recent events and attempt to remove subjective rating of a stressful event by the respondent. These two factors may limit these scales clinical utility. An alternative measure, the Inventory of Life Span Events (ILSE) is proposed, to quantify the life-stress burden for childhood, adolescence, adulthood, and across the entire life span. ILSE was compared to other leading measures for life events, hassles and perceived stress, and was more closely related to life events than hassles or perceived stress measures. The comparative utility of these measures in explaining the variance for depressive, anxiety, neuroticism and dissociative symptoms was conducted. The ILSE childhood summary score (CHB) was specifically correlated with dissociation. ILSE displayed adequate validity through correlations with both life event and symptom measures and in predicting clinical vs. control group membership. ILSE also displayed adequate test-retest reliability on a six to eight week interval. It is anticipated ILSE will add a new dimension to life event assessment. Potential uses for the instrument concludes the write-up.

This work is dedicated to the memory of Dr. John Thibaut. Hopefully, there is nothing more practical than a good questionnaire.

Heaven and earth are not humane.
They treat the ten thousand things like straw (sacrificial) dogs.
The sage is not humane.
He treats the ten thousand things like straw (sacrificial) dogs.

Heaven and earth,
How like a bellows it is!
Empty and yet inexhaustible
Moving, ... it pours out evermore.

Tao Te Ching, Chapter 5

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Chapter I: The Evolution of Life Events Research

Every person leads a unique life filled with events of greater or lesser importance. That accumulation of events influences the individual in the present, by affecting their perceptions, attitudes, and behaviors. This project is about measuring past life events and their possible relationship to current functioning, and whether tracking a person's life event history has clinical and research utility.

For decades, researchers and clinicians have investigated possible connections between life stressors and subsequent illness. Time and effort have produced rich and informative studies. However, queries about stressors often involve only recent events, since recency permits more accurate measurement. Exclusive focus on recent events may limit clinical treatment if little or nothing is known about the individual's more distant past and early experience.

This dissertation will first review the life events and stress literature in order to clarify previous research and variables of interest. A new measure will be proposed based on client experience across the life-span. This measure is intended for direct clinical application, with the possibility of future research application. The properties of this instrument, the Inventory of Life Span Events (ILSE), will be described as well as its strength of association to measures for depression, dissociation, and anxiety. ILSE will be correlated and compared to other leading life events inventories in current use.

Overview of Life Events Theory: The Importance of Psychosocial Stress

The idea that previous life events (stressors) might precede physical illness can be traced back some decades. Selye (1956) proposed stress as a nonspecific response of the body to any demand made upon it; a phylogenetically old pattern resulting in the response of fight or flight. Selye assumed stress could be invoked from any change, including psychosocial circumstance. Within this framework, external environmental events lead to the internal state of stress, which then leads

to a disequilibrium which can predispose the individual to precursors of disease and then disease itself (Levi, 1974).

From a practitioner's perspective stress study and description was applied long ago by Adolph Meyer (1951), who mapped personal events of a (medical) patient's life history, along with their biological history, dominant interests and friendships. This "life chart" provided a more comprehensive view of factors which Meyer believed affected the patient. Meyer's approach was highly individualized and connected to the patient's autobiography at the time of treatment. Mapping life history by charting crises over time was also recommended by Antonovsky and Kats (1967) and Bourque and Back (1977). This project addresses a type of life-charting.

Hocking (1970) suggested that the capacity for stress tolerance may fall on a normal curve, with individuals having lower capacity for stress breaking down under everyday stresses and strains. As stress increases an increasing proportion of people would succumb to stressor(s). Levi (1974) inferred an inverted U-shaped curve for stress and performance, with performance decreasing under conditions of sensory deprivation and/or sensory overload. Levi also suggested that the psychosocial stimuli inherent in everyday life are usually very complex; that it is the *intensity* of the stressor which is the main correlate of stress. Thus the measurement of perceived event intensity may be important, and intensity of a stressor will be measured in this project.

In a critique of Levi's position, Singleton (1974) expressed the need to: 1) clarify concepts used in stress research 2) extricate stress research from strict biological measures, since there was agreement on the importance of psychological components and that 3) stress theory models were too general. Singleton further recommended that stress is complex and it might be best to study it as it exists in the field, examining mild stressors as well as combinations of stressors, and "look for broad relationships or correlations on a macro scale rather than for causes or mechanisms on a micro scale". Measuring broadly defined events or stressors is obviously more challenging, since a broader definition of events can introduce interpretive bias or idiosyncratic responses. But if this lack of precision can be tolerated, or delineated and tracked--in the natural array of stressors which real-life often presents--a better understanding may result about the unique responses of an

individual to past and present stress and any subsequent event/disease relationship. This project will attempt to integrate Singleton's comments, by assuming psychosocial stimuli (stressors) to be very complex. Attempts will be made to present stressors without over-reduction and over-simplification of events.

Antonovsky (1979) described 11 sources of psychosocial stress with three underlying premises: 1) people constantly encounter stressors 2) during a lifetime our previous socialization will eventually prove inadequate to the task of dealing with life circumstance and 3) there is environmental underload and overload, which involves too little or too much stimulation. Antonovsky distinguished tension as opposed to stress; tension can have positive aspects, while stress works against homeostasis. He also assumed that 1) stress has a *subjective* nature, 2) that people search for voluntary stressors (i.e., going to a horror movie) and that 3) groups of people create their own stress via group perception. Stressors are not therefore inherent, but defined as stressful by members of the group or society. Thus, a researcher developing stress weights or rankings based on a normative group may be creating a tool which is not useful outside that normative group. Even within the group, individual variability may exist in the value of "what is stressful," based on each person's previous experience with a stressor and the outcomes of that experience. If Antonovsky is correct, demographic (group) differences should exist for perceived stress and reactions to stressors. Therefore, demographic patterns for stress and life events will be discussed later in this chapter.

Thus, early theoretic work recommended clarifying the working definitions of stress, field research of broadly defined stressors in the field, stress response to different levels of stimulation, and the relative importance of stressors in different social groups.

In summary, this project will incorporate previous theoretic work by attempting a type of life chart by measuring past events, measure perceived intensity of stressors, avoid over-reduction and over-simplification of events, and creating a design which addresses demographic variables.

Life Events Research

These theoretic discussions paralleled life events research, which, according to Rabkin and Struening (1976) "investigated temporal associations between the onset of illness and events which require adaptation". Life event measurement included measures based on discrete fixed lists of life events (Coddington, 1972; Dohrenwend, Krasnoff, Askenasy & Dohrenwend, 1978; Holmes & Masuda, 1974; Holmes & Rahe, 1967; Jenkins, Hurst, & Rose, 1979; Paykel, Prusoff & Ulenhuth, 1971), panel-approach detailed interviews including those with perceived contextual threat (Brown, 1978; Brown, 1981), or exploration of a specific event (Horowitz, Wilner, & Alvarez, 1979) the listing of immediate, more prevasive stressors or "hassles" (Brantley, Waggoner, Jones, & Rappaport, 1987; Kanner, Coyne, Schaefer & Lazarus, 1981; Kohn & Macdonald, 1992) events with additional ratings of subjective severity (Sarason, Johnson, & Siegel, 1978) or specific weights for events more distant in time (Horowitz, Schaefer, Hiroto, Wilner & Levin, 1977). Simple ratings of subjective stress were also developed (Cohen, Karmarck & Mamelstein, 1983; Levenstein, Prantera, Varvo, Scribano, Berto, Luzi & Andreoli, 1993) and, more recently, scales developed for specific populations, such as college students (Crandall, Preisler, & Aussprung, 1992; Kohn, Lafreniere, & Gurevich, 1990). Within this research, the impact of events was assumed additive and served as precipitant to the onset but not the type of illness. This important body of work thus attempted to clarify the relationship between life events (stressors) and subsequent illness onset.

Unfortunately, psychometric demands force most of the scales to sacrifice individual variability to population trend. These scales also tend to address a limited array of defined events, usually after yoking individual endorsement of an event to a weighted normative standard based on a large sample. For Holmes and Rahe's scale (the Social Readjustment Rating Scale, or SRRS) this is called the LCU or Life Change Unit. Scores are not expressed as weights based on individual perception of events, but in aggregate scores based on the sum of LCUs, resulting in a "catastrophic loss of sensitivity" (Brown, 1981). Routing the occurrence of an event through

societal norms is intended to limit subjective ratings and the variance that subjective judgment creates.

As this case suggests, the improvement of scale internal validity is often made at the expense of external validity, clearly displaying the debate of idiographic versus nomothetic approaches to measurement. Since clinical settings address individual needs, nomothetically derived scales may limit important individual information. Thus, while the most methodologically rigorous of these instruments and interviews are readily applicable to epidemiologic study, these instruments by necessity begin to lose relevance for the individual case (and direct clinical application). What value is it to know what LCU divorce carries, aside from providing the client consensual information about how most people perceive the event? In the clinical sense, it is far more valuable to understand how this client reacts to their own divorce. Thus these nomothetic measures will, by necessity, be more limited in assessing acute distress in the present as it is influenced by an individual's past.

There may be a niche for a life events measure which addresses broadly defined groups of stressors and allows for subjective ratings. This may be psychometrically challenging, but worth the effort in gained clinical utility. In fact, it may be unrealistic to assume any event/illness relationship in the present can be fully accounted for without subjective rating of event importance or historical data.

This study will examine the development of an autobiographical instrument with broad, subjectively rated categories and test its relationship to current life event scales and symptom measures. The Inventory of Life Span Events (ILSE) was constructed to account for variance between clinical and non-clinical populations, with the agenda that eventually it may help establish why some individuals eventually fall into a clinical population seeking treatment, while other individuals do not. Symptoms studied will be three areas common to life events research: depression, anxiety, and dissociation. The study will also compare ILSE to previously established life-event rating scales for normal control and clinical groups, assuming ILSE can equal or improve discriminant ability.

The rest of this chapter leads to the development of ILSE. It begins with a background discussion of the different life-events scales, followed by a review of methodological criticisms and debate involving life-event, hassles, and stress measurement. Important demographic patterns found in previous research are described, and the effects are addressed in the study design. This chapter ends with the proposed study and accompanying hypotheses.

This project is based on the assumption that an individual can identify key stressors in their lives and those which are felt to be more severe, without the need of a normative mechanism, such as a LCU. These events, when tabulated across the life-span, can allow for a more relevant conceptualization of the individual case than sampling of only near-past events.

Each event in an individual's life (or each rating) represents a story. That story may or may not be explored in therapy but ILSE may help identify and prioritize areas of past and current distress. The therapist can then incorporate this information for treatment planning. It is assumed that a person both causes and is subjected to different life events, but the meaning of those events is the sole possession of the individual. That personal meaning is central to psychotherapy and the tasks of living. Perhaps the best way to understand that personal meaning is to ask, in broad questions (assessing the widest array of life context), and distill the information in a meaningful way.

Earlier Scales

Life-events measurement developed along different lines. The first scales, developed in the 1960s and 1970s, explored separate life events and the meaning of those events. This was accomplished by questionnaires. In the 1980s researchers began to explore the more chronic background experience of "hassles" in daily life and the relationship to illness. This was followed in the mid to late 1980s with scales which do not focus on the measurement of individual events, but of stress perception.

One of the first life events scales was, the Schedule of Recent Experience or SRE (Holmes and Rahe, 1964). It served as a pilot instrument for the long-lived Social Readjustment Rating

Scale or SRRS (Holmes and Rahe, 1967). The SRRS is a 43-item checklist of life events, developed from a search of 5000 patient charts. Weights for each event were then derived from a normative sample, assessing the *degree of readjustment required by the event* (as described by Holmes and Masuda, 1974). In assigning weights, the authors anchored the life event "marriage" as the center point. Normative judges were asked to "use all your experience where it applies as well as what you have learned to be the case for others". The result of these normative weights are scores expressed in Life Change Units (LCU's). Cumulative scores for participants on the SRRS of 150 to 300 are associated with moderate risk for illness and scores exceeding 300 associated with high risk for illness. Thus, a life-event instrument was introduced, validated, and ratings yoked to a normative sample of judges to give the SRRS better psychometric properties.

Paykel, Prusoff and Ulenhuth (1971) expanded the SRRS from 43 to 61 events. Two forms were created with different item orders and administered to inpatients and outpatients. Subjective individual ratings were used by patients and relatives by rating a 0 to 20 scale how much "upset" each event provoked. They found that at higher levels of severity ratings, participants tend to converge on the ratings (more agreement about the rating of catastrophic events). Day program inpatients and general inpatients scored higher on life events than outpatients. The authors also concluded that there was *too much individual variability* and suggested using the measure with groups.

Paykel later addressed individual variability by developing a detailed individual interview. It produced nine ratings, including an interviewer rating of independence of events from symptoms, subject's degree of control over event, subjective negative and positive impact of events, and interviewer ratings for events "ignoring participant's responses to the event". Though this interview was unpublished (it exists in training manual format) it resulted in a test-retest reliability of .89 to .95 for events at 12 months (Cooke, 1985). Cooke endorsed interview techniques for this type of research; asserting that they increase participant motivation, clarify ambiguous items and increase accuracy of the time frame of events. In agreement with Brown (1981), Cooke also suggested that measuring life events by individual interview avoids contamination of "effort after meaning," (a

patient tendency to selectively recall events that help explain their current disorder). Brown's interview removes individual subjectivity by having the interviewer rate severity based on established (manual-based) guidelines.

The creation of these semi-structured life events interviews has shown promise, but obviously, conducting intensive interviews with each person is cost prohibitive and the required training extensive. If interviewer's ratings of events are used solely, one type of societal filter (the LCU) has been traded for another (the rating of an observer). Thus, measurement has been moved from group consensus to that of an interviewer calibrated to a manual. If Antonovsky is correct, a group consensus may be relative, but a more realistic standard than an individual interviewer.

Life events scales have been used to study children. Coddington (1972) developed a measure which paralleled the Holmes and Rahe scale. He anchored "birth of a sibling" as the midpoint. Two hundred forty three professionals rated the severity of different events for four age levels: preschool years, elementary school years, junior high, and senior high. The events were then rank ordered with accompanying LCU weights. Due to the life-span emphasis of ILSE, data from all four of Coddington's childhood groups were used in item development.

Horowitz, Schaefer, Hiroto, Wilner and Levin (1977) addressed the passage of time on events importance, assuming the further an event was in time the less impact it has in the present. A 38 item scale was developed, the Life Events Questionnaire (LEQ), with five points in time (up to greater than two years ago). The LEQ is based on the SRRS, with the exception of decreased weights as events become more distant in time. Recent events are weighted more heavily. Research with this instrument indicated women rated life events as more stressful than men, but Horowitz et al. did not endorse breaking out weights by sex or age since the scale was useful "at a gross level and should not be overly refined." The authors also endorsed more detailed and separate statements of discrete life events to improve life events scales. The LEQ is based on the assumption of decreasing importance of events over time. This differs from ILSE, where it's assumed that selected life events can become crystallized in memory and retain importance across a lifetime. The LEQ would therefore add a valuable point of contrast in this study, and the LEQ

weighted scores will be compared to ILSE total scores.

In other life event research, Dohrenwend et al. (1978) opted to increase the number of events used by Holmes and Rahe to create the Psychiatric Epidemiology Research Interview, or PERI Life Event Scale. This scale includes 102 items with standardized (pre-judged) event weights. Based on previous research (Rosenberg & Dohrenwend, 1975) PERI's weights were stratified by sex, race and SES. In addition this scale uses judge ratings of events as desirable, undesirable, or ambiguous. Later research has indicated that increasing the number of events in scales does not improve scale performance, and that the utility of undesirable events is higher than measuring desirable or ambiguous events, though the demographic stratification of PERI has been deemed useful. Other findings will be explored in the demographics section.

Subjective experience has been addressed in a measure developed by Sarason, Johnson, and Siegel (1978), the Life Experiences Survey (LES). The authors challenged Holmes and Rahe by assuming individuals vary in their reaction to events. They argued that values (such as LCUs) derived from group ratings may not be valid at an individual level. The authors suggest that life events measures should: 1) list events that have an adequate frequency within the population, 2) allow for respondent ratings of positive and negative events and 3) allow for the rating of personal impact of events. The LES consists of 57 items, spanning the last year. An important addition to this scale were three blank spaces for participants to enter events not listed on the scale. Though results from these items were not initially reported, subsequent study found a usage of approximately 20% for at least one of these items. The SRE lacks reliability for positive events and the authors concluded that life stress may be most accurately conceptualized in terms of *negative life change* rather than positive or total life change. The Sarason et al. recommendation to measure events of sufficient base rate in the population is important, since many life events with highest LCU weights are often rare events, such as death of a spouse or death of a child. This rarity for high scores could result in typically low scores, particularly when the time frame tested is only measured in months to one year. Thus, asking about more common events, like background stress, as well as tracking a longer time-frame may avoid low scores. Based on work with the

PERI and LES, ILSE was designed to measure negative events and three blank spaces were incorporated at the end of the measure.

In 1981 Kanner, et al. challenged the study of dramatic or rare events and the notion that past (six months to one year) life events were pivotal in understanding risk for illness. Kanner et al. measured more minor, current, and chronic daily stressors, or "hassles" and "uplifts" that occur. The authors found that hassles accounted for more symptom variance than life events. Concern about the "contamination" of the scale by psychological distress or physical symptoms followed, with subsequent creation of "decontaminated" hassles scales (Kohn, Lafreniere & Gurevich, 1990; Kohn & Macdonald, 1992). A more abbreviated version of the Hassles Scale with 58 as opposed to 118 items was also developed by Brantley, et al. (1987).

A few researchers did break away from the typical life-events format to create global, subjective perceived stress scales (Cohen et al., 1983; Levenstein et al., 1993). The Cohen et al. measure, Perceived Stress Scale (PSS), was developed to increase prediction of symptoms over previous life-event measures. The authors did acknowledge advantages of objective measures such as the SRRS--that they are simpler and minimize subjective bias. But measures like the SRRS tend to assume that the event is the precipitating cause of the pathology--with no assumption of a person interacting with the environment. The perceived stress researchers assume specific events (as measured by these life-events scales) cannot capture the impact of chronic stress and ongoing circumstance on the individual. They also assume illness is affected by a person's global stress level, not just a response to a particular event. A stress measure will generally inquire about the past month, as opposed to the usual six to twelve months typical of life-events measures. In the Cohen et al. study, the 14-item PSS correlated .76 and .52 with depressive and physical symptoms while the Horowitz et al. (1979) Impact of Life Events measure correlated .29 and .23, respectively. A high correlation of the PSS with social anxiety also was found. The validation study, however, suggested that the PSS and depression measures were not measuring the same construct. This suggestion was later challenged by other researchers, such as Dohrenwend, Dohrenwend, Dodson and Shrout, (1984) and Lazarus, DeLongis, Folkman and Gruen (1985),

who assert the PSS is heavily confounded with psychological distress and symptoms.

Implications of Previous Research

Effects have been documented for item ordering, intercorrelation of items, differing relevance of items to different age groups, and decreased reporting with repeated testing. A fairly consistent effect has been found for gender. Females are more likely to report symptoms or life events. Less consistent increases have been reported for low SES and younger age groups. Conflicting findings have been found for higher education, married persons, ethnicity and individuals with active support systems. These demographic effects will be discussed in greater detail. The accuracy of memory for life events has been explored to a degree, with different conclusions. The debate over autobiographical memory concludes this section.

Previous Research: Scaling Recommendations

Paykel, Prusoff and Ulenhuth (1971), using a variation of Holmes and Rahe's scale, found effects for item order. The presentation on one of two forms of the scale listed highly negatively charged events early in the scale, and participants tended to reduce scores for subsequent items. Hough, Fairbank and Garcia (1976) recommended random presentation of items. These authors suggested scoring differences may occur among raters who have experienced a given event versus raters who have not, a viewpoint forwarded, but not supported (Rosenberg and Dohrenwend, 1975). In that study of 172 college students, the authors did not find effects for experiencing/not experiencing an event in ratings of severity, but did find an ethnicity by income interaction with differences for more advantaged versus less advantaged ethnic groups.

Rating rare events has been cited as a problem. Goldberg and Comstock (1980) found that when the item "vacation" is removed from the listed events, floored scores (reported no life events for the previous year) rose to 23.4%, defending the Sarason et al. assumption that scales should use events of adequate base-rate in the population studied. Only 11 separate items were reported by at least 10% of the respondents on the SRRS. Goldberg and Comstock noted that SRRS events

are more relevant to younger persons, and may thus be more sensitive to that age group. The authors point out that many life events tend to be intercorrelated and this should be avoided. They recommend giving different age groups life events relevant for that phase of life. This research advises not to load scales on rare events and to include items relevant for different age groups.

In their review and critique of life event research, Rabkin and Struening (1976) also concluded that most life event checklists are biased for events of young adulthood (such as birth of a child). They also suggest that "common" events may not be so common to different ethnic or SES groups--there may be several domains of life events. The authors cite potential confounds of event rating with social support, composition of the study sample, SES, ethnicity, and the participant's lack of prior experience with a stressor.

Thus, a life stress instrument should avoid 1) initially presenting highly distressing items, 2) randomize item presentation, 3) consider events which have an adequate base rate in the population to be studied, 4) incorporate items relevant to all age groups (young and old), and 5) avoid highly intercorrelated items as much as possible. ILSE item development attempted to address all of these points.

Previous Research: Demographics (Gender, Age and SES)

Uhlenhuth et al. (1974) studied 735 urban dwellers and found several demographic trends. Increased symptom intensity was found for females, as measured by the Hopkins symptom checklist and a questionnaire of Paykel et. al (1971) life events in the 12 months prior to survey. The authors found higher symptom intensity and stress for younger adults, and for low SES. The low SES relationship was more complicated, however, when correction is made for the increased stressors which are inherent in lower SES lifestyles. Thurlow (1971), however, studied a clearly defined work cohort and found an effect for low SES, when measuring reported illness and days off as indications of stress.

Levenstein et al. (1993) found higher perceived stress ratings for females, as did Brantley et al. (1987) and Horowitz et al. (1977). The Horowitz group also found higher stress ratings in

younger adult respondents. In a comparative study of life event scales, Kale and Stenmark (1983) found greater incremental validity for females when using a time-sensitive instrument (the Horowitz et al. LEQ) which corrects for the recency or remoteness of life events, but did not find this effect for males. In a study of coping responses, Billings and Moos (1981) found differences in the coping strategies used by men and women. Increased education and income were also associated with different coping strategies.

Large-scale epidemiologic studies have also shown demographic differences in normal populations. Goldberg and Comstock (1980) interviewed 2780 randomly selected household members, using items from the SRRS. The authors found that younger age and increased education were related to the increased reporting of events. Males tended to report high numbers of events (+5) but not low numbers of events. This study found education was more predictive of response to life events than income or employment status (SES). Thus, this past research suggests further controls for gender, as well as tracking years of education and SES.

Age differences have repeatedly surfaced. In one of the earliest life event studies, Holmes and Masuda (1974) found no significant differences for males and females on the SRRS, but did find age differences. Bourque and Back (1977), using life graphs of life events, found that older participants rate the impact of events over a lifetime lower than do younger adults. This trend was seen for impact of events but not for the sheer number of events listed. The authors concluded events affect older and younger respondents in different ways. However, in a frequently cited study, Tennant and Andrews (1978) studied a 12% random sample of Sydney, Australia, and found the opposite trend--increases in distress with increasing age. They also found higher events ratings for individuals of higher SES, in agreement with Goldberg and Comstock, and conflicting with the Bourque and Back findings.

These studies suggest higher scores for women and younger respondents, and that effects for gender and age should be applied as an *a priori* control in this project. Age effects exist, suggesting more elevated responses in younger participants (and possibly oldest participants). The study of ILSE was then blocked on gender and three age levels, to control and balance the effect of

gender and age in analysis. The effect for low SES is unclear due to possible confounding with the external stress inherent in poverty, and/or a tendency to overreport in the highly educated. Income level and education were tracked in this study.

Psychosocial variables have influenced life event ratings. In a study of "social integration" and life events, Myers, Lindenthal and Pepper (1972) found that those participants with *low life events scores but high psychiatric symptoms* tended to be poorly integrated socially (isolated), low SES, unmarried, and experiencing decreased satisfaction with work or life role. They found individuals experiencing *high life event scores but low psychiatric symptoms* to have higher education, greater access to others (social integration) and greater satisfaction with their work or role. Poorer social integration, as measured by high social anxiety, is also associated with higher perceived stress scores (Cohen, Karmarck & Mamelstein, 1983). Thus social support should be measured in this project, as well as marital status, with the effect of education still unclear as to whether it is an asset or liability in dealing with stress.

Murrell and Norris (1983) suggested psychological change is a function of: 1) desirable and undesirable events, 2) person resources and buffers, and 3) the effect of time (person's age). Time (increasing age or experience) allows past life experience to reduce the impact of more recent life experience. This would support the trend of greater event severity for younger persons, since they have fewer referents from past experience. Murrell and Norris also suggested the concept of *"cumulative undesirable demand"*, where the overall environmental requirements (including pressures, events, and hassles) are compared with previous times in a person's life. This demand is thus an aggregate of environmental factors which is compared with the previous life history and experience. ILSE is developed with the assumption that cumulative undesirable demand exists and can be estimated.

The results of demographics studies, then, suggest controlling gender and age, anticipating higher ratings of life events or distress from women, and possibly higher ratings from younger respondents. These findings also suggest monitoring education or SES, marital status, and social support.

Research design and psychometric problems

Rabkin and Struening (1976) pointed out some very basic psychometric issues. Typically, life event studies are very high N and correlational. Thus, very small correlations will attain statistical significance. As a result, life events scales such as the SRE or SRRS typically correlate less than .30 and account for less than 9% of the variance in subsequent illness. Life events research often uses retrospective case-control studies or cross-sectional designs, rather than prospective cohort studies. Obviously, the prospective designs can provide more elegant delineation of a stress--illness causality (Dohrenwend and Dohrenwend, 1978). Retrospective studies review life events which have already occurred, and subsequently result in weaker conclusions regarding current illness. The issue can be summarized:

> The simplest surveys represent observations at a single point in time, which often offer to the respondent the opportunity to classify himself as having been exposed to X or not exposed. To the correlations of exposure and posttest thus resulting there is contributed not only the common cause bias (in which the determinants of who gets X would also, even without X, cause high scores on O) but also a memory distortion with regard to X, further enhancing the spurious appearance of cause....They (the studies) introduce a new factor threatening internal validity, i.e., biased misclassification of exposure to X. (Campbell & Stanley, 1963, pg. 67).

Without panel study (a repeated time series gathered from the sample) or other prospective cohort-based design for those deemed at risk or not at risk, the conclusions of the research can be regarded as suspect or spurious. Or are they?

Social scientists often start research inquiry with gross cross-sectional or retrospective designs which are more cost-effective, opting later for statistically tighter, more costly prospective designs. The few exceptions to this rule would be measures "piggybacked" on ongoing, large-scale epidemiological or medical studies (i.e., Grant, Patterson, Olshen & Yager, 1987; Kendler, Kessler, Neale, Heath & Eaves, 1993). However, failing to move from retrospective to prospective designs may fuel issues such as Rabkin and Struenings statement for "concern that

recent studies repeat findings and flaws of earlier ones, delaying growth and development of knowledge".

Prospective studies were eventually conducted and revealed mixed findings. The prospective study of twins described above by Kendler et al. (1993) displayed impact for recent (previous two months) life events. Recent life events loaded first in the model of best fit, with a correlation of .388 with depressive outcome (as compared with .309 for genetics). On the other hand, Grant et al. (1987) followed 79 men for three-years and measured life events (from the SRRS) and symptoms (from the Symptom Checklist, or SCL) every two months. Logistic regression led the authors to conclude that antecedent life changes from the SRE do not predict symptoms as reported on the SCL. The best predictor of current symptoms was symptoms in the near past. Grant et al. concluded that the SRRS "is poorly worded, has poor parametric coverage and is confounded by criterion contamination (by tapping symptoms)". They also suggest high symptom patients would not respond to individual events, due to their own existing symptoms causing an obscured effect--a single life event contributing little total individual variability. Thus confirmation via prospective designs is not immediately evident.

Life events research sets on certain basic assumptions, which have been translated into variables and means of measurement. If those assumptions are erroneously anchored to other underlying variables (or sets of variables), future research will continue to carry unaccounted for error, resulting in studies with inconsistent findings. A couple of variables which may be interfering with life events/illness relationships are 1) past experience and history of the individual (effecting current or near-past report) and 2) underlying neuroticism (Magnus, Diener, Fujita, & Pavot, 1993).

To defend the these premises, one merely has to look at a study by Grant et al (1984), and a time-series analysis (possibly on the same sample cited in 1987). A male sample followed for three years every two months was analyzed with Fourier cross-spectral analysis, looking at the relationships over time between the occurrence of stressors (from the SRE) and the pattern of change in symptoms (SCL). They described five different typologies. The first pattern was

labeled Coherent (the increase in events and symptoms occur at the same time). The second pattern, that expected by life events research, was labeled Coherent Out-of-phase. This pattern showed an increase in life events to be followed by an increase of symptoms. This pattern accounted for only 9% of the cases. The third pattern labeled Mixed-coherence, sometimes followed the coherence pattern, sometimes not. The fourth pattern was labeled Non-coherent, and events showed no relation to symptoms. The fifth pattern, Event Unresponsive, displayed low ratings for both symptoms and life events when compared with other participants. The authors concluded that these typologies might have some stability over time. The fifth group was interpreted as due to "denial", or perhaps "hardiness" or resistance to life events from buffers like social support.

What these authors described so carefully may well have been personality dimensions. These response styles could be grouped and interpreted. It may be feasible to assume these response styles did not exist only at time of study, but developed over time and in response to personal history. In a study of 136 college students, Magnus, Diener, Fujita & Pavot (1993) found that persons high in neuroticism on the NEO (Costa and McCrae, 1985) report a greater number of negative life events but not significantly fewer positive events. The authors concluded that individuals high in neuroticism may be more reactive to the environment and react to a wider variety of events in a negative way.

Neuroticism is a pervasive and preexisting response tendency (Eysenck, 1960; Costa & McCrae, 1978). Its origins may trace back to childhood or to basic dispositional traits interacting with the child's surroundings. Neuroticism is considered a stable trait related to depression, to anxiety, to psychological distress (or the tendency to report psychological distress) and selective vigilance for stressors. Obviously, neuroticism may be an important control variable in life events research. Much or all of the tendency to report life events or stress may be related to neuroticism for some individuals, and this tendency is higher among clinical than nonclinical populations (Costa and McRae, 1978). But completely partialing-out effects for neuroticism in life-events data may also be counterproductive.

Van der Kolk (1987) in an eloquent treatise, assumes early childhood trauma and high levels of stress produce a generalized anxiety state characterized by hypervigilence and the inability to screen or modulate affect, thus the person becomes more reactant to the environment. If Van der Kolk is correct, stressful or traumatic events may lay the precursors for ongoing neuroticism in later life, as it is in the individual's interest to scan the environment for potential threat. Childhood stress or trauma could be interwoven with neuroticism (one may have caused propensity for the other). If this is the case, to totally control for neuroticism may destroy the effects for early and later life events. Thus neuroticism will be measured in this study with the assumption that it is collinear to early life events. It will be controlled for or accounted for to the extent possible, but not at the expense of dismantling effects in the study. The degree to which neuroticism is contributing to historical (ILSE) scores and life events scores (LEQ, SRLE, and PSS) scores will be measured, to clarify the relationship of scores to neuroticism.

Measuring the magnitude of a life event: to weight or not to weight

The first life event checklist by Holmes and Rahe (SRRS) was developed using a normative sample rating the stressfulness (the amount of readjustment required by an event) of a list of events. The judges in this sample were provided a central anchor point (in this case marriage), and rated events relative to that anchor. The resulting ranking of events was then transformed to a 0 to 100 weighted scale, and was used to quantify the impact of an individual life event, the LCU.

Should weights like the LCU be used, or is a simple tally (where each event is weighted one) more useful? Basically, research has found that scores based on weights and scores based on simple frequencies are so intercorrelated that using weights does not improve prediction. However, Dohrenwend and Dohrenwend (1981) defend the use of event-specific weights; if subsets of events are used, the impact of weights may be more relevant. They also point out that if you eliminate weighted events, you also eliminate the ability to test the relative impact or importance of events between different ethnic or demographic groups.

A possible complication in this debate is that normative weights may also be confounded with rare events or unexpected events. Those events receiving highest weight (such as death of a child or death of a spouse) are rare and unexpected until an individual has reached old age, and therefore life event scores may interact with age. Event frequency may carry extreme cultural differences (i.e., death of a spouse may carry a different impact in the United States than it does in Zaire, where mortality is higher for younger age groups). These potential confounds would certainly need to be quantified and the relative value of the standard ratings between different demographic groups verified. Thus, there may be advantage in retaining weights if cultural or demographic differences are anticipated.

Objective versus subjective ratings

Should event-specific weights rely on a standardized norm such as this, or should the event value lie with the person? This question reaches the core of the most controversial of the life-events research issues; confounding of life events with symptoms and objective-versus-subjective rating of severity. Dohrenwend and Dohrenwend (1981) conclude that post-hoc personal measures of stressful life events be rejected, since to allow the participant to appraise the event creates an etiologic tautology: "events that are followed by dysfunctional behavior or illness are stressful; stressful events induce dysfunctional behavior or illness." Thus the symptoms presented are confounded with the tendency to overreport life events to begin with. This is more clearly captured in Brown's premise of "effort after meaning" or "retrospective contamination", a tendency to selectively recall events that help explain a current disorder (Cooke, 1985). In order to decrease this tendency, researchers like Brown and Paykel developed intricate life events interviews, where interviewers rate the impact of the participant's life events, removing the potential bias of subjective rating.

This issue intensified after the development of Kanner et al's. Hassles Scale (1981). In a critique, Dohrenwend, Dohrenwend, Dodson and Shrout (1984) accused the scale of being confounded with symptoms and surveyed clinicians to evaluate the scale item by item. The authors

concluded that 42 items in the Holmes and Rahe scale overlap with symptoms, while 90 items in the Hassles scale overlapped a moderate to severe amount with symptoms. Two responses followed.

One group suggested objective versus subjective values could be tracked by measuring the raw number of hassles versus the intensity scores (Reich, Parella and Filstead, 1987), and the authors responded. Lazarus, DeLongis, Folkman and Gruen (1985) conducted a factor analysis on the scale. An oblique factor rotation revealed 8 interpretable factors, and the authors retorted that stress does not exist in the environment as discrete events, but in the person's appraisal of events--you cannot separate the environment and the person when examining stress. They state the Dohrenwends are drawing on an older stimulus definition of stress which conceptually sets research back, and that stress should not be regarded as tantamount to psychopathology; stress might be best regarded as a rubric like emotion or motivation. Lazarus et al. assumed stress results when demands placed on individuals taxes or exceeds resources. Interesting questions were also raised regarding stress which results from the absence of a stimulus (i.e., a lack of attention from a loved one) as much as the presence of an event. The Lazarus definition of stress was considered reasonable and was adopted by ILSE as a working concept. Several items in the scale were also prioritized to appraise absence of stimuli, such as being ignored or lack of attention from loved ones.

Individual subjective ratings of life events has been controversial. There are, however, studies in life events research that preserved subjective judgment. Scales such as the Life Experiences Survey (Sarason, Johnson, and Siegel (1978), the Perceived Stress Scale (Cohen, Karmark and Mamelstein (1983) and the Perceived Stress Questionnaire (Levenstein, Prantera, Varvo, Scribano, Berto, Luzi and Andreoli, 1993) all support and utilize the individual's subjective judgment in rating recent life events and current perception of stress as a tool to understand the stress-illness relationship. To an extent the detailed life event interviews, such as Paykel's, allow for the individual experience to be explored but a lot of the information is subsequently filtered through the interviewer's ratings to prevent bias.

Perhaps the most controversial position was inspired by the above debate and led by the Dohrenwends (Dohrenwend, 1973; Dohrenwend & Dohrenwend, 1981; Dohrenwend, Dohrenwend, Dodson & Shrout, 1984) to remove subjective appraisal from the event or hassle--to "decontaminate" the scale from symptoms by decreasing subjective rating or items which could reflect symptoms, thus laying clear the event-illness relationship. This viewpoint assumes undesirable events are partially confounded with life stress, and one should measure life change required by an event rather than rate undesirability. This approach has been translated into new "decontaminated" scales such as the Survey of Recent Life Experiences, (Kohn and Macdonald, 1992) the Inventory of College Students' Recent Life Experiences (Kohn, Lafreniere, & Gurevich, 1990). Therefore, the Schedule of Recent Life Experience (SRLE) carries different assumptions and will make a useful contrast to ILSE. It will be included.

Summary: Questionnaire Development

Recommendations for study of life events questionnaires resulted in five different approaches to questionnaire design: 1) increasing the number and specificity of items. An example of this is the PERI scale by Dohrenwend et al. (1978) 2) focusing on a *single* precipitating life event, exemplified by the Impact of Event Scale (Horowitz, Wilner & Alvarez, 1979). 3) increased precision via detailed, semi-structured Brief Life Events interviews, to increase self-report accuracy and avoid the concept of "effort after meaning." An example of these interviews is Paykel's Brief Life Event Interview (as researched by Cooke, 1985). 4) measurement of daily stressors "hassles" (Kanner et al., 1981) and 5) specific scales for specific populations, such as college undergraduates (Crandall, Preisler, & Aussprung, 1992; Kohn, Lafreniere, & Gurevich, 1990). To summarize, the trend has been increasing specificity and/or precision by increasing length of the instrument, the level of detail, or eliminating subjective ratings.

Which of these approaches to scaling is most valid? Kale and Stenmark (1983) did a comparative validity study of four leading life events measures at the time. The Recent Life Change Questionnaire (a revised SRE from Rahe) served as the standard measure. Subjective

severity rating was represented by Sarason et al's. LES. Increased items, objective weights, and ratings for desirability/undesirability were covered by the PERI life events scale. Finally the concept of decreasing importance with the passage of time was addressed by the Horowitz et al. LEQ. Symptoms were measured with the SCL-90. The instrument with best performance was the LEQ, which accounted for 29% of the variance in reported symptoms. Kale and Stenmark concluded since the LEQ short form has only 38 items, increasing the number of items (as the PERI does) will not increase prediction. They also concluded that *undesirable* events were the dominant influence in predicting adjustment. The LEQ would then be an important addition to a study of validation, particularly if this project carries the assumption that some events do not fade in importance in time, but remain frozen in perception and in the life of the individual, such as the detailed memories often associated with trauma.

Do events always fade in importance over time, or do certain types of events stand apart in individual memory? Perhaps general day-to-day generic events fade in importance or are subsumed under other general feelings about quality of life (events typically filling the hassles and lower LCU items of life events scales), but other, often traumatic, events are remembered as separate and distinct and are readily recalled, such as highly undesirable events or traumata.

The Continuum of Stress: From Life Events to Traumatic Events and Dissociation in the General Population

Assumptions

At what point does stress become trauma, and how prevalent is exposure to trauma in the general population? Contrasting stressors with traumatic events might start with some basic assumptions. Stressful events by nature are more common than traumatic events. Traumata may be extreme cases of a stressful events. If stress, according to Holmes and Rahe's working definition, is the amount of readjustment necessary to address a life event, perhaps trauma is a circumstance where, in the appraisal of the individual, no amount of readjustment will be capable of resolving the event. The life event then by definition supersedes coping mechanisms, threatening

the psychological or physical life of the individual through real or symbolic loss. The traumatic event cannot be mastered at the time of occurrence. The inability to master an event would be ego-dystonic and, for many individuals may be held apart in memory, unassimilated by the person until some later cognitive and/or emotional mastery of the event can be achieved. Due to different adaptive abilities, individuals will have different thresholds for when stress becomes trauma, depending on their internal resources and capacity for readjustment, as well as social support. That capacity for readjustment, or adaptive flexibility, probably originates in early development and is influenced by success or failure experiences.

Some Trauma Research

There are studies of the prevalence of exposure to traumata in the normal population. Helzer, Robins & McEvoy (1987) studied 2493 participants and found a prevalence of PTSD in the general population to be around 1%, increasing to 3.5% with civilians who have experienced a physical attack and to 20% with wounded veterans. They found greater prevalence for females than males. For females, witnessing death second-hand or personally surviving an attack were equally likely to produce symptoms. The PTSD symptoms were transient in about half of the study sample, with one third experiencing more long-term symptoms.

In a more recent study of traumatic events experienced by young urban adults, Breslau, Davis, Andreski & Peterson (1991) interviewed an HMO-based sample of 1007, reporting a lifetime prevalence of 39.1%. The risk factors for experiencing a traumatic event include low education, male gender, extraversion, early conduct problems, and a family history of substance abuse or psychiatric disorder. PTSD history was seen as more associated with depression and anxiety than with personal substance abuse or dependence. Early separation from parents (4+ months prior to age 16) increased risk for PTSD 3.49 times after a traumatic event, but not before that event. The authors also found effects for neuroticism, preexisting anxiety, and depression. No effects were found for ethnicity or marital status. Also, many of those exposed to events did not become ill, with greater than 75% of those unaffected by subsequent disorder. Based on these

findings, extraversion was studied, as well as targeting depression, anxiety, and dissociative symptoms over substance abuse or dependence. Separation from parents was also targeted as an item for ILSE.

Clinical groups have also been studied. Kendler et al. (1993) developed a risk model for depression in a study of female twins, and included stress in the model. They included parental absence (> one year prior to age 17), lifetime traumas (of 10 possible items), neuroticism, social support, past depression, recent stress and recent difficulties in the study. The best model of fit in predicting depression, accounting for 50.1% of the variance, contained 1) stressful life events in the prior two months 2) genetics 3) history of major depression and 4) neuroticism. Four areas considered interacting factor domains with this model were trauma, genetics, temperament and interpersonal relations.

The prevalence for dissociative disorder among psychiatric inpatients is estimated to be as high as 20.7% (Ross, 1991; Ross, Joshi & Currie, 1990). Estimates of complex dysfunctional posttraumatic MPD is estimated by these authors to be as high as 1% in the general population. Borderline patients have also been studied for exposure to trauma, with 71% reporting physical abuse, 68% sexual abuse and 62% witnessing domestic violence in childhood (Herman, Perry & van der Kolk, 1989).

Thus, the prevalence of encountering traumatic events is somewhat higher than would be thought, as high as 39.1% in young urban adults. Only 25% of those exposed will be affected, but certain factors, such as neuroticism or recent history of stressors/anxiety/depression may all increase risk for subsequent illness. Higher rates of exposure can be predicted for clinical groups.

Memory For Life Events: Is It Accurate Over Time?

Errors In Memory

There is perhaps no more controversial issue in current psychological literature than the accuracy of real vs. "inserted" traumatic memory. At the fore of this debate is the research on the

lack of reliability for autobiographical memory (Loftus & Fathi, 1985; Chrisitianson & Loftus, 1987; Loftus & Christianson, 1989; Chrisitanson & Loftus, 1990; Means & Loftus, 1991; Loftus & Kaufman, 1993; Loftus, Garry & Feldman, 1994). Elizabeth Loftus asserts that convoluted assumptions and mechanisms such as "repression" of traumatic memory are irrelevant; the individual either remembers or does not remember. She assumes "Forgetting is an ordinary phenomenon. Remembering the past in detail can be considered the exception" (Loftus, Garry & Feldman, 1994). Through a cognitive psychology research paradigm, Dr. Loftus and her colleagues have explored the decay of memory for common autobiographical events, such as exam dates for students (Loftus & Fathi, 1985) or health care visits (Means & Loftus, 1991), traumatic images or short films (Christianson & Loftus, 1987), and traumatic autobiographical memory (Christianson & Loftus, 1990). The conclusions of this research can be summarized: 1) for individuals, a forward search in memory (starting from long ago and working forward) results in less accuracy than backward search, but it results in better recall than random searching 2) the central descriptions and themes of traumatic events are often well retained, but the peripheral details of these memories are not well retained, and this may be due to perceptual narrowing or focus during a traumatic event 3) an event embedded in a group of recurring similar events is less likely to be recalled, but blended together with other memories into a typical script, and 4) memory accuracy can be improved by helping individuals decompose larger, molar memories into individual events and then place events onto a personal time line (i.e., a calendar page with anchoring personal events drawn in to facilitate recall). As an additional note, Christianson and Loftus (1990) found that 70% of traumatic memories reported by a sample of college students were based on events more than one year prior, and 38.5% of the memories dated back more than three years.

The side of this debate favoring the accuracy of memory for trauma is represented by a group of researchers studying the episodic memory of children in a laboratory environment (Bauer, 1996; Bauer & Dow, 1994; Bauer & Wewerka, 1995; Fivush & Hamond, 1989) as well as field studies (Terr, 1988). Terr studied the early memories of traumatic events in children, and concluded that

even as early as 28 to 36 months of age, most of the sampled children were able to retrieve some sort of verbal memory of the trauma. Repeated events were less fully remembered than single episodes, and short events (less than 15 minutes) were remembered better than long events (over 15 minutes). Bauer and her colleagues have found that children as young as 13 months of age can retain an eight month-long recall for novel experiences created in the lab with common toys. This groups has also found that the level of language development at the time of the event will effect the level of verbal recall of the event. Bauer concludes (1996) that children's recall is influenced by what they are asked to remember, the number of times they experience an event, and the availability of cues or reminders for the event. In a recent study Cloitre, Cancienne, Brodsky, Dulit & Perry (1996) explored implicit and explicit memory in groups of adult abuse survivors. When comparing the quality of memory between Borderline Personality Disorder patients with and without abuse history to community controls without abuse history, the authors found effects opposite of prediction. While it was assumed patients with abuse history would have less accurate explicit recall, they in fact showed enhanced explicit memory. This result was interpreted as a possible skill which abuse survivors develop in focusing attention on peripheral stimuli. Although preliminary, this finding may challenge the findings of Loftus and her colleagues.

The debate of accuracy of traumatic memory is ongoing, but one can conclude from the current literature that errors in memory occur, that in general, central themes or events may be more accurately recalled than specific details, and using personalized prompts or time lines will facilitate autobiographical memory. These factors will be incorporated into this study by eliciting report of broad events (rather than specific details) and using standard autobiographical lists or probes to facilitate memory at the beginning of the study.

Reliability Of Memory

The reliability of life events memory has been explored in several ways. Casey, Masuda & Holmes (1967) studied test-retest reliability of retrospective report for a 10 year history (tested at a nine month interval, N of 54). It resulted in correlations of .669, .638 and .744 for events on three

selected different years in the 10 year span. They also noted that less material was recalled for distant time periods but that the items endorsed had higher LCU values (more severity). They then concluded: 1) that time influences the volume of material remembered, 2) that some events are retained longer and become reliably fixed in memory, and 3) the recall for distant time had less content but appeared as consistent as recent years.

Studying life events memory in air traffic controllers, Jenkins, Hurst, & Rose (1979) created a questionnaire named the Review of Life Experience (ROLE) containing 103 events based on the SRRS and Paykel et al. scales. Testing was conducted with a nine month interval. The study showed that 63% of this male sample "forgot" experiences previously reported. The net average decline in LCUs was 46%, and a distress score associated with the ROLE dropped 34%. Over one third of the participants "forgot" more than 82 LCU points. Thus, the authors concluded interpretation of historical self-report from periods of a decade or more ago need to be questioned. However, they also concluded that researchers agree the most serious and salient events are least likely to be forgotten; that events "recalled for years or decades with apparent accuracy must certainly have been exceptionally salient to the respondent at that time, and, in addition, must retain substantial psychological importance currently". They also note that prior experience in insight-oriented therapy may have enhanced accuracy of recall in some participants. Based on these findings, it is expected that fewer events will be recalled in early life, but those remembered will tend to carry higher subjective stress.

The issue of poor recall for events may not be simple "forgetting". Sobell, Toneatto, Sobell, Schuller & Maxwell (1990) found that at a two week interval for 71 undergraduates, errors were most often due to incorrect dating, followed by changes in ratings due to reevaluation of the *event's importance*. Forgetting was not reported as a major factor, with only 9.8% of changed events between reports attributed to forgetting. These authors, like Means & Loftus (1991) also incorporated memory aids, and found that aids such as listing events, addresses, a calendar page or a magazine cover from the time in question strengthened the reliability of report. Non-memory aid participants reported about three fewer events than participants with these memory aids.

An autobiographical memory aid was thus developed to address these findings. Entitled "Background Memories" this memory prompt was a two-page form for participants to list their best friends, teachers names and old street addresses (without definitive identifiers) from five different life periods, from early (birth to five years) childhood to the present (last section applicable to current age). The Background Memories prompt appeared near the beginning of each study packet, to standardize exposure to the instrument before beginning the life events measures.

In other research, Steele, Henderson & Duncan-Jones (1980) hypothesized that more severe events, as measured by readjustment or distress would be more reliable, due to greater salience. They also speculated that "fateful" events outside the participants control would be forgotten more quickly. In a study of 52 participants with an interval of 7 and 14 days reported 70% reliability, and again a main effect for decreasing scores from the first to second testing. This study did not support better memory for more severe events. High distress ratings were less likely to be consistently reported than low distress ratings. The authors attempted to interpret this as possible practice effects or possible clinical improvement. This effect was described as "suggestive of suppression and repression or more likely to be listed under different headings on different occasions because of the polymorphous nature of their (the distressing events) significance". This interpretation would again lead away from item-specific LCU weights and toward the use of subjective rating, since the individual may rate across items from time to time without affecting the total score by inadvertently jumping from one assigned LCU value to another.

In 1982, Monroe conducted a retrospective and concurrent study on 95 individuals who were then measured monthly for 4 months. Using the PERI scale (and unweighted events), Monroe found a strong drop-off for recall of events at one to two years past. The data showed strong decrements over time, especially for desirable events, concluding underreporting of events is a more serious problem than had been estimated. If this is correct, memory of long-past events should decrease substantially and ILSE's ability to detect differences would be compromised. This is an empirical issue to be tested.

In another study of life event memory, Klein & Rubovits (1987) studied participants every

five weeks for five months, using the Sarason et al. LES and unweighted scores. The final analysis showed a 26% decline in the number of events reported. Agreement for specific inventory items only reached a within-participant percentage agreement of 52%. The highest reliability occurred for subjectively defined undesirable events. The authors concluded even with current assessment windows reduced to the past six months, as is the trend, the participant report may still involve substantial error. They also state that "these data suggest that life events questionnaires may provide a crude index of relative levels of stress experienced by groups. However they are inadequate means of assessing absolute levels of stress and the occurrence of specific life events".

In a recent study Moffitt, Singer, Nelligan, Carlson, & Vyse (1994) found memory may differ between clinical and nonclinical groups. When studying depressed women versus controls, the authors found that depressed individuals produce more global or "summary" narratives and less specific memory for positive events. This effect was not found for negative events, which were recalled with equal degrees of specificity between the two groups. This would suggest that when studying clinical (specifically depressed) individuals, asking for specific memories involving positive events may be moot, since depressed persons may not encode and retrieve those events as nondepressed persons do. They may also have problems moving from more general categories of memory to more specific single events, on which many of the life events questionnaires rely. Due to targeted clinical application, ILSE will not emphasize positive life events.

Some Alternative Assumptions About Memory and Method

The research suggests basic problems studying specific events of recent occurrence. Some studies have reported stability for long past subjectively rated negative events, others have not, and results for recent events show moderate to poor reliability. One would assume that the accuracy of memory must surely decline over time. It may, but only for incidental, everyday events or events with no lasting impact to the person.

Most life events questionnaires do not measure the lasting value of the event to the person--simply its occurrence. The value is then imposed by a normative sample. Scales like the SRRS or

PERI may rate valence or desirability of the event, but not rate the difficulty of the event to the individual. These measures also target discrete, singular life events, as if they will always be stored in memory separately, even if relatively unimportant to the individual. When one asks individuals about discrete and (lower severity) events, and those events occurred yesterday or this week or this month, the individual may be able to recall a substantial number of them with a predictable decrease in recall over time. However, recall of a specific encoded event will probably not extend beyond the usefulness or impact of that event. Individuals may not keep each and every detailed memory of an event at their recall, but hold the most important and pertinent events in the perceptual "field" until no longer needed (Lewin, 1951). Events may be subsumed under larger organizational schemata (Dodd & White, 1980). The event of a "traffic jam", through categorical organization, now becomes part of the schemata "this is what's wrong/this is how I cope with traffic in this city/this city is stressful." To ask the individual to recall an isolated event may thus meet with very limited success, since the task no longer fits how the event has been incorporated into experience. Then if the person is asked to report if they have been in a traffic jam, they may or may not remember specifically, but they may reliably report that they were stressed during certain months or years when they lived in a city with traffic problems.

Given the possible problems with current life events measures, it may be more beneficial to "back-up" theoretically; to address the approaches of Singleton, Meyer, Hocking and others by measuring events in a more historic, general format. The expectation is this: what is remembered is not comprehensive and not completely accurate, but is: 1) important and salient to the individual 2) is accessible in current memory and 3) provides some information into the nature of past life and appraisal of both past and current events. Individuals retain and remember certain meaningful events in their lives, and they can have idiosyncratic opinions and feelings about them.

For example, a relative (a cousin) dies. This is a life event. For one individual, the relationship with that cousin was distant and for myriad reasons the impact on the person was minimal. They recall the event differently than the individual who recently lost a cousin who was his playmate and confidant in an otherwise deprived and restricted childhood. Discrete, carefully

delineated life events scales cannot be sufficiently tailored to address infinite combinations of circumstances between individuals. If, however, the individual response to the events is allowed to vary, the rating itself will reflect the specific circumstance (thus, the first individual in the example above rates severity of the death as 20 or does not report it at all and the second readily rates it as 90). Thus a rating of a broadly stated life event will carry many unknown factors--factors unique to the life circumstance.

This type of rating may be psychometrically less consistent, but inherently valid. The person's own unique reaction to the reported (negative) events of past and present has related more consistently with subsequent illness (Jenkins, Hurst, & Rose, 1979), and these responses may facilitate prediction for those who may be at risk for future illness.

A basic premise of this project is that one may not have to know the myriad specifics of a life event, since an individual can readily describe those in either a follow-up interview or future therapy sessions. But what one can determine is the relative distress and impact of a complex event as the client experienced it and as reported at the time of assessment. This perceived stress and distress burden over a lifetime is a knowable quantity which can be described and assessed. The recall of life events and assimilation of (often negative) events could also shift over time, depending on the context of people's lives and what they need to be remembering. Again, the measure needs to be flexible in assessing the overall burden of stress but not overemphasize precision associated with discrete events based on normative ratings.

The time of an event in life may be critical. Age of event onset can determine whether or not the person was capable of having any control over it. For example "parental separation" or "divorce" have different implications for the 5 year old than the 35 year old individual. To assume that parental divorce has equal weight to the 5 and 35 year old is unrealistic. But it is also naive to assume the 35 year old who experienced a difficult parental divorce at age 7 is not being effected (to a greater or lesser degree) by the legacy of that event as he or she faces their own divorce. Thus, the same life event report for two 35 year-olds may have very different connotations based on their life histories. While detailed life event interviews, such as Paykel's try to address these

specifics differences, they are by necessity restricted to only 28 separate events, tightly controlled for inter-rater reliability and filtering out "subjective" bias by letting the interviewer determine the severity and meaning of the event. These interviews are also labor-intensive and time-consuming, possibly beyond practical clinical application. The following study will hopefully offer an alternative.

Study Hypotheses

This project developed the Inventory of Life Span Events and explore its properties under the following predictions:

1) ILSE will display adequate concurrent validity and test-retest reliability

a) ILSE total scores (weighted) will display concurrent, or convergence validity (Cook and Campbell, 1979) by showing significant, moderate correlations with a current life events (LEQ), hassles (SRLE) and perceived stress (PSS) measure. The total frequency of items checked (unweighted) will show a significantly higher correlation with LEQ items checked than with the SRLE or PSS scores.

This hypothesis, if supported, will support the argument that ILSE is conceptually closer to a life events measure than a hassles or state-stress measure.

b) ILSE early life-stress burden will show a higher correlation on trait symptom measures such as dissociation, and trait-anxiety (DES, STAI-trait) than the other life events measures such as the LEQ, SRLE, and PSS.

c) ILSE total scores and the LEQ weighted scores will display a lower correlation than the correlation between ILSE and LEQ number of items checked.

A type of divergence or divergent validity (Cook and Campbell, 1979) will be demonstrated by these two correlations. Both are life events measures (and should show higher correlation with number of items checked). However, the LEQ weights are based on the assumption of event importance fading with time. ILSE does not. The correlation between these two scales will

therefore be lower (when weighted scores are applied) than the correlation between LEQ and ILSE number of items checked.

d) ILSE will display adequate test-retest reliability at a six to eight week test window when compared with other life events measures.

2) ILSE will demonstrate predictive validity through significantly higher scores, particularly early life stress burden, for clinical patients when compared to controls. ILSE will significantly increase prediction of clinical/control group membership when compared to the LEQ, SRLE or PSS.

3) A battery of instruments, including the historical life measure (ILSE), a specifically phrased current event measure (LEQ) and social support (ISSB) will result in greater prediction of clinical patient group membership than using any single instrument. Each element will significantly improve the accounted-for variance in reported symptoms and prediction of group membership.

CHAPTER 2

Method

Participants

The initial target sample was 150 clinical patients and 150 controls, 150 males and 150 females, stratified in age brackets of 18-33, 34-49, and 50-65+, resulting in 12 cells in the design with 25 participants each. Due to the high incidence of dementia (in excess of 60% of geriatric admissions at one data site) and vegetative depression in the older clinical groups, sufficient N was not available in those cells, prompting the drop of the oldest bracket from the design. This resulted in the goal of 100 clinical patients and 100 controls, age 18 to 50, with equal numbers of men and women.

Sampling was based on the model of deliberate sampling for heterogeneity (Cook & Campbell, 1979) from inpatient, outpatient and day treatment programs in the Tidewater area of Virginia, the Triangle area of North Carolina, and the foothills of Western North Carolina. Throughout data collection, emphasis was given to heterogeneous demographic sampling within each to the extent possible.

Controls

Young adult controls were obtained through college introductory psychology courses at Old Dominion University and the College of William and Mary, as well as work places and churches. Middle-age adult controls were approached at places of work, churches, a Department of Social Services, with additional participants obtained by networking. Networked participants were non-mental health professionals or workers either known to the author or, more often, an unknown party referred by someone known to the author.

Clinical Participants

Clinical participants were obtained from inpatient, outpatient and residential treatment settings. Acute and long-term treatment were both represented in the sample. Adult inpatients (acute care) were drawn from Maryview Medical Center. Long-term care inpatients were drawn from Eastern State Hospital in Virginia and Broughton State Hospital in North Carolina. Residential Treatment is represented by the Caramore community in Chapel Hill, North Carolina. Outpatients were sampled from the College of William and Mary Counseling Center, a private practice in Morganton, and from "Crossovers". Crossovers are control participants who answer the question "Are you in therapy now?" with a "yes" response. Twelve individuals fell into this category, and were then coded as clinical outpatient participants.

Test-retest Participants

A subset of 33 patients and controls participated in a test-retest section of the project, with an abbreviated questionnaire packet completed six to eight weeks after the initial measurement. This test-retest section of the design was planned until a minimum N of 30 had been obtained, or to continue until financial resources were exhausted.

Of the first 170 participants in the study, 101 were approached for the test-retest study (since not all sites were deemed appropriate for such follow-up). Of those 101 approached, 19 packets were not forwarded due to initial data quality at time 1. Of the remaining 82, 42 individuals responded (a response rate of 51% among those pursued). This resulted in a targeted 15% sample of the N of 300. Elimination of older patients from the design, data completed outside the eight week test-window, and patients with incomplete data resulted in a working test-retest sample of 31 individuals, 6 men and 25 women, representing 15 clinical and 16 control participants.

Materials

A listing of all forms used appears in Table 1.

Table 1
Selected Measures For Study

Title	Abbreviation	Measuring	Item Scaling Number of Items	Range Score
Inventory of Life Span Events	ILSE	Life events subjective	1 - 10 39 items	0 - 2000+ total
ILSE Subscales:				
Average Life-Stress Burden	ALSB	Life stress	Total/years of age	
Early Stress Burden	ESB	Age 0 to 5	Subtotal 5 years	
Childhood Stress Burden	CSB	Age 6 to 10	Subtotal 5 years	
Adolescent Stress Burden	ASB	Age 11 to 15	Subtotal 5 years	
Childhood Burden	CHB	Age 0 to 15	ESB + CSB + ASB	
Recent Stress Burden	RSB	2 years prior and current year		
Number of items	ILSE #	Events	0 or 1	1 - 40
Life Events Questionnaire	LEQ	Life events weighted	5 to 1 37 items	0 - 900+ total
Perceived Stress Survey	PSS	Stress	0 - 4 14 items	0 - 56 total
Survey of Recent Life Experiences	SRLE	Hassles decontaminated	1 - 4 21 items	21 - 84 total
Inventory of Socially Supportive Behaviors	ISSB	Social Support decontaminated	1 - 5 40 items	40 - 200 total
Dissociative Events Scale-II	DES-II	Dissociation	10 - 100%	0 - 100 average
The Center for Epidemiologic Studies Depression Scale	CES-D	Depression	0 - 3	0 - 60 total
The State-Trait Anxiety Inventory	STAI	State Anxiety Trait Anxiety	1 - 4 1 - 4	20 - 80 20 - 80 totals
NEO Five-Factor Inventory	NEO-FFI	Personality Neuroticism	0 - 4	0 - 48 total
Paulhus Social Desirability Scale	BIDR-6	Impression Management	1 - 7	0 - 20 total

Measures of events, stress and social support.

Inventory of Life Span Events. ILSE consists of 40 items answered in two iterative passes, Form A and Form B. Form A addresses birth to 12 years, Form B includes separate areas to rate 13 to 18 years, 19 to 30 years, 31 to 45 years and 46+ years of age for the individual. The format is displayed in Figure 1, which is a sheet pulled from the working data (subject CLFY19). Items were marked with an age if they have occurred and were rated by the participant for stressfulness at the time of the event on a ten-point scale (1=Not at all stressful to 10=Extremely stressful). The format allows the participant to list multiple occurrences of an event, event occurrence at different ages, and to list events as a single event or as an age range (an ongoing stressor). All occurrences and ranges can be rated at different stress levels on the form. The range or age is multiplied by the stress rating to obtain a stress value of the event (i.e., An individual rates "moving" at ages 7 and 15, with a stress rating of 4 at age 7 and 10 at age 15. This item would receive a total score of 14 for the two separate occurrences). This stress value is then summed across items for different periods of life, as well as item-by-item values for different events. Ranges are calculated as the number of years in the range multiplied by the stress rating.

Summary scores are life-stress burden at 0-5 years (early stress burden or ESB), 6-10 years (child stress-burden or CSB) and 11-15 years (adolescent stress-burden or ASB). These variables were available across the sample, since all participants were past age 15. The Average Life Stress Burden or ALSB (regardless of age) is a standardized score calculated by dividing the Total Score by the person's age in years. Recent Stress Burden (RSB) is the summation of life events scores for the last two years of life prior plus the year of assessment.

Thus, seven dependent variables were created: ESB (to 5 years), CSB (6-10) and ASB (11-15), as well as Childhood Aggregate Burden or CHB (0 to 15 years) for early life. The ILSE total score, ALSB and RSB are scores representing adult life. ILSE's total score, ALSB (average life burden) and RSB (recent burden) were conceptually closer to scores on the LEQ. The raw number of items checked were also tallied for comparison to items checked on the LEQ (life event), SRLE (hassles) and PSS (stress).

Figure 1

ILSE Data, Example of Responses From Subject CLFY19

			Not at all stressful										Extremely stressful
16)	Brother or sister leaves home												code A
	13 to 18 years old	Age(s) 17	0	1	2	3	4	5	(6)	7	8	9	10
	19 to 30 years old	Age(s)	0	1	2	3	4	5	6	7	8	9	10
	31 to 45 years old	Age(s)	0	1	2	3	4	5	6	7	8	9	10
	46 years and up	Age(s)	0	1	2	3	4	5	6	7	8	9	10
17)	Death of a close family member (parent, grandparent, brother, sister, spouse, child, etc.)												code A
	13 to 18 years old	Age(s)	0	1	2	3	4	5	6	7	8	9	10
	19 to 30 years old	Age(s) 27	0	1	2	3	4	(5)	6	7	8	9	10
	31 to 45 years old	Age(s)	0	1	2	3	4	5	6	7	8	9	10
	46 years and up	Age(s)	0	1	2	3	4	5	6	7	8	9	10
18)	Being taken advantage of by others; includes getting "ripped off" or cheated in the purchase of services												code A
	13 to 18 years old	Age(s)	0	1	2	3	4	5	6	7	8	9	10
	19 to 30 years old	Age(s) 29	0	1	2	3	4	5	6	7	8	9	(10)
	31 to 45 years old	Age(s)	0	1	2	3	4	5	6	7	8	9	10
	46 years and up	Age(s)	0	1	2	3	4	5	6	7	8	9	10
19)	You use drugs or alcohol												code 2A
	13 to 18 years old	Age(s) 16 - 18	0	1	2	3	4	5	6	(7)	8	9	10
	19 to 30 years old	Age(s) 19 - 24, 29, 30	0	1	2	3	4	5	6	7	(8)	9	(10) 29+30
	31 to 45 years old	Age(s) 31 + 32	0	1	2	3	4	5	6	7	8	9	(10) 31+32
	46 years and up	Age(s)	0	1	2	3	4	5	6	7	8	9	10
20)	Relationship stresses; an important dating or romantic relationship ends												code 2A
	13 to 18 years old	Age(s) 18	0	1	2	3	4	5	6	(7)	8	9	10
	19 to 30 years old	Age(s) 25 + 28	0	1	2	3	4	5	(6) 25	7	8	9	(10) 28
	31 to 45 years old	Age(s) 32	0	1	2	3	4	5	6	7	(8) 32	9	10
	46 years and up	Age(s)	0	1	2	3	4	5	6	7	8	9	10

Life Events Questionnaire. Life events measurement was represented by the LEQ (Horowitz et al., 1977). It is a 38 item instrument, assigning standard weights to events for both stressfulness and recency/remoteness of the event for up to five points in time and over two years ago. The ratings are made by: 1= never happened, 2=1 day to 1 month ago, 3=1 to 6 months ago, 4=6 to 12 months ago, 5=1 to 2 years ago and 6=over 2 years ago. The units of analysis will be the total LCU for all items (score 1 through 6), as expressed based on time appropriate weights. The overall score was compared to the ILSE total score and ILSE Average Life Stress Burden (ALSB). The LEQ number of items endorsed was compared to ILSE number of items endorsed and correlated to symptom measures.

The Perceived Stress Survey. The PSS is a short 14 item form for events encountered during the past month (Cohen, Karmarck & Mamelstein, 1983). Some items are reverse scored. The unit of analysis is the summary score. Items are based on a five-point scale of frequency (0=never to 4=very often). The scale holds test-retest reliability of .85 at two days and .55 at six weeks. It holds a correlation with symptom checklists, particularly the CES-D, and a low to moderate correlation with life events checklists (.24 to .35).

The Survey of Recent Life Experiences. The SRLE is a 41 item scale developed as a "decontaminated" and more abbreviated hassles scale for adults (Kohn & Macdonald, 1992). The unit of analysis will be a total score, based on items scaled 1-4 for frequency. The range of the total score is thus 51-204. Internal consistency of the measure was reported at .92. It correlates with the Perceived Stress Scale .57 to .60. The primary first factor was labeled "social and cultural difficulties" and carried an Eigenvalue of 10.16. One notable property is that SRLE data may have a tendency to hit the ceiling of scores with very anxious participants.

Inventory of Socially Supportive Behaviors. The ISSB is a 40 item scale of social support designed to be free of symptom contamination (Barrera, Sandler & Ramsay, 1981). Questions on the ISSB measure what individuals actually do in providing support to the respondent rather than subjective perception of quality or number of persons providing support. Measurement with this scale occurs for the previous month. Total ISSB scores are calculated by adding the frequency

ratings across all items on a five point scale (1=not at all to 5=about every day), resulting in a raw score of range 0-200.

Symptom Measures

The Dissociative Events Scale-II. The DES-II is a measure of trait dissociative tendency, with 10 point-increment ratings of 0 to 100 on 28 separate items (Bernstein & Putnam, 1986; Carlson & Putnam, 1993). Ratings have been revised from the original DES visual analogue scale to a ten-point scale to enhance ease of scoring. The unit of analysis is the average DES score per item. Split-half reliabilities of the DES range from .71 with normal adults to .96 with phobic anxiety patients. DES scores among all participants tested results in a skewed distribution with a median score of ten and escalating scores for those patients with Post-traumatic Stress Disorder and Multiple Personality Disorder. However, the authors do assert that parametric statistics are acceptable for studies with N > 30 (Carlson & Putnam, 1993).

The Center for Epidemiologic Studies Depression Scale. The CES-D is a 20 item abbreviated scale developed by the Center for Epidemiologic Studies at the National Institute of Mental Health (Radloff, 1977). Some items are reverse scored. The unit of analysis is the total score, based on items scaled 0-3 for frequency, with a resulting score range of 0-60. Patient scores on this instrument are symmetrically distributed, while general population data are skewed toward low scores. However, 21% of the general population tested scored above an arbitrary cutoff score of 16. It may be more of a state-based measure, with a test-retest individuals at 6 week and 8 weeks of .59 and .57, respectively.

The State-Trait Anxiety Inventory. The STAI forms Y-1 and Y-2 are 20 item surveys which assess state and trait anxiety, respectively. Some items are reverse scored. Age effects with this scale have been noted with older adults (over 50) scoring lower. Scores can be converted to percentile ranks or standard scores by age groups and by gender. Test-retest correlations for trait STAI ranges from .73 to .86 for college students. State reliability was .16 to .62 in that sample.

Internal consistency is high, ranging from .89 to .91 for all normative groups. The units of analysis are the state anxiety total score and trait anxiety total score.

The NEO Five-Factor Inventory. The NEO-FFI was used to measure neuroticism (Costa & McCrae, 1978). However, all five factors were entered and made available for any secondary analysis. Some items are reverse scored. The unit of analysis is the Neuroticism raw score, based on items with a five-point scale and a potential score range of 1-32. The NEO-FFI is a 60 item instrument, holding correlation of .77 to .92 with the parent instrument, the NEO Personality Inventory, with internal consistency values ranging from .68 to .86.

Control measures

Demographics Form. This form was presented first in the test packet, containing items for age, gender, ethnic status, marital status, and history of previous psychological treatment. SES is measured indirectly measured by years of education or degree, since college students' income level is misleading (given their typical SES of origin). Past treatment was scored for presence/absence and for number of months in treatment and types of professionals seen for treatment.

List of early memories. Quality of early memory was targeted by three short, narratives, and by the number of items attempted on the memory prompt pages. Scores were assigned for earliest age of memory, emotional valence of the memory (positive, negative, or neutral), and the completeness/reporting style of memory as measured by simple word count and number of sentences.

Paulhus Social Desirability Scale (BIDR-6). The Paulhus Scale is a 40 item measure testing for social desirability bias. Two subscales are contained in the form. Self Deceptive Enhancement (SDE) measures the tendency to give honest but inflated self description. Impression Management (IM) measures inflated self description in public settings. The unit of analysis is the IM score. It is arranged with a 7-point scale, with items counted if extreme scores are marked (6 or 7). This is calculated after correction for reverse keying of items. Internal consistency for the IM scale ranges from .80 to .86 for college students. Test-retest reliability at five weeks is .65. IM correlates -.16

with NEO-FFI neuroticism and -.07 with extraversion. It correlates -.12 with STAI-trait. A cutoff score of 10 was used. Participants exceeding the cutoff were targeted to be dropped from analysis.

Procedure

Development of the Inventory of Life Span Events

Item selection. Items for ILSE were initially constructed by identifying the most frequent stressors or highest factor-loading items from earlier life-event scales. Scales referenced include the most frequently endorsed items in the SRRS adult and USQ college normative samples. The life events survey which accompanied the MMPI-A normative study was also accessed, and the top ten most frequently endorsed life event items for adolescents were pulled for potential consideration. Top life event items rated for level of severity on the SRRS, the LEQ short form, and Coddington's scales for preschool, elementary, junior high and senior high school students were also referenced. The most frequently endorsed items from Paykel et als. 1971 scale were targeted, as well as thirteen scale items for college students by Kohn, Lafrenier and Gurevich, which dealt with non-college-specific stress. Three additional items were added by the author to increase inventory relevance to current events and tap more chronic stress: 1) you have concern for your safety or a family member's safety, 2) family arguments, parents arguing or arguing with parents 3) boredom or feeling isolated and 4) being teased, bullied or not accepted by peers.

Phrasing for events was made less specific and more general, and the total array of items considered from all scales were subsumed under a distillation of 39 total items, including three blank items. The items were then randomized for presentation, with one exception: an extreme item, such as death of a spouse, parent, or loved one could not be the first item presented. Items were then formatted and a draft of the measure reviewed by a sample of 19 clinicians and clinical psychology students. These critiques were incorporated and the first working draft of the 39-item measure was presented to two independent raters for verification of relevance and coverage to targeted earlier scale items. This resulted in a Kappa coefficient of agreement of .62 for all possible combinations of items from these measures that could be subsumed under ILSE. Of all

targeted items from the above listed scales, twelve were clearly not included (both raters agree), 104 items were clearly subsumed within ILSE's 39 items (both raters agree), and 69 items may be subsumed (one rater identifies). Thus, moderate to strong correlations were expected between ILSE and these other instruments. However, since ILSE has broader phrasing and scaling, it is not expected to parallel any single instrument.

Item scaling and measurement. The form is divided into Form A (birth through age 12) and Form B (the rest of life, blocked by phase-of-life increments 13-18 years, 19 to 30 years, 31 years to 45 years and 46 years and up).

Since multiple occurrences for events at different ages can be listed as well as age range for events, the range for total scores will be determined by the study sample. Age ranges can be listed for ongoing or chronic events, and the item subsequent rating assigned to every year in the age range. A respondent can mix events with ranges within one item, and break-up levels of stress within ranges (please refer to Figure 1). A completed scale results in seven summary scores: the ILSE total score, ESB (0-5), CSB (5-10), ASB (10-15), CHB (0-15), ALSB (over life) and RSB (last two years plus year of assessment).

The Survey Study

Some groups of clinical patients and control participants were excluded from this study. Clinical patients in active detoxification were excluded from participation for 72 hours, due to suspected mood instability. Patients with known or suspected memory impairment, or a lack of orientation (psychotic features) were also excluded from study. Mental health professionals involved in direct patient care were excluded from participation, due to their potential prior knowledge of the target measures.

Institutional Review Board or Research Committee approval was first obtained from both the Psychology Department and College Human Subject Review Committees of the College of William and Mary. Further approval was obtained from the Old Dominion University Psychology Human Subjects Committee, and through the Institutional Review Boards of Eastern State Hospital,

Williamsburg, Virginia and Broughton State Hospital, Morganton, North Carolina. Institutional review for Maryview Hospital was granted vicariously through the William and Mary approvals.

A survey packet of questionnaires was distributed to each participant, after the participant was approached and given a nonspecific overview of the project. Informed consent was obtained before the packet was initiated. Questionnaires were counterbalanced for order of presentation, with the exception of the demographics form, background memory form, and ILSE, which all appeared first in the packet. The background memory form always appeared prior to any life events measure, in order to standardize exposure to a personal time line at the study onset. ILSE was placed first in the order of life stress instruments due to ILSE containing broader phrasing and scaling. This was done in order to prevent contamination (increased reporting) due to exposure to the more detailed and time-limited life events forms.

All packets were encoded with an individual ID number when received and any personal identifiers, such as names or social security numbers, were eliminated on forms during an inspection pass of all raw data.

Participants in the test-retest phases of the study signed a separate short form with their address, which was then separated from their data packet and encoded with their own project id number. A separate post-office box was used as the destination for Norfolk retest data to improve privacy and security for participants. When retest data was entered, the retest sign-up form with address was separated from all data and destroyed, preventing any further participant identification. Raw data was then stored in a locked file cabinet, and computer data files were stored on a private unnetworked personal computer, to increase security.

The questionnaire packet consisted of 13 forms, each designed to measure symptoms, life events, or function as a control measure or covariate of the study. Participants were tested in groups, if feasible. If (patient) stamina or conditions of participation prevented group assessment, a standardized introduction was given to the participant by the author or by a standard tape recording, and the participant was asked to take the packet home and complete it within the week. Breaks could be taken while completing the packet , but the participant was asked to complete the

task within 24 hours of starting. Completion time ranged from 75 minutes in the college control group to 3 hours for older adult controls and middle-age adult clinical participants. By and large, the 24-hour requirement was met. Among clinical inpatients and (most likely) with the take-home packets, it is safer to assume a 48 to 72-hour time-frame for completion. This estimate is based on watching patients complete the task at the clinical inpatient sites. If a patient held on to a packet more than 72 hours after starting the task, the data was considered a partially completed and was eliminated from analysis.

Incentives were available to the entire clinical group and part of the control group, to help encourage participation and attention to the entire test packet. It was considered ethically prudent to offer a brief summary of test scores to clinical participants, since that testing might facilitate treatment. The clinical participant was informed of this option, and could elect to have scores calculated by signing the top of the Score Summary Sheet (in Appendix), which was usually signed immediately after the consent form. Questionnaires scored included the STAI, CES-D, DES, ISSB, and the NEO Neuroticism and Extraversion subscales. This original and only copy of the score summary was then forwarded to the ward Psychologist, for evaluation, interpretation, and explanation of results to participants. A clinical subject could elect to decline scores simply, by not signing this form. The university and college controls were enrolled in psychology courses and were offered experimental credit for their participation in this project. Other control subjects completed the packets without incentives.

Quality Control

Each form in the packet was checked for completeness, scored and entered. A 10% sample of the data was checked for scoring and keypunch accuracy, with a resulting corrected error rate of 2.6 per 1000 variables entered. All data was entered into SAS datasets for display and analysis.

Quality control by testing for social desirability (the Impression Management subscale of Pauhlus BIDR) was not possible, due to a strong effect for age and age cohort. On testing 272 participants (oldest participants and extra participants were included), failure rate for the Pauhlus

IM score was 12.7% and 11.4% in the Clinical and Control youngest participants, rose to 18.5% and 26.7% in the middle-age participants, and then to 41.7% and 63.9% in the oldest age group. Analysis of variance revealed a significant age-cohort effect ($F=24.00$ with 2, 269 df. $p < .0001$). The scale is therefore suspect for a strong response bias due to generational cohort, and was not used as an exclusion criterion.

Data quality was reviewed in five iterative passes. Questionnaire forms were scanned for completeness, with the exception of ILSE, which was left to vary according to response quality. Gross failure of missing forms on initial check was identified in 26 packets (21 clinical and 5 control, with nearly equal divisions of men and women). This data was not filed or given identifiers. After filing, eight folders were missing at least one form and were eliminated, with all other files slated for data entry. After data entry, a finer scan of forms revealed missing backs of individual forms, resulting in an additional 13 files eliminated from the dataset. Computer code for missing items was then developed and the following rule applied: if the authors of the form had not specified a rule or treatment for missing datapoints within the form, an arithmetic mean within participant was calculated for the form as the best estimate and that value inserted for the missing item. This rule was applied for up to four missing items. If missing items exceeded four, the mean was no longer considered an adequate estimate of the value, and that form appears as missing from the dataset. Datasets were then merged, and a univariate analysis was then conducted for each summary score in the dataset. Since the targeted statistics for analysis are not robust to outliers, two extreme outliers were identified (one clinical and one control, both female) and dropped from further analysis.

Order effects for the data were analyzed through the counterbalanced packet orders A and B. In Order A the form presentation (following the demographics, memory prompt sheet, and ILSE) was DES, LEQ, STAI, Early memories sheet, SRLE, BIDR, ISSB, PSS, the NEO-FFI, and CESD. In Order B the latter half of the Order A measures appeared first. Order B consisted of BIDR, ISSB, PSS, NEO-FFI, CES-D, DES, LEQ, STAI, Early memories, and the SRLE. Ninety-seven participants received packet order A and Ninety-five received order B, with four missing

information for data order. T-Tests were conducted, with no significant differences in position found for the major summary variables at the alpha .05 level. A slight (but not significant) trend appeared for the event measures, which seemed slightly more susceptible to order (prob T < .127 for LEQ items checked). This trend may be due to redundancy of the life events measures and possible participant fatigue. Due to the sheer length of the packet, it is believed order effects are not more prominent, because individuals likely to have problems with stamina were more prone to have missing measures, and have most likely been deleted from the dataset in an earlier pass.

The Final Study Sample

The resulting final dataset has 103 clinical participants and 93 controls, with 94 men and 102 women, age 18 to 50. ILSE was found incalculable in twelve of these cases (eight clinical and four controls). This was generally due to individuals checking items or writing "yes" on items, instead of listing any age of occurrence, or failing to make any ratings of stress severity. These cases are not dropped prior to analysis, but the statistics for ILSE, stepwise regressions and discriminant function analyses will be based on the 184 participants with adequate data. Of the 103 Clinical participants, drawn from 13 separate sites, 70 (68%) are from inpatient settings, with the remaining 33 (32%) outpatients. The 93 Control participants were drawn from 15 separate sites, with 40 (43%) originating from college or university sites, 21 (22.6%) from work sites, 14 (15.0%) from networked referrals, 10 (10.7%) from church groups, and 8 (8.6%) were unemployed persons served by a Department of Social Services. Sample demographics are displayed in Table 2.

ILSE was correlated to applicable demographics variables. This step is designed to provide any relevant information for model building (and partialling) in the final phase of the validation study.

Gender composition between the clinical and control groups was held as nearly equivalent as possible, to help control the impact of female gender on reporting. Age between the clinical and control groups is still marginally significant, due in part to the heavy loading of late-adolescents in the youngest adult control cells (from college sampling). The control sample is marginally

significant for more ethnic diversity than the clinical sample. It is believed this is not due a lack of minority clinical individuals approached, but of desire to participate in the study. More of the controls are currently married (even though they are younger), and more clinical participants show a blended family of origin. While care was taken to sample control participants without college degrees (work places requiring high school diplomas and unemployed individuals were sampled), the control group does still appear to display higher education levels than the clinical group. This may be due to a few graduate degrees as outliers, and the number of individuals in the 8th to 12th grade education range in the clinical sample. More participants in the clinical group have a previous history of prior therapy (89%) than the control group (38%) and this difference is significant ($X^2 = 54.39$ $p < .0001$). Single parent families of origin were more frequent for the control group (14%), while clinical group participants' reported coming from blended or adoptive families with higher frequency (23%), and this difference is significant ($X^2 = 11.29$ $p < .005$). The educational background of the two groups is also significantly different, with the clinical group tending to report less than twelve years of education or simply not reporting with a higher frequency, and having fewer individuals with more advanced degrees. The years of education does not show greater disparity due to the large number of college undergraduates in the young adult control sample, who at the time of assessment possessed high school diplomas and 18 to 19 years of education. Demographically speaking, these individuals may have very different backgrounds and future expectations than clinical participants with high school diplomas.

Table 2

Demographics of Final Sample

	Clinical (%)		Controls (%)	
Gender				
Males	52	50.5	42	45.2
Females	51	49.5	51	54.8
Mean Age (s.d.)+	34.1	8.2	31.6	10.4
Ethnicity+				
Caucasian	93	90.3	73	78.5
African-American	6	5.8	15	16.1
Other minority	4	3.9	5	5.4
Therapy History****	89	89.0 3 missing	35	38.0 1 missing
Marital Status****				
Single	47	45.6	47	50.5
Married	16	15.5	42	45.2
Other (Separated Divorced, Widowed)	40	38.8	4	4.3
Family of Origin***				
Nuclear Family	73	70.9	74	79.6
Single Parent	7	6.8	13	14.0
Blended/Adoptive	23	22.3	6	6.4
Degree/schooling ***				
No degree/<12 years or unreported	32	31.0	9	9.7
High School/GED	36	35.0	49	52.7
Associate Degree	11	10.7	7	7.5
Bachelor's	18	17.5	15	16.1
Graduate	6	5.8	13	13.9
Mean Years of Education (s.d.)***	13.4	2.6	14.6	2.7

X^2 or T-test results for unequal variance + $p < .08$ (marginal)
* $p < .05$ ** $p < .01$ *** $p < .005$ **** $p < .0001$

CHAPTER 3

Results

Analysis Phase I: Descriptive Statistics

A descriptive summary of ILSE was the first phase of analysis. Demographics of the study sample were examined. The overall statistics for ILSE were then explored in two ways: the first statistics identify the highest level of complexity with which participants responded to the items (i.e., by a simple age/single rating to mixtures of ages and ranges with ratings) and the second set of statistics list ILSE summary scores between Clinical and Control groups. The descriptives then display item-by-item results, including the number of individuals marking an item, the level of complexity with which individual items were answered, and the total values for items (by clinical and control groups).

To control for extreme variability in response style (listing items as long ranges), a standardized variable was constructed. This variable is the individual item percent of the participants' overall score. It summarizes the item contribution to the score as a whole.

Response Complexity and Item-by-Item Description

ILSE contains 39 items. 37 of the items are stressors with three blank items to write-in stressors. The item responses were coded at six levels of complexity:

Level 1	Single age with one severity rating for an item	(Coded A)
Level 2	Multiple ages listed with one rating of severity	(Coded AA)
Level 3	Multiple ages with multiple ratings of severity	(Coded MA)
Level 4	Use of an age range with a rating of severity	(Coded R)
Level 5	Use of multiple age ranges, or breaking a range into different levels of severity	(Coded MR)
Level 6	Mixing of ranges and ages, (usually with multiple levels of severity)	(Coded RA)

This review was conducted to display how individuals approached rating stressful events. Do they remember them as static events, or ongoing? Do they see events at different levels of severity, or summarize all occurrences of an event the same way? This coding scheme was applied to each item of ILSE, and then applied across all answers for the individual. The code for the individual participant was the highest level of complexity the participant used for any item on ILSE. It was initially assumed that many individuals would fall into the Level 1 or 2 categories, particularly in the clinical groups (that they would remember and rate events in a simpler fashion). This was not the case. Level of complexity is displayed for participants in Table 3 and item-by-item in Appendix A.

Table 3
Most Complex Level of Response Style (In percent)

	Clinical	Controls
Level 1 (A)	0	2.2
Level 2 (AA)	0	3.4
Level 3 (MA)	3.2	18.0
Level 4 (R)	12.6	14.6
Level 5 (MR)	9.5	10.1
Level 6 (RA)	74.7	51.7

In Table 3, the most complex level of answer (mixture of age and ranges with attached ratings) occurred for the majority of participants. Individuals using simple ages with single attached ratings exclusively were rare (2.2 and 3.4 percent in the control group only). However, an anomaly in the movement from ILSE Form A to Form B may be causing an increase in the complexity ratings. If an individual rates a stress at age 12, then rates for the same event on a range starting at age 13 (i.e., 13-16), it becomes difficult to tell whether this is one range starting at age 12, or an age rating for 12 then a range from 13 to 16. Though the total stress score for the item will not differ, it would be classified as range (R) or range-age (RA). This is a difficulty in

classification caused by the separation of the form into two parts, and by breaking the age levels into four separate parts (i.e., 13-18, 19 to 30, etc.) The following rule was applied: if a rating at the end of an age group is followed by ratings of range continuing on the next age level, and the stress level is identical, it is considered a continuous range beginning at the earlier age. If the stress level is different, the beginning age cannot be automatically assumed as part of a range and the code RA applied.

The ILSE summary scores are listed in Table 4. The early childhood (ESB) rating supported much lower scores than the other summary variables. When coding ILSE, it became apparent that few events were reported before age five, and if reported were not rated with as much severity as events of later childhood. A univariate analysis revealed a nearly normal distribution for the ILSE number of items checked, while the other ILSE scores display a positive skew. Most individuals cluster around the lower end of the range with others trailing into the higher values represented in the curve (ILSE Total Score ranges 87 to 3657 for clinical participants and 13 to 1366 for controls). ILSE consistently displayed worse symmetry of distribution and greater variance than the other target measures. This is likely due to the open-ended rating of the responses and the impact of reporting long-term ranges.

Please note that the Childhood aggregate burden (CHB) is a linear composite of the ESB, CSB, and ASB variables. For this reason, analyses will avoid placing CHB and these early markers in the same models to avoid collinearity, unless the model accounts for it. Discriminant function analysis does account for singularity and collinearity. Likewise, the total score of ILSE and average life stress burden may be collinear and placement of both in the same statistical model will be avoided, unless the impact of age on the model is suspect (ALSB is ILSE controlling for age). Properties of both variables ILSE total score and ILSE ALSB were examined, and while the ALSB is conceptually cleaner, the Total Score was favored due to its similarity to the mechanical calculation of the LEQ weighted score. There is no age-adjusted component for the LEQ.

Table 4

ILSE Mean Summary Scores

by Clinical and Control Groups

Summary Score	Clinical	Control	F value	p <
ESB (Birth to 5)	77.5 (102.6)	24.8 (39.8)	20.75	.0001
CSB (6 to 10)	187.6 (166.9)	63.5 (76.1)	41.06	.0001
ASB (11 to 15)	218.6 (167.8)	84.8 (79.1)	46.67	.0001
CHD (Birth to 15 Aggregate)	483.9 (391.8)	173.2 (173.7)	47.21	.0001
RSB (Last two + current year)	144.7 (96.1)	74.8 (61.4)	33.03	.0001
TOTAL SCORE	1,216.4 (850.9)	444.4 (350.7)	62.41	.0001
ALSB (Total/age)	36.8 (24.9)	15.1 (11.4)	55.63	.0001
Total Number Items	24.1 (6.8)	19.7 (6.4)	20.21	.0001

Simple correlations were run for ILSE summary variables total score, ALSB, CHD, RSB and the number of items answered and demographic variables for age, education, opinion of therapy and months in psychotherapy. The simple tally of items checked correlates .53 and .62 with the ILSE total score for clinical and control participants, respectively ($p < .0001$). The Average Life Stress Burden correlates .93 and .88, respectively ($p < .0001$), as does the Childhood Burden (.74 and .80, $p < .0001$) and the Recent Stress Burden (.62 and .41, $p < .0001$). Of the three childhood summary variables, the Adolescent Stress Burden (ASB) holds the highest correlation with the total score (.80 and .78, $p < .0001$). For clinical participants (only) the number of months in therapy was correlated to the total score and to Average Life Stress Burden ($p < .05$), years of education correlated with a higher opinion of therapy ($p < .05$ for controls), as did age to years of education ($p < .005$), Age and Recent Stress Burden were strongly negatively correlated (Rxy -.46 $p < .0001$ for controls and a trend of -.17 for clinical participants). This last finding supports previous research conclusions that, as individuals age they tend to report fewer life events and subjective

distress (Bourque and Back, 1977), at least in community samples. Opinion of therapy was not significantly correlated in either direction for clinical or control participants.

Appendix A displays the most common ILSE life events (occurring for 75% or more of participants):

1) Moving
2) Death of a close family member
3) Romantic relationship stresses
3) Death or loss of a pet
4) Family arguments
5) Work-related stress
6) Boredom/feeling isolated
7) Being let down by friends
8) Lack/Loss of friends

The ILSE life events reported with greatest disparity between clinical and control groups, reported as the difference of percentage within those responding to the item:

1) Sexually abused or assaulted	(46)
2) Physically abused by someone	(44)
3) Parents use drugs or alcohol	(42)
4) Legal problems, self/family	(30)
5) Being ignored/ lack of attention from family	(28)
6) Develop visible disfigurement or deformity	(26)
7) Pregnancy or partner's pregnancy	(26)
8) A parent or you are absent from the home > 3 months	(26)

It became evident early in the coding of ILSE that individuals who used age ranges extensively were accumulating very high total scores, as each year of stress was added into the totals. This appeared to be a style in some cases, with individual variability increasing dramatically. Thus, item-by-item scores were also calculated as a percent of that item to the individual's overall score, in order to control for these differences in reporting (variable named "PCT"). PCT then helps describe how much that item is contributing to the total life score for individuals, controlling for the individuals response style. It is then a type of weight for the item. PCT, along with other item-by-item statistics, appears in Appendix B.

Appendix B depicts item scores which show a very high degree of variability. For this reason, analyses will be tailored to address high and uneven variability between cells whenever possible. For example, the discriminant function analyses will target Pillai's trace as a statistic (Kleinbaum, Kupper and Muller, 1988; Tabachnick and Fidell, 1989).

Psychometrically, the LEQ is expected to display lower overall scores than ILSE, due to ILSE's broader event definitions and longer time-focus for inquiry. Test-retest reliability for ILSE will be explored to determine if it is within acceptable limits when compared with other life events measures. The LEQ is expected to display higher test-retest reliability due to more precise phrasing and shorter time-frame for inquiry.

Test-Retest Study

A simple Pearson's R (Rtt) was conducted for the entire retest sample, and then examined by clinical and control groups. This subgroup within the larger study sample reveals moderate to high correlations for all measures, listed in Table 5.

If the small subsample of 31 can be assumed representative of the entire study, the expectation of moderate to high correlations are met by these measures. The exception being the ILSE RSB and the LEQ total score in the control group (all under .50 test-retest correlation). Overall, there appears to be a trend for weaker test-retest reliability for clinical participants. This may be based on state differences in mood and recall which are more participant to change in the 5 to 8 week window for that group.

Analysis Phase II: Concurrent and Divergent Validation by Correlates

Concurrent validation involved correlating ILSE items answered with the LEQ items answered, SRLE score and PSS score (life events, hassles and stress, respectively) based on the method of contrasted clinical and control groups (Anastasi, 1982). Moderate but not high correlations were expected for ILSE and LEQ items checked, since they are both life event

Table 5

Test-Retest Results of Selected Measures

N of 31 at 5-8 week window, 15 Clinical 16 Controls

Variable	Total N=31	Clinical	Controls
ILSE # answered	.706****	.611*	.734***
LEQ # answered	.800****	.782***	.739***
ILSE total score	.776****	.645**	.926****
LEQ total score	.727****	.812***	.453
ILSE ALSB	.741****	.598*	.915****
ILSE RSB	.408*	.242	.539*
ILSE CHB (0-15)	.892****	.886****	.945****
ILSE ESB (0-5)	.742****	.699***	.835****
ILSE CSB (5-10)	.904****	.896****	.951****
ILSE ASB (10-15)	.849****	.801***	.835****
STAI-state	.726+	.609*	.689***
STAI-trait	.862+	.697***	.864+
CESD depression	.791+	.684***	.848+

* $p < .05$ ** $p < .01$ *** $p < .005$ **** $p <= .0001$

measures. High ILSE weighted scores, particularly CHB (childhood) and ALSB (average over life), were expected to be negatively associated with current social support. Thus, the more elevated ILSE was expected to be associated with low current social support.

Divergent validity explored ILSE's correlation with the LEQ weighted score. Though the STAI Trait vs. State Anxiety scores were targeted for analysis, it became evident early in data collection that Clinical participants were hitting the 99th percentile on both state and trait

subscores. Due to this, there may be decreased sensitivity to detect differences, and comparisons with STAI are considered with reservation.

ILSE (total score and Average Life Stress Burden) and the weighted LEQ total score were expected to show less correlation than the correlation of simple number of items answered on each form, since the assumptions of LEQ weights opposes ILSE. This section of the validation study will appear as a simple correlation matrix, with correlations of interest underlined.

Phase II: Results

ILSE total score, total number of answers, and ALSB (average over life) were correlated with the LEQ total score (life events), LEQ total number of items answered, total score from the SRLE (hassles) and total score from the PSS (stress) scales. The results appear in Tables 6 and 7. As predicted, the ILSE number of items and LEQ number of items checked showed a higher correlation than the ILSE and LEQ weighted total scores (.458 compared with .245 for clinical participants and .539 compared with .281 for control participants). ILSE was also expected to display higher correlations with the LEQ than with the hassles measure SRLE or the stress measure PSS.

Although a stronger relationship between ILSE, SRLE and PSS was expected, these findings did parallel previous research; PSS showed a weaker correlation to life events measures, particularly for clinical participants. The patterns of lower SRLE and PSS correlations may have been due, in part, to the large number of inpatients in the clinical sample. Since these persons are residing in a structured and contained environment, answers for SRLE and PSS may have been more restricted than with the larger historical time-frames presented by the LEQ and ILSE.

The correlation between ILSE number of items checked to LEQ number of items checked of .458 is significantly greater than the ILSE total weighted score to the LEQ total weighted score correlation of .245 (t test for correlations based on dependent Rs, $t = 2.405$, $p < .01$, 93 df). Also, ILSE's total score and ALSB were correlated with the SRLE and PSS and this correlation was expected to be lower than correlation to the LEQ, but still significant. The .175 correlation of

Table 6

Correlation of ILSE to Other Life Events Measures: Clinical Participants

	ILSE #	ILSE scr	ALSB	LEQ #	LEQ Score	SRLE	PSS
ILSE #	1.000	.529^	.494^	.458^	.368**	.311**	.175
ILSE Score		1.000	.934^	.354**	.245*	.201	.205*
ALSB			1.000	.288**	.246*	.178	.193
LEQ #				1.000	.637^	.258*	.078
LEQ Score					1.000	.323**	.173
SRLE						1.000	.617^
PSS							1.000

* $p < .05$ ** $p < .005$ ^ $p =< .0001$

ILSE number of items checked to PSS is significantly lower than the .458 correlation of ILSE number of items checked to LEQ items checked ($t = 2.278$, $p < .05$, 93 df). The PSS appeared less related to all measures with the exception of the hassles scale, SRLE. This makes some theoretic sense, since hassles and perceived stress should be more closely related to each other than to specific life events. ILSE scores then show an intermediate level of correlation between stress and hassles measures and the LEQ. Weighted scores for both LEQ and ILSE appear more correlated to stress and hassles than the simple tally of items answered (note the ILSE # with PSS is quite low at .175). The LEQ itself shows lowest correlation with the stress and hassles measures. This makes sense, given ILSE contained stress-related measurement of severity which can influenced the scores to a greater degree than the weights of the LEQ, which were normative as opposed to judgment-based.

Again, similar patterns were expected with control participants. The pattern was similar, and the pattern of separation between the ILSE and LEQ correlation for number of items answered

Table 7

Correlation of ILSE to other Life Events Measures: Control Participants

	ILSE #	ILSE scr	ALSB	LEQ #	LEQ Score	SRLE	PSS
ILSE #	1.000	.617^	.600^	.539^	.417^	.447^	.250*
ILSE Score		1.000	.882^	.547^	.281*	.360**	.141
ALSB			1.000	.384**	.408^	.425^	.208
LEQ #				1.000	.519^	.238*	.057
LEQ Score					1.000	.415^	.311**
SRLE						1.000	.641^
PSS							1.000

* $p < .05$ ** $p < .005$ ^ $p <= .0001$

(.540) to the weighted scores (.280) is more pronounced ($t = 2.660$, $p < .005$, 86 df). ILSE number of items was still more highly correlated to LEQ number of items (at .540) than with the PSS (at .250, $t = 2.411$, $p < .01$, 86 df).

The life events measures (above) were also correlated with the symptom measures DES-II, CES-D, and STAI. ILSE (particularly the childhood summary score CHB) was predicted to have a higher correlation with the DES-II, since it can address the childhood stress thought to be precursor to dissociation. ILSE was also predicted to achieve higher correlation with the STAI-trait, since its values may be more trait than state-relevant. The PSS was expected to be more strongly related to state-based symptom measures, since confounding with symptoms has been a criticism of the instrument. ILSE RSB and LEQ weighted score were expected to be most closely related to depression, state anxiety, and the PSS, since all of these variables are more state-based or involve recent history. The concurrent validation correlations will appear as a simple correlation matrix with correlations of interest underlined.

Again, the DES-II measures dissociation, CES-D measures depression, NEO subscore of analysis is the Neuroticism raw score, and the STAI measures state and trait anxiety. The ISSB measures social support.

Table 8
Correlation of ILSE to Symptom Measures: Clinical Participants

	ILSE # Number	ILSE Score	Child Hood	LEQ# Number	LEQ Score	SRLE	PSS
(Trait)							
DES-II	.289***	.281**	.374***	.071	.086	.226*	.295***
STAI Trait	.011	.192	.214*	.024	.059	.518^	.679^
NEO	.162	.312***	.281**	.070	.121	.510^	.701^
(State)							
CESD	.111	.251*	.252*	.027	.176	.556^	.736^
STAI State	-.107	.038	.081	-.089	.043	.428^	.589^
(Social Support)							
ISSB	.033	-.113	.002	-.031	-.108	-.261**	-.182

* $p < .05$ ** $p < .01$ *** $p < .005$ ^ $p < .0001$

As predicted, ILSE childhood aggregate score (CHB) was more closely related to dissociation than other measures, and contrasts strongly to the LEQ performance on this measure. Due to the underreporting of events prior to age 5, an analysis for DES-II score for ILSE scores ESB, CSB, and ASB was conducted (CHB is a linear composite of these three). The score of strongest association to the DES-II was CSB (6 to 10 years old).

Neuroticism (NEO) appeared related to all measures but the LEQ, which for some reason seemed less related, while the SRLE and PSS showed a strong correlation. While ILSE did display a trend for higher relation to trait than state anxiety, the correlations themselves are not significant. This may be due to the restricted range of STAI in clinical patient scores. The

relationship was then examined with controls (who showed less restricted range on STAI) for trend.

Social support was expected to be negatively related to high scores on the life events measures. Though negative correlations appeared, they were weak. The ISSB then was not expected to figure prominently in the model-building phase of the validation.

Table 9
Correlation of ILSE to Symptom Measures: Control Participants

	ILSE # Number	ILSE Score	Child Hood	LEQ# Number	LEQ Score	SRLE	PSS
(Trait)							
DES-II	.383***	.272**	.406^	.209*	.309***	.431^	.401^
STAI Trait	.264*	.266*	.240*	.129	.225	.595^	.680^
NEO	.313***	.247*	.176	.177	.306***	.642^	.715^
(State)							
CES-D	.250*	.180	.147	.031	.260*	.586^	.695^
STAI State	.274**	.327***	.253*	.133	.138	.519^	.588^
(Social Support)							
ISSB	-.022	-.110	.042	-.013	.255*	.192	.220*

* $p < .05$ ** $p < .01$ *** $p < .005$ ^ $p < .0001$

The measures SRLE and PSS were strongly related to symptom measures and the personality variable neuroticism. Even though SRLE is considered to be a "decontaminated" hassles scale, both of these measures are showing such high correlation to the symptom measures that it does appear that they may be measuring the same thing (criterion contamination). However, the authors of the PSS (Cohen, Karmarck and Mamelstein, 1983) viewed the very high correlation of PSS with the CES-D, and performed a subsequent analysis to establish that the PSS is not measuring the same construct as CES-D.

Table 9 displays the life event to symptom correlations for the control participants. Patterns tend to be similar to the clinical participants, but stronger correlations appear throughout the table. Again, the SRLE and PSS correlate prominently with nearly all symptom measures, and ILSE correlating highest on the DES-II and slightly higher across all measures than the LEQ, with the exception of the ISSB (LEQ has a positive correlation) and a slight difference with the depression measure CES-D. ILSE's performance with the STAI, for control participants, is in the opposite direction than expected. The relationship to state anxiety appears at a higher significance level than trait anxiety, while with clinical patients it shows non-significant correlation.

Analysis Phase III: Validation by Comparative Models

Multiple Regression

When the basic correlations between measures were complete, the model-building phase of the validation began with the symptom measures. Stepwise multiple regression was conducted for each of the symptom variables NEO Neuroticism, DES-II, CES-D, and STAI. All life event variables (ILSE and LEQ number of items and weighted scores, the measures SRLE and PSS and ILSE summary variables Average Life Stress Burden, Childhood Burden and Recent Stress Burden). The model solutions for the multiple regressions differed for clinical and control subjects, and are displayed in Table 10. Beta weights displayed for each variable appearing in the final model are based on the parameter estimates of the final iteration.

The first stage of comparative models used a stepwise multiple regression analysis entering the life events measures as predictors of each of the four symptom measures. Stepwise multiple regression was conducted for each of the symptom variables NEO Neuroticism, DES-II (dissociation), CES-D (depression) and STAI (anxiety). All life events variables were entered into the model to compete for the variance in the symptom score.

Table 10 shows several patterns. The two variables loading for NEO neuroticism were 1) perceived stress and 2) the life total stress burden from ILSE for clinical participants, while variables loading for controls were 1) perceived stress and 2) hassles in accounting for the variance

in neuroticism. Thus, the model for clinicial patients used an historical measure (across the life span), while the model for control participants used a more recent hassles measure.

For the dissociation score DES-II in clinical subjects, the ILSE Childhood aggregate score appears first in the model, followed by perceived stress (PSS). The model for dissociation in controls is more complex, including a hassles measure (SRLE), average life stress over the life time and cumulative stress over the lifetime (ILSE), and a tally of life events (LEQ).

Depression, as measured by CES-D, for clinical and control participants, appears most related to models containing 1) stress 2) hassles and 3) stress burden over the past two years as measured by ILSE RSB. The exception to this is that life summary scores (ILSE ALSB and number of items) is included to account for depression in the clinical group. Depression is the only symptom variable which utilizes recent stress (RSB) in the model to account for variance in scores. The RSB is based on the current age year plus the previous two years before assessment.

State anxiety for clinical subjects, as measured by the STAI, is best accounted for by stress, a tally of events encountered over life as measured by ILSE, and current hassles. For controls, state stress is better accounted for by stress, hassles, the ILSE total (weighted) score, and age.

Trait anxiety was best accounted for in clinical participants by perceived stress, stressful events tallied by the LEQ, and hassles. In controls, ongoing trait anxiety was best explained by perceived stress, hassles, and the average stress burden over life.

In summary, perceived stress appears highly related to all symptom measures and enters virtually all models. Hassles also appears highly intercorrelated with symptoms and appears with priority. Between ILSE and LEQ, ILSE is generally the favored life events measure selected in accounting for symtpom measure variance, with the exception of dissociation scores for controls and trait anxiety scores for clinical participants.

Table 10

Stepwise Multiple Regression Results

.1500 significance needed for entry into model

Measure	Group	Variables Loading	F-value	Beta Wt.	Partial R-squared Final R-squared
NEO	Clinical	1) PSS (Stress)	77.82	.563	.461
Neuroticism		2) ILSE Total	5.73	.002	.032
					.493
	Control	1) PSS (Stress)	98.46	.547	.531
		2) SRLE (Hassles)	12.27	.182	.059
					.590
DES-II	Clinical	1) ILSE CHB (0-15)	15.14	.012	.143
		2) PSS (Stress)	5.50	.318	.049
					.1920
	Control	1) SRLE (Hassles)	30.58	.163	.260
		2) ILSE ALSB	8.18	.533	.064
		3) ILSE Total	8.27	-.014	.060
		4) LEQ # items	3.81	.262	.027
					.4110
CES-D	Clinical	1) PSS (Stress)	96.69	.857	.515
		2) SRLE	3.42	.174	.018
		3) ILSE ALSB	2.15	.163	.011
		4) ILSE # items	2.65	-.309	.013
		5) ILSE RSB (2 yrs)	2.35	-.024	.012
					.5690

Table 10 Continued

Measure	Group	Variables Loading	F-value	Beta Wt.	Partial R-squared Final R-squared
CES-D	Control	1) PSS (Stress)	83.71	.595	.496
		2) SRLE (Hassles)	9.60	.172	.052
		3) ILSE RSB (2 yrs)	3.05	.022	.016
					.5639
STAI-State	Clinical	1) PSS (Stress)	46.69	.414	.339
		2) ILSE # items	6.77	-.321	.046
		3) SRLE (Hassles)	2.97	.081	.020
					.4052
	Control	1) PSS (Stress)	47.62	.387	.354
		2) SRLE (Hassles)	9.54	.143	.064
		3) ILSE Total	4.20	.003	.027
		4) Age	2.28	.096	.015
					.4603
STAI-Trait	Clinical	1) PSS (Stress)	75.67	.420	.454
		2) LEQ Weighted	2.29	-.006	.014
		3) SRLE (Hassles)	2.88	.064	.017
					.4843
	Control	1) PSS (Stress)	82.07	.461	.485
		2) SRLE (Hassles)	12.20	.136	.064
		3) ILSE ALSB	2.51	.086	.013
					.5623

Discriminant Function Analysis

As a part of Hypothesis 1, a hierarchical stepwise discriminant function analysis was performed using nine life event variables from ILSE, the LEQ, the SRLE and the PSS, covarying for effects of age. This analysis was conducted to display predictive validity for clinical versus control group membership.

Of the original 196 cases, 12 were dropped from analysis because of missing ILSE data, and 4 other cases were dropped due to other missing measures. For the remaining 180 cases, 93 were clinical participants and 87 were control participants. Given that assumptions regarding homogeneity of variance could be violated between groups, Pillai's Trace was used, since it is more robust to violation of this assumption.

It was predicted that ILSE would enter the model (to describe clinical versus control group membership) before the other life event variables. The variables were entered in a stepwise analysis to permit open competition for the variance between groups.

For initial reference, Canonical R-squares were calculated for each of the life event scores and are displayed at the beginning of Table 11. ILSE and LEQ were entered separately for comparative utility in percent variance accounted for, with the previous research criteria of 9% (Canonical R-square of .09) as the goal. The stepwise solution for life event and control variables follows in Table 11.

ILSE total score, Average Life Stress Burden, Childhood Burden, Recent Stress Burden, and ILSE number of items answered were entered, as well as the weighted LEQ score and LEQ items, SRLE score (hassles) and PSS score (stress). The stepwise discriminant analysis, after partialling out the effects of age, selected the ILSE Average Life Stress Burden as the first discriminant function with $F = 59.815$ $p < .0001$ with an initial Canonical R-squared of .2505, accounting for 25% of the between-group variability. The first discriminant function maximally separates clinical patients from controls. The second discriminant function, after partialling out age and the ILSE ALSB, was the PSS (stress), with $F = 26.428$ $p < .0001$, and this addition improved the Canonical

R-squared of the model to .3587. The third discriminant function, after partialling out age, ILSE ALSB, and the PSS, was the LEQ weighted score, with an $F = 6.324$ $p < .0128$, and the Canonical R-squared of the model increased to .3808. This final model carries a Canonical R-squared of .3808.

The test of Hypothesis 3 involved variables social support (ISSB), an historic measure (ILSE) and a standard life event measure (LEQ). In this final iteration, ILSE total score, weighted LEQ and ISSB were entered into the model, with the prediction that a historic measure (ILSE), when combined with current state events (LEQ) and state of social support (ISSB) can most effectively account for variance in current symptoms over any single measure in isolation. As a variant, the ILSE Average Life Stress Burden was displayed in a separate analysis, in case future research cannot correct or control for age of participants in design (the ALSB is standardized for age).

To test the final section of the final hypothesis, each of the measures ILSE total, ALSB, ILSE items, LEQ total score, LEQ items, and the ISSB to see if a combined model improves discrimination between clinical and control groups. This is displayed in Table 11.

Of the ILSE variables, it is the Total Score which holds the highest Canonical R-squared. The ALSB follows with a Canonical R-square of .2353, and because it is a variable standardized to age, a separate model with ALSB is considered, in case future studies have less ability to control for age when using ILSE. The ISSB did not prove a useful measure, due to low initial correlations to other measures in this study and lack of an ability to classify clinical vs. control participants. However, it does appear that using ILSE and the LEQ together does improve differentiation between clinical and control groups.

Table 11

Variance Accounted For: In Isolation and In Stepwise Solution

Variable	Canonical R-squared (based on Pillai's Trace)
ILSE Total Score	.2577
ILSE ALSB (average life stress)	.2353
ILSE CHB (childhood aggregate)	.2069
ILSE RSB (recent stress burden)	.1578
ILSE number items answered	.0994
LEQ Total Score	.1708
LEQ number items answered	.0982

Hypothesis 2:

Stepwise Solution: All ILSE, All LEQ, SRLE, and PSS summary scores

control variable: Age

	Partial R-square	
1) Age (covariate)	.0421	$p < .0059$
2) ILSE ALSB (Avg. over life)	.2505	$p < .0001$
3) PSS (Stress)	.1293	$p < .0001$
4) LEQ Weighted Score	.0345	$p < .0128$
Canonical R-Squared for the model	.3808	

Hypothesis 3:

Stepwise Models (Controlling for Age)	Model Canonical R-square
ILSE total, LEQ weighted, and ISSB	.3103 (ISSB and Age were removed)
ILSE ALSB, LEQ weighted, and ISSB	.3189 (ISSB and Age were removed)

CHAPTER 4

Conclusions

It is evident from this study, that when given an opportunity, participants can remember and describe their experiences in great detail--much greater detail than initially anticipated. This may also be a provocative finding, since the gross simplification of past scales via weights and forced-choice measurement may have caused the loss of a large degree of variability and predictive power between groups. When individuals demonstrate this amount of detail, each and every parameter limiting the freedom of those individuals to vary on stress profiles will subsequently limit the predictive utility of the research.

Specific to the first hypothesis ILSE does display a moderate, significant correlation to the LEQ, SRLE and PSS (.141 to .539) and shows a stronger correlation to the LEQ (items correlations. 458 to .539) than the hassles or perceived stress measures (.175 to .447). This supports construct validity for the instrument. The exceptions to this pattern are the correlations between ILSE total scores and the SRLE and ILSE number of items and the PSS, which are not significant.

ILSE was expected to show a stronger correlation to trait-based measures DES-II and the STAI-Trait. Strong evidence surfaced for ILSE's Childhood scores and their relationship to dissociation, which appears to be an important finding, given the assumptions of childhood insult and trauma underlying dissociative disorders. A significant correlation appeared for the DES-II and the ILSE total, then (more specifically) to the ILSE childhood aggregate score (CHB) via multiple regression. The performance of the score Early Stress Burden (birth to five years) was less than optimal. When coding the form it became apparent that very few participants relate to events at that time of life and when rating they tend to use very low stress scores. Though not a successful section of the measure, it is informative about how individuals view their lives and the stress of early life. Of the three childhood variables (at five-year increments), it is the last, or

adolescent score (ASB) which is most highly correlated with the ILSE total score. This may be due to better memory and more social referents for events that occur in later childhood years, as well as a greater capacity to understand and experience stress as a result of most events.

ILSE's relationship with anxiety was opposite from what was hypothesized. The ILSE total and number of items checked appear more related to state anxiety, while the LEQ weighted score and ILSE ALSB appear more related to trait anxiety. This may be due to state-based mood effecting ILSE more than the LEQ, since ILSE involves subjective ratings of severity, while the LEQ does not. The ILSE ALSB is a standardized measure across age, and its appearance in the trait-anxiety model for controls may reflect its relative stability when compared to the fluctuations in the total score dependent on stress levels. Total scores and number of items for ILSE may thus be more sensitive to variations in mood than previously thought, and the average life stress burden less sensitive to these variations. Age entered the model for controls state anxiety, with ILSE total (which is an uncorrected variable for age).

As an extension of the first hypothesis, divergent validation was attempted through the weighted scores of the LEQ vs. the total score of ILSE. Again, since the LEQ considers events less important over time while ILSE does not, the weighted scores were expected to diverge and show less correlation than the raw tally of items. This hypothesis was supported.

ILSE was also expected to show a negative correlation with social supports (the ISSB). Though in the right direction, this correlation (as well as other measures with the ISSB) was not significant.

ILSE displayed a strong main effect for life events scores over controls, in support of Hypothesis 2. ILSE was also expected to display superior classification of clinical/control group membership when compared to the other life-events measures, even when controlling for age. It was predicted in Hypothesis 2 that ILSE, if it significantly increases prediction of clinical or control group membership, should enter a stepwise discriminant function analysis on these two groups prior to the LEQ, SRLE and PSS. And, in fact, ILSE entered the stepwise discriminant

function analysis immediately after age and before these other life event measures, in support of this extension of Hypothesis 2.

Hypothesis 3 predicted that a model using ILSE, the LEQ and the ISSB would account for group membership better than any of these instruments used alone. This hypothesis was not completely explored, due to the poor performance of the ISSB. However, inclusion of the LEQ does improve variance accounted for, indicating that ILSE and LEQ do have some unique properties contributing to clinical versus control group classification, and using them together to create a more complete picture of the individual.

In the simple description of the instrument, very interesting values were found for the level of stress on several items. For example, in control participants, Parent's Alcohol Abuse (on the average) contributed over 10% to the overall life stress score. This trend was salient enough to be noticed early in the coding of the ILSE. This instrument may then prove a new and useful tool for assessing lifetime exposure to a variety of acute and chronic events, as well as being (perhaps) the sole measure which can record experience with repetitive, chronic stress and traumata. Results from ILSE, when combined with other symptom and demographic measures, may strengthen epidemiologic models of risk for illness, as well as help quantify cumulative incidence of exposure to events and stressors within targeted subgroups of society. Since it has been piloted and successfully used with individuals with 8th to 10th grade education, it is assumed to be a viable measure for most of the US population.

The patterns of the most frequent events and the greatest events of difference between clinicals and controls have an inherent face validity (i.e., moving and death of a relative as most common events, sexual and physical abuse separating clinical from control participants). ILSE may then help capture and direct lines of inquiry into specific groups of stressors and their subsequent contribution risk ratios in both clinical and nonclinical populations. This, for example, could provide helpful information for longitudinal path-analytic studies of stress and health outcome, particularly if a study involves exposure to events over long periods of time or phases of life. ILSE may also have direct application to life-span developmental research and individual exposure to

stressors at different developmental phases (and their possible subsequent impact). Demographers might use ILSE to help aggregate major groups of stressors and examine risk for these stressors within demographic groups, as well as within and between-group resilience to the effect of the event (via lower stress ratings). Studies reactions to repeated or prolonged exposure (to stressful events) is also possible with a measure such as ILSE. The ILSE CHB association to the DES-II may also permit further clarification of the nature of dissociation and specific profiles of stressors (chronicity, duration, stressor type, age at event and severity) experienced by individuals who now dissociate.

This study verified several previous findings which have appeared in the literature. The relationship of the PSS was lower with life events measures (not significant) and the correlation to depression, anxiety and neuroticism scores was very high (.59 to .74). This projects replicates a previous correlation found in the initial PSS study by Cohen et al (1982) of .76 with the CES-D (current finding is .74 and .70 for clinical and control participants, respectively). However, the PSS correlation to all symptom measures appears so high as to raise questions about what construct it actually measures. This has been a previous criticism of the instrument. In fact, if the logic follows, the PSS (perceived stress) should be more highly correlated with the STAI than with the CES-D or NEO, which is not the case for either clinical or control participants. This study shows it to be more highly correlated to symptoms than to other life event measures. It may therefore perform more like a symptom measure than a life event measure.

NEO Neuroticism has been previously suspected to effect much of the response style people use in approaching life events, in agreement with recent research (Magnus et al., 1993). In this study, the NEO shows highest correlations with the PSS and SRLE, and higher correlation with ILSE than with the LEQ. Neuroticism was accounted for in the clinical group by perceived current stress and the ILSE total score, while controls used two recent measures (stress and hassles) without any summary scores from the ILSE or LEQ. Therefore, with controls, historical accounts are not needed to account for differences, while with clinical participants, historical data is used (via the ILSE total score).

In general, the symptoms of clinical participants are more easily accounted for than control participants (who took four and five variables entries to solve stepwise multiple regressions). There was a trend for clinical participants to use the stress and hassles measures in conjunction with the historical life measure tally (i.e., an ILSE total or ALSB) entering with higher priority, while control participants often focused on stress, hassles, and the recent past (i.e., ILSE Recent Stress Burden appears in solution for the depression measure CES-D). This latter finding supports previous research on depression that the best way to predict depression is knowing the stress of more recent life events (Kendler et al., 1993). ILSE appears to be more state-related than trait-related to anxiety, and participant mood state may need to be taken into account when administering the instrument.

The stepwise multiple regression results may support Murrell & Norris (1983) theoretic concept of "cumulative undesirable demand", where an individual compares pressures, events and hassles with previous times in their lives. This comparison then helps explain the individual's current reaction in the present (symptoms). Working with this premise, one would need a stress, a hassles and an historical measure in order to account for the individual's current reaction. Since all solutions for state-based symptoms in the multiple regressions involved all three of these elements (the exception was the trait symptom dissociation), it may lend support to the concept of cumulative undesirable demand and its contributing factors. However, it must be noted that few other variables were competing with stress, hassles and life events in this analysis. The fact that all three usually appear meet model requirements for explaining unique variance is of interest.

Did weighted scores or simple tallies perform best in this research? It depended on the variable or symptom under consideration. The ILSE tallies were favored over the LEQ tallies, and they tended to appear in state-based symptom models (depression and state anxiety) over trait-based symptoms. It must be noted that the distribution for the simple tallies approached normality far better than the weighted scores of either the LEQ or ILSE. This study supports the use of item tallies if targeted statistics are sensitive to violations of symmetry or normality. Outliers may also be a risk with the weighted scores of ILSE or LEQ. In general, the total scores appeared to

account for more of the variance in symptoms than the tallies (5 out of 8 multiple regression solutions). In the discriminant function analysis, the ILSE and LEQ number of items accounted for only 9.94 and 9.82 percent of the variance between groups, while total weighted scores accounted for 25.77 and 17.08 percent, respectively. This would make some sense, since the weighted scores have a much greater range (and inferred sensitivity) to detect differences. But is the extreme sensitivity of the weighted scores (with their range reaching into the thousands) psychometric overkill? At what point do the severity measurements maximize their utility in predicting group membership or symptom severity? It may be that a simple weighting scheme applied to the ILSE complexity of answer (i.e., 1 for an A or AA rating, 5 for an R rating, 8 for an MR rating) by the highest stress level(s) may provide the optimal weighted score rather than raw sums which are more vulnerable to ongoing ranges with high stress ratings. Such analysis might be a future avenue of study for ISLE, but it is noted that such an exploration would begin to limit the flexibility and sensitivity of the instrument as it was initially developed. Since ILSE is designed in a radically idiographic format, there may be some room to tighten the ILSE psychometric properties without grossly limiting the sensitivity of the instrument for measuring the life of the individual.

Further study is needed to examine the statistical properties of ILSE. Factor analysis may reveal meaningful subsets of items for further research (i.e., chronic versus acute stressors and their relative severity). Further analysis of inter-item correlations may help clarify the utility of each individual life event represented, and these properties may be different for clinical and control participants. The scoring method for range (or ongoing) stressors was a simple addition of severity score times years included in the range. However, participants may need to be asked if, for example, a stressor of four years duration was actually four times more stressful than an acute stressor at that same severity (but one year or less duration). This leads to another potential weakness in that ILSE cannot measure acute events with any greater sensitivity than a one-year time-frame. There may be important additional information when stressors are measured in hours,

days, or weeks as opposed to year of occurrence. Further exploration of ILSE may indicate which acute life-event items may be amenable to finer distinctions in duration of the event.

Perhaps the greatest need for ILSE is not adjustment to format or scaling, but a set of standardized norms listed by gender and by age. This study is considered only an elaborate pilot of the instrument, with an insufficient N to justify standardized normative data. Such study is an implied next step in the research.

Individuals clearly displayed an ability to work with ILSE, despite the complicated instructions for the measure. Some individuals do have a hard time following the directions for ILSE, though this problem isn't as pervasive as initially expected in the project. Individuals with 8th to 9th grade education were able to complete the form. Many individuals with high school diplomas or GED equivalents completed the form with no confusion on follow-up inquiry.

Reported distress caused by memories associated with the instrument were rare, but did occur in at least two cases reported to the author. One case was a clinical inpatient, and the other a control participant in the community. One control participant completed a packet, yet did not forward it, because they felt the information was too important and too private to release. This may have occurred in an undetermined number of grossly incomplete packets eliminated from study. It was noted that with some clinical patients, the lack of structure inherent in the form may have prompted them to violate the boundary of the form: they began writing all over the form, telling the stories associated with the different item. This instrument, with its deeply personal questions and open structure, may cause excess distress in these clients, and they may require support or closer supervision to complete the instrument.

There are several limitations to the instrument at this time. ILSE takes 20-30 minutes to complete, and is excessively difficult to hand-score. A computer software program is badly needed to facilitate data entry and assure accuracy of scores, but due to the complex variations in how people can answer the items, this software requires programming skills beyond the level possessed by the author.

The separation of ILSE into Form A and Form B was done to help participants understand the instructions and help people focus on the most distant-past (age birth to 12 years). The need to help participants grasp instructions appears unnecessary for most individuals, since the vast majority of participants in this study sample understood and used the instrument in complex ways. The separate Form A , while it may have enhanced scores from ages six to ten, did not prove pivotal for scores from birth to age five. The separation of forms A and B caused increased difficulty scoring, and contributed to participant error and difficulty assigning levels of complexity to answers. For these reasons, collapsing forms A and B is suggested. Maintaining separate lines for different phases of life (i.e., 13-18, 19-30 years old, etc.) did appear to elicit more detailed thinking and responses from individuals, and collapsing those age categories is not recommended without further study about into the contribution of these lined groups to the level of answer detail.

Sampling for this study, though diverse, may suffer from self-selection bias, since participants were not randomly approached or assigned to groups and incentives could only be offered to clinical and college/university participants. Also, results of this research are not generalizable to individuals in substance-abuse detoxification, individuals with memory impairment, individuals with gross thought disorder, individuals with less than eighth-grade education, or mental health workers, since these groups were excluded from study.

Other sampling issues involve the final sample. Males are slightly underrepresented, as the middle-aged male control cell contains only 17 (instead of 25) individuals. Given the difficulty in soliciting male participation in this study, it is fortunate to have even approached a balanced design by gender. The sample is also curtailed for age, and it is suspected that the oldest age group would provide very important information to the study of ILSE. Given the difficulty in sampling non-memory-impaired and cooperative older inpatients, outpatients may need to become a focus of any further study in this age-group.

This project was designed with the agenda that meaningful stress measurement can occur in a semi-structured free-response format. If the findings of this initial extended pilot are indicative of the properties of this instrument, it may provide a unique alternative to both clinical application

and research which needs to tap differences between groups and the events they have experienced. Such studies might involve demographic subgroups or any groups where exposure to background or ongoing stress or traumata is thought suspect and possibly confounding to research designs. It may also serve as a more sensitive tool if finer between-group discriminations are needed regarding historic events or perception of stress, as well as the cognitive complexity with which individuals remember their lives. Tapping this cognitive complexity alone may provide clinicians with very valuable intake information, not only for the events experienced, but for the level of detail and complexity with which the individual holds in autobiographical memory.

References

Anastasi, A. (1982). Validity: Basic concepts. In Psychological Testing, Fifth Edition (pp. 148-150). New York: Macmillan.

Antonovsky, A. (1979). Stressors, Tension, and Stress in Health Stress and Coping (pp. 70-97). San Francisco: Jossey Bass.

Antonovsky, A., & Kats, R. (1967). The life crisis history as a tool in epidemiological research. Journal of Health and Social Behavior, 3, 15-21.

Barrera, M., Sandler, F.N. & Ramsey, T.B. (1981). Preliminary development of a scale of social support: Studies on college students. American Journal of Community Psychology, 9, 435-447.

Bauer, P. (1996). What do infants recall of their lives? Memory for specific events by one and two-year olds. American Psychologist, 51 (1) 29-41.

Bauer, P. & Dow G. (1994). Episodic memory in 16-and 20-month-old children: Specifics are generalized, but not forgotten. Developmental Psychology, 30, 403-417.

Bauer, P. & Wewerka, S. (1995). One-to two-year-olds recall of events: The more expressed the more impressed. Journal of Experimental Child Psychology, 59, 475-496.

Bernstein, E.M. & Putnam, F.W. (1986). Development, reliability and validity of a dissociation scale. Journal of Nervous and Mental Disease, 174, 727-735.

Billings, A.G., & Moos, R.H. (1981). The role of coping responses and social resources in attenuating the stress of life events. Journal of Behavioral Medicine, 4(2), 139-157.

Bourque, L.B., & Back, K.W. (1977). Life graphs and life events. Journal of Gerontology, 32(6), 669-674.

Brantley, P.J., Waggoner, C.D., Jones, G.N., & Rappaport, N.B. (1987). A daily stress inventory: Development, reliability and validity. Journal of Behavioral Medicine, 10, 61-74.

Breslau, N., Davis, G.C., Andreski, P. & Peterson, E. (1991). Traumatic events and posttraumatic stress disorder in an urban population of young adults. Archives of General Psychiatry, 48, 216-222.

Brown, G.W. (1974). Meaning, measurement and stress of life events. In B.P. Dohrenwend and B.S. Dohrenwend (Eds.) Stressful Life Events:Their Nature and Effects, (pp. 85). New York: Wiley.

Brown, G.W. (1981). Contextual measures of life events. In B.S. Dohrenwend and B.P. Dohrenwend (Eds.), Stressful Life Events and Their Contexts (pp. 187-201). New York: Neale Watson.

Campbell, D.T. & Fiske, D.W. (1959) Convergent and discriminant validation by the multitrait-multimethod matrix. Psychological Bulletin, 56, 81-105.

Campbell, D.T., & Stanley, J.C. (1963). Experimental and Quasi-experimental Designs for Research (pp. 67-68). Boston: Houghton Mifflin.

Carlson, E.B. & Putnam, F.W. (1993). An update on the dissociative experiences scale. Dissociation, 6(1), 16-27.

Casey, R.L., Matsuda, M., & Holmes, T.H. (1967). Quantitative study of recall of life events. Journal of Psychosomatic Research, 11, 239-247.

Christianson, S. & Loftus, E. (1987). Memory for traumatic events. Applied Cognitive Psychology, 11 (4), 225-239.

Christianson, S. & Loftus, E. (1990). Some characteristics of peoples traumatic memories. Bulletin of the Psychonomic Society, 28 (3), 195-198.

Cloitre, M., Cancienne, J., Brodsky, B., Dulit, R., & Perry, S. (1996). Memory performance among women with parental abuse histories: enhanced directed forgetting or directed remembering? Journal of Abnormal Psychology, 105 (2), 204-211.

Coddington, R.D. (1972). The significance of life events as etiologic factors in the diseases of children: a survey of professional workers. Journal of Psychosomatic Research, 16, 7-18.

Cohen, S., and Karmarck, T., & Mamelstein, R. (1983). A global measure of perceived stress. Journal of Health and Social Behavior, 24, 385-396.

Cook, T.D. & Campbell, D.T. (1979). Quasi-experimentation: Design and Analysis Issues for Field Settings (pp. 74-80). Boston: Houghton-Mifflin.

Cooke, D.J. (1985). The reliability of a brief life event interview. Journal of Psychosomatic Research, 29(4), 361-365.

Costa, P.T. & McCrae (1978). NEO PI-R Professional Manual: Revised NEO Personality Inventory and NEO Five-Factor Inventory. Odessa: Psychological Assessment Resources.

Crandall, C.S., Preisler, J.J. & Aussprung, J. (1992). Measuring life events stress in the lives of college students: The undergraduate stress questionnaire (USQ). Journal of Behavioral Medicine, 15(6), 627-659.

Dodd, D.H. & White, R.M. (1980). Cognition: Mental Structures and Processes (pp. 95-102). Boston: Allyn and Bacon.

Dohrenwend, B.S. (1973). Life events as stressors: A methodological inquiry. Journal of Health and Social Behavior, 14, 167-175.

Dohrenwend, B.S. & Dohrenwend, B.P. (1978). Some issues in research on stressful life events. Journal of Nervous and Mental Disease, 166, 7-15.

Dohrenwend, B.S. & Dohrenwend, B.P. (1981). Life stress and illness: formulation of the issues. In B.S. Dohrenwend and B.P. Dohrenwend, (Eds.) Stressful Life Events and Their Contexts. (pp. 1-27). New York: Neale Watson.

Dohrenwend, B.S., Dohrenwend, B.P., Dodson, M., & Shrout, P.E. (1984). Symptoms, hassles, social supports and life events: Problems of confounded measures. Journal of Abnormal Psychology, 93, 223-230.

Dohrenwend, B.S., Krasnoff, L., Askenasy, A. & Dohrenwend, B.P. (1978). Exemplification of a method for scaling life events: The PERI life event scale. Journal of Health and Social Behavior, 19, 205-229.

Erikson, E.H. (1950). Growth and crises of the "healthy personality". In J.E. Senn (Ed.), Symposium on the Healthy Personality. New York: Josiah Macy, Jr. Foundation.

Eysenck, H.J. (1960). The Structure of Human Personality. London: Methusala.

Fivush, R., & Hammond, N. (1989). Time and again: Effects of repetition and retention interval on 2 year olds' event recall. Journal of Experimental Child Psychology, 47, 259-273.

Goldberg, E.L. & Comstock, G.W. (1980). Epidemiology of life events: Frequency in general populations. American Journal of Epidemiology, 111(6), 736-752.

Grant, I., Patterson, T., Olshen, R., & Yager, J. (1987). Life events do not predict symptoms: Symptoms predict symptoms. Journal of Behavioral Medicine, 10(3), 231-240.

Grant, I., Yager, J., Sweetwood, H.L., & Olshen, R. (1982). Life events and symptoms: Fourier analysis of time series from a three-year prospective inquiry. Archives of General Psychiatry, 39, 598-605.

Helzer, J.E., Robins, L.N., & McEvoy, M.A. (1987). Post-traumatic stress disorder in the general population. New England Journal of Medicine, 317, 1630-1634.

Herman, J.L., Perry, C., & van der Kolk, B.A. (1989). Childhood trauma in borderline personality disorder. American Journal of Psychiatry, 146(4), 490-495.

Hocking, A. (1970). Psychiatric aspects of extreme environmental stress. Diseases of the Nervous System, 31, 542-545.

Holmes, T.H. & Masuda, M. (1974). Life change and illness susceptibility. In B.P. Dohrenwend and B.S. Dohrenwend (Eds.) Stressful Life Events: Their Nature and Effects (pp. 45-72). New York: Wiley.

Holmes, T.H. & Rahe, R.H. (1967). The social readjustment rating scale. Journal of Psychosomatic Research, 11, 213-218.

Horowitz, M., Schaefer, C., Hiroto, D., Wilner, N., & Levin, B. (1977). Life event questionnaires for measuring presumptive stress. Psychosomatic Medicine, 39(6), 413-431.

Horowitz, M., Wilner, N., & Alvarez, W. (1979). Impact of event scale: A measure of subjective tress. Psychosomatic Medicine, 41(3), 209-218.

Hough, R.L., Fairbank, D.T. & Garcia, A.M. (1976). Problems in the ratio measurement of life tress. Journal of Health and Social Behavior, 17, 70-82.

Jenkins, C.D., Hurst, M.W., & Rose, R.M. (1979). Life changes: Do people really remember? Archives of General Psychiatry, 36, 379-384.

Kale, W.L. & Stenmark, D.E. (1983). A comparison of four life event scales. American Journal of Community Psychology, 11(4), 441-458.

Kanner, A.D., Coyne, J.C., Schaefer, C., & Lazarus, R.S. (1981). Comparison of two modes of stress measurement: daily hassles and uplifts versus major life events. Journal of Behavioral Medicine, 4, 1-39.

Kendler, K.S., Kessler, R.C., Neale, M.C., Heath, A.C., & Eaves, L.J. (1993). The prediction of major depression in women: Toward an integrated etiologic model. American Journal of Psychiatry, 150(8), 1139-1148.

Klein, D.N. & Rubovits, D.R. (1987). The reliability of participants' reports on stressful life events inventories: A longitudinal study. Journal of Behavioral Medicine, 10, 501-512.

Kleinbaum, D.G., Kupper, L.L., & Muller, K.E. (1988). Correlations: Multiple, partial and multiple-partial. In Applied Regression Analysis and Other Multivariable Methods, Second Edition (pp. 144-162). Boston: PWS-Kent.

Kohn, P.M., LaFreniere, K, & Gurevich, M (1990). The inventory of college students' recent life experiences: A decontaminated hassles scale for a special population. Journal of Behavioral Medicine, 13(6), 619-629.

Kohn, P.M. & Macdonald, J.E. (1992). The survey of recent life experiences: A decontaminated hassles scale for adults. Journal of Behavioral Medicine, 15(2), 221-236.

Lazarus, R.S., DeLongis, A., Folkman, S., & Gruen, R. (1985). Stress and adaptational outcomes: The problem of confounded measures. American Psychologist, 40, 770-779.

Levenstein, S., Prantera, C., Varvo, V., Scribano, M., Berto, E., Luzi, C., & Andreoli, A. (1993). Development of the perceived stress questionnaire: A new tool for psychosomatic research. Journal of Psychosomatic Research, 37(1), 19-32.

Levi, L. (1974). Psychosocial stress and disease: A conceptual model. In E.K. Gunderson and R.H. Rahe (Eds.), Life Stress and Illness. Springfield, Ill.: Charles C. Thomas.

Loftus, E. & Christianson, S. (1989). Malleability of memory for emotional events. In T. Archer & L.G. Nilsson (Eds.) Aversion, avoidance and anxiety: Perspectives on aversively motivated behavior (pp. 311-322). New York: Wiley.

Loftus, E., & Fathi, D. (1985). Retrieving autobiographical memories. Social Cognition, 3 (3), 280-295.

Loftus, E., Garry, M., & Feldman, J. (1994). Forgetting sexual trauma: What does it mean when 38% forget? Journal of Consulting and Clinical Psychology, 62 (6), 1177-1181.

Loftus, E., & Kaufman, L. (1993). Why do traumatic experiences sometimes produce good memory (flashbulbs) and sometimes no memory (repression)? In Eugene Winograd and Ulric Neisser (Eds.) Emory Symposia in Cognition, 4 (pp. 212-223). New York: Cambridge University Press.

Magnus, K., Diener, E., Fujita, F., & Pavot, W. (1993). Extraversion and neuroticism as predictors of objective life events: A longitudinal analysis. Journal of Personality and Social Psychology, 65 (5), 1046-1053.

Means, B. & Loftus, E. (1991). When history repeats itself: Decomposing memories for recurring events. Applied Cognitive Psychology, 5 (4), 297-318.

Meyer, A. (1951). The life chart and the obligation of specifying positive data in psychopathological diagnosis. In E.E. Winters (Ed.) The Collected Papers of Adolph Meyer, Volume III: Medical Teaching (pp. 52-56). Baltimore: Johns Hopkins Press.

Moffitt, K.H., Singer, J.A., Nelligan, D.W., Carlson, M.A., & Vyse, S.A. (1994). Depression and memory narrative type. Journal of Abnormal Psychology, 103(3): 581-583.

Monroe, S. (1982). Assessment of life events: Retrospective versus concurrent strategies. Archives of General Psychiatry, 39, 606-610.

Murrell, S.A. & Norris, F.H. (1983). Resources, life events, and changes in psychological states: A prospective framework. American Journal of Community Psychology, 11(5), 473-491.

Myers, J.K., Lindenthal, J.J., & Pepper, M.P. (1972). Life events, social integration and psychiatric symptomology. Journal of Health and Social Behavior, 13, 421-427.

Nelson, P., Mensh, I., Hecht, E., & Schwartz, A. (1972). Variables in the reporting of recent life changes. Journal of Psychosomatic Research, 16, 465-471.

Paulhus, D.L. (1991). BIDR References Manual for Version 6 (pp. 2-30). Paykel, E.S. (1983). Methodological aspects of life events research. Journal of Psychosomatic Research, 27(3), 341-352.

Paykel, E.S., Prusoff, B.A., & Ulenhuth, E.H. (1971). Scaling of life events. Archives of General Psychiatry, 25, 340-347.

Rabkin, J.G., & Struening, E.L. (1976). Life events, stress and illness. Science, 194, 1013-1020.

Radloff (1977). The CES-D scale: A self-report depression scale for research in the general population. Applied Psychiatric Measurement, 1(3), 385-401.

Reich, W.P., Parrella, D.P., & Filstead, W.J. (1988). Unconfounding the hassles scale: External sources versus internal responses to stress. Journal of Behavioral Medicine, 11(3), 239-249.

Rosenberg, E.J. & Dohrenwend, B.S. (1975). Effects of experience and ethnicity on ratings of life events as stressors. Journal of Health and Social Behavior, 16, 127-129.

Ross, C. A., (1991). Epidemiology of MPD and dissociation. Psychiatry Clinics of North America, 14(3), 503-517.

Ross, C.A., Joshi, S., & Currie, R. (1990). Dissociative experiences in the general population. American Journal of Psychiatry, 147, 1547-1552.

Sarason, I.G., Johnson, J.H., & Siegel, J.M. (1978). Assessing the impact of life changes: Development of the life experiences survey. Journal of Consulting and Clinical Psychology, 46, 932-946.

Selye, H. (1956). The Stress of Life. New York: McGraw Hill.

Singer, J.A. & Moffitt, K.H. (1991-1992). An experimental investigation of specificity and generality in memory narratives. Imagination, Cognition and Personality, 11, 223-257.

Singleton, W.T. (1974). Comment on Lennart Levi's psychosocial stress and disease: A conceptual model. In E.K. Gunderson and R.H. Rahe (Eds.), Life Stress and Illness. Springfield, Ill.: Charles C. Thomas.

Sobell, L.C., Toneatto, T., Sobell, M.B., Schuller, R., & Maxwell, M. (1990). A procedure for reducing errors in reports of life events. Journal of Psychosomatic Research, 34(2), 163-190.

Speilberger, E.D. (1983). Manual for the state-trait anxiety inventory. Palo Alto: Mind Garden.

Steele, G.P., Henderson, S., & Duncan-Jones, P. (1980). The reliability of reporting adverse experiences. Psychological Medicine, 10(2), 301-306.

Tabachnick, B.G. & Fidell, L.S. (1989). Using Multivariate Statistics. New York: Harper and Row.

Tennant, C. & Andrews, G. (1978). The pathogenic quality of life event stress in neurotic impairment. Archives of General Psychiatry, 35, 859-863.

Terr, L. (1988). What happens to early memories of trauma? A study of 20 children under age five at the time of documented traumatic events. Journal of the American Academy of Child and Adolescent Psychiatry, 27(1), 96-104.

Thurlow, H.J. (1971). Illness in relation to life situation and the sick-role tendency. Journal of Psychosomatic Research, 15, 73-88.

Uhlenhuth, E.G., Lizman, R.S., Batter, M.B., & Stern, M. (1974). Symptom intensity and life stress in the city. Archives of General Psychiatry, 31, 759-764.

van der Kolk, B.A. (1987). Psychological Trauma. Washington, D.C.: American Psychiatric Press.

Appendix A

Frequency and Style of Response by Item (in percent)

Item	Level	A	AA	MA	R	MR	RA
# and (%) reporting of 184 participants,		%Clinical / %Control					
1) Parents Separate or Divorce							
90 (49)	60/40	52.2	22.2	13.3	7.8	1.1	3.3
2) Gaining a new family member							
127 (69)	49/51	45.7	15.0	34.6	0.8	2.4	1.6
3) Death or loss of a pet							
152 (83)	52/48	38.8	13.2	44.7	1.3	0.0	2.0
4) Being ignored/lack of attention from family							
110 (60)	64/36	25.5	6.4	14.5	20.0	17.3	16.4
5) Witness or victim of crime							
88 (48)	62/38	44.3	17.0	21.6	6.8	2.3	8.0
6) Seriously ill or injured							
135 (73)	55/45	50.4	12.6	25.9	4.4	0.0	6.7
7) A family member is seriously ill or injured							
136 (74)	50/50	41.9	9.6	28.7	5.1	2.2	12.5
8) Illness, injury or death of a close friend							
110 (59)	58/42	60.9	10.9	23.6	3.6	0.0	0.9
9) Family arguments							
151 (82)	54/46	17.2	4.6	13.9	36.4	14.6	13.2
10) Concern for your safety or a family member's safety							
120 (65)	58/42	29.2	7.5	12.5	27.5	9.2	14.2
11) Develop a visible disfigurement or deformity							
43 (23)	63/37	46.5	9.3	18.6	11.6	9.3	4.7
12) Parent's loss of work/unemployment							
52 (28)	40/60	63.5	7.7	5.8	13.5	3.8	5.8
13) Family financial hardship or debt							
106 (58)	55/45	23.6	10.4	11.3	33.0	9.4	12.3

Appendix A Continued

Item	Level	A	AA	MA	R	MR	RA
# and (%) reporting of 184 participants,			%Clinical / %Control				
14) Physically abused by someone							
82 (44)	72/28	22.0	6.1	12.2	28.0	19.5	12.2
15) Pregnancy or partner's pregnancy							
87 (47)	63/37	41.4	26.4	26.4	5.7	0.0	0.0
16) Brother or sister leaves home							
102 (55)	54/46	70.6	4.9	21.6	2.0	0.0	1.0
17) Death of a close family member							
158 (86)	51/49	38.0	15.2	42.4	3.2	0.0	1.3
18) Being taken advantage of							
95 (52)	56/44	38.9	6.3	18.9	15.8	9.5	10.5
19) Use drugs or alcohol							
130 (71)	58/42	20.0	7.7	9.2	29.2	16.9	16.9
20) Relationship stresses/romantic							
158 (86)	53/47	39.9	13.3	36.7	5.1	1.3	3.8
21) Being let down by friends							
139 (76)	55/45	20.1	7.2	25.9	19.4	9.4	18.0
22) Work-related stress							
146 (79)	52/48	30.8	6.8	14.4	22.6	12.3	13.0
23) Change/loss of enjoyed activities							
115 (62)	56/44	33.0	7.0	21.7	14.8	7.0	16.5
24) Lack/loss of friends							
138 (75)	59/41	27.5	5.1	23.9	21.0	8.7	13.8
25) Academic pressure							
102 (55)	56/44	36.3	7.8	14.7	21.6	7.8	11.8
26) Boredom/feeling isolated							
146 (79)	59/41	17.8	7.5	11.6	29.5	14.4	19.2
27) Legal problems self/family							
78 (42)	65/35	46.2	10.3	12.8	17.9	3.8	9.0

Appendix A Continued

Item	Level	A	AA	MA	R	MR	RA
# and (%) reporting of 184 participants,		%Clinical / %Control					
28) Being teased/bullied/not accepted							
117 (66)	62/38	29.1	7.7	7.7	34.2	13.7	7.7
29) Parents use drugs or alcohol							
70 (38)	71/29	17.1	7.1	5.7	41.4	18.6	10.0
30) Problems where you live; noise, traffic, commuting, crime							
68 (37)	48/52	29.4	4.4	10.3	36.8	11.8	7.4
31) Sexually abused or assaulted							
63 (34)	73/27	38.1	11.1	12.7	25.4	4.8	7.9
32) A parent or you as parent are absent from the home							
78 (42)	63/37	39.7	10.3	12.8	29.5	2.6	5.1
33) Criticism from parents/family							
123 (67)	59/41	13.0	4.1	11.4	35.8	20.3	15.4
34) In a traffic accident, with or without injury							
128 (70)	54/46	51.6	12.5	32.0	2.3	0.0	1.6
35) Moving							
161 (87)	53/47	18.0	12.4	51.6	8.7	1.2	8.1
36) Parent or you remarry							
96 (52)	58/42	67.7	8.3	20.8	2.1	1.0	0.0
37) Additional item 1							
55 (30)	60/40	60.0	5.5	10.9	21.8	1.8	0.0
38) Additional item 2							
28 (15)	61/39	57.1	7.1	0.0	28.6	3.6	3.6
39) Additional item 3							
9 (5)	89/11	22.2	0.0	0.0	77.8	0.0	0.0
40) Additional item 4							
6 (3)	100/0	50.0	0.0	0.0	33.3	0.0	16.7

Appendix B

Event Severity: Item by Item Descriptives

Item	Age of Onset	Score	% of Total PCT
mean (s.d) Clinical / Control			
1) Parents Separate or Divorce	16.7 (12.3)	21.5 (28.1)	2.1 (2.7)
	12.5 (11.8)	11.7 (11.6)	2.7 (2.8)
2) Gaining a new family member	9.6 (8.6)	10.5 (9.2)	1.2 (1.5)
	8.5 (10.1)	8.0 (9.9)	2.3 (3.1)
3) Death or loss of a pet	11.8 (8.0)	18.8 (27.9)	2.2 (2.8)
	10.4 (5.7)	12.7 (11.6)	4.3 (5.0)
4) Being ignored/lack of attention	8.8 (7.6)	101.1 (94.5)	7.0 (6.0)
from family	12.7 (8.7)	37.6 (58.8)	5.7 (6.5)
5) Witness or victim of crime	15.8 (10.0)	33.2 (51.0)	2.7 (3.8)
	17.9 (7.9)	18.3 (27.2)	3.5 (4.7)
6) Seriously ill or injured	14.0 (10.8)	28.9 (43.0)	2.4 (3.9)
	11.9 (9.6)	13.4 (16.4)	3.1 (2.4)
7) A family member is	14.4 (10.5)	28.0 (31.0)	2.5 (2.0)
seriously ill or injured	15.4 (10.1)	20.0 (19.8)	6.2 (7.4)
8) Illness, injury or death	20.8 (11.9)	14.8 (17.0)	1.6 (1.9)
of a close friend	20.8 (9.3)	12.7 (8.8)	4.8 (5.1)
9) Family arguments	8.8 (6.4)	106.5 (94.3)	8.3 (5.8)
	13.0 (8.7)	44.7 (48.5)	9.0 (7.1)
10) Concern for your safety	14.0 (11.9)	79.3 (83.5)	5.3 (4.5)
or a family member's safety	15.6 (10.4)	37.5 (36.0)	7.6 (7.3)
11) Develop a visible	13.9 (10.5)	46.3 (73.5)	3.0 (3.6)
disfigurement or deformity	14.4 (9.9)	38.9 (73.0)	6.4 (12.4)
12) Parent's loss of	12.1 (7.2)	25.7 (31.5)	1.8 (1.6)
work/unemployment	15.9 (7.4)	12.4 (20.3)	2.7 (2.4)
13) Family financial hardship	11.8 (11.4)	54.2 (54.1)	4.4 (4.8)
or debt	14.0 (10.1)	40.2 (45.9)	7.3 (7.5)

Appendix B Continued

Item mean (s.d) Clinical / Control	Age of Onset	Score	% of Total PCT
14) Physically abused by someone	7.3 (5.8)	70.9 (58.0)	6.5 (9.2)
	9.6 (6.5)	37.0 (37.9)	5.3 (4.8)
15) Pregnancy or	20.7 (5.9)	11.0 (8.7)	1.0 (1.0)
partner's pregnancy	23.3 (6.2)	10.4 (7.2)	2.7 (2.6)
16) Brother or sister leaves home	14.0 (5.5)	6.9 (6.0)	.8 (1.4)
	14.5 (5.1)	5.5 (5.1)	1.6 (1.4)
17) Death of a close	15.6 (9.3)	16.6 (12.8)	2.1 (2.5)
family member	14.4 (8.4)	15.3 (15.5)	6.7 (10.1)
18) Being taken advantage of	16.0 (9.6)	54.0 (70.4)	4.0 (4.8)
	20.1 (8.4)	22.6 (25.5)	4.5 (3.3)
19) Use drugs or alcohol	15.4 (5.3)	60.5 (68.5)	6.3 (8.9)
	16.4 (3.3)	19.8 (24.8)	5.5 (9.4)
20) Relationship stresses	19.5 (7.7)	26.4 (30.2)	2.9 (2.7)
/romantic	18.5 (5.2)	13.7 (7.8)	4.3 (3.5)
21) Being let down by friends	11.9 (7.9)	69.8 (72.0)	5.9 (5.3)
	14.5 (8.6)	30.1 (41.3)	6.3 (4.3)
22) Work-related stress	20.6 (8.3)	64.2 (65.0)	5.8 (6.6)
	22.6 (8.3)	27.3 (40.2)	6.7 (8.8)
23) Change/loss of	17.7 (9.8)	49.7 (57.4)	3.9 (3.5)
enjoyed activities	15.6 (7.7)	15.3 (15.7)	3.3 (2.3)
24) Lack/loss of friends	14.4 (10.2)	63.5 (76.3)	5.0 (4.6)
	16.2 (9.0)	24.6 (29.3)	4.9 (4.5)
25) Academic Pressure	14.1 (7.5)	38.1 (41.0)	4.2 (6.1)
	16.9 (6.7)	17.6 (14.8)	5.4 (5.2)
26) Boredom/feeling isolated	12.2 (8.4)	95.0 (82.8)	7.1 (4.6)
	16.0 (9.9)	29.7 (41.8)	5.3 (4.2)

Appendix B Continued

Item mean (s.d) Clinical / Control	Age of Onset	Score	% of Total PCT
27) Legal problems self/family	23.7 (11.2)	42.3 (56.0)	3.1 (3.9)
	19.3 (9.8)	18.1 (21.1)	4.2 (3.2)
28) Being teased/bullied/ not accepted	9.5 (4.1)	65.9 (64.4)	5.0 (3.8)
	10.4 (5.7)	26.1 (35.1)	4.9 (4.0)
29) Parents use drugs or alcohol	7.5 (6.5)	105.3 (107.0)	7.6 (8.6)
	8.5 (6.0)	83.4(96.3)	10.1(9.3)
30) Problems where you live; noise, traffic, commuting, crime	17.2 (11.9)	51.8 (64.5)	2.9 (2.9)
	19.7 (12.3)	26.7 (35.0)	4.9 (5.0)
31) Sexually abused or assaulted	11.6 (7.3)	54.6 (59.1)	5.1 (10.5)
	11.7 (7.0)	14.0 (18.0)	3.0 (3.5)
32) A parent or you as parent are absent from home	17.5 (10.9)	26.6 (31.7)	2.2 (2.9)
	15.8 (6.9)	18.9 (43.0)	5.3 (11.5)
33) Criticism from parents/family	9.1 (6.4)	124.4 (93.9)	9.0 (5.4)
	13.1 (8.5)	53.2 (54.6)	9.6 (6.8)
34) In a traffic accident, with or without injury	18.7 (9.8)	12.6 (8.5)	1.3 (1.1)
	16.7 (7.7)	9.5 (6.8)	2.4 (1.8)
35) Moving	10.6 (7.5)	42.4 (56.7)	3.4 (3.8)
	12.4 (9.0)	21.8 (20.8)	5.6 (5.4)
36) Parent or you marry/remarry	19.5 (8.7)	10.8 (13.3)	.9 (.7)
	22.7 (10.2)	6.1 (5.2)	1.7 (2.0)
37) Additional item 1	13.6 (9.0)	32.9 (64.4)	3.1 (5.3)
	15.1 (9.9)	13.7 (11.6)	2.9 (3.0)
38) Additional item 2	17.2 (10.9)	51.6 (73.5)	3.4 (3.4)
	16.0 (9.4)	26.9 (40.1)	5.5 (8.9)
39) Additional item 3	12.7 (12.2)	32.9 (21.9)	3.0 (3.1)
	34.0 (.)	7.0 (.)	1.2 (.)
40) Additional item 4	18.3 (11.2)	62.3 (83.5)	9.9 (.3)
	. .	. .	. .

Appendix C

Letters of Permission for Materials

Beloit
COLLEGE
700 College Street
Beloit, Wisconsin 53511-5595

Eve Bernstein Carlson
Department of Psychology
Phone: (608) 363-2644
FAX: (608) 365-0806

Dear Colleague:

Enclosed is a reprint of "An Update on the Dissociative Experiences Scale" (which is also a manual for the DES) and a list of references for studies that have used or discussed the use of the DES as a measure of dissociation. Because the large volume of requests I get for DES information puts an undue burden on our small college budget, I am asking for a payment of $2 for the reprint. This covers the cost of the reprint, a list of references for studies using the DES, and postage. If possible, please send cash or a check for $2 to me at the address above.

Feel free to photocopy the article or the scale for use in research or clinical work and to give it to interested colleagues. You can copy the scale in the appendix for your use. You do not need special permission to use the DES in your research or clinical work. I have full-size copies available as well. If you would like me to send a full-size copy of the scale, please enclose an extra $1.

Sincerely,

Eve Bernstein Carlson, Ph.D.
Assistant Professor

Appendix C Continued

PARTMENT OF HEALTH & HUMAN SERVICES Public Health Service

National Institutes of Health
Bethesda, Maryland 20892

Dear Colleague:

Thank you for your inquiry regarding the CES-D Scale. We are always happy to have the scale used by qualified researchers. The scale is in the public domain, therefore, it may be used without copyright permission.

If the CES-D scale is used in your study or research, we would appreciate receiving copies of your results. We are trying to maintain records of the scale's effectiveness and the various areas in which it is most useful.

Please feel free to call us if you have any questions. Our number is (301) 443-3774.

Sincerely,

Karen N. Bowden (L.L.)

Epidemiology and Psychopathology
Research Branch
Division of Epidemiology and
Services Research
National Institute of Mental Health
National Institutes of Health

Enclosures

Appendix D

Selected Study Packet Materials

Demographics Form

BACKGROUND DATA SHEET

Today's date _____ ID# _____
Site _____

The following information is for analysis purposes only, to see if there are important differences between groups.

1) Your Date of Birth _____ 2)Ethnicity ___White ___African-American ___Hispanic ___Asian ___Other 3)Sex ____ Female ____ Male

4) Your Education _____years
5) Highest Degree _____

6) Marital Status ___Single ___Married ___Separated ___Divorced ___Widowed

7) Do you have children? yes no Number ____ Ages _____

8) Do you have step-children? yes no Number ____ Ages _____

9) Type of family you grew up in:
_____Nuclear family (mother and father)
_____Single-parent family
_____Blended family (step parent or step brothers/sisters)
_____Adopted family
_____Foster family

10) Are you employed at this time? yes no Occupation: _____

11) What is your approximate gross income (before taxes)?
Under $10,000 ____
10 to $20,000 ____
20 to $30,000 ____
30 to $40,000 ____
40 to $50,000 ____
over $50,000 ____

12) What is your opinion about the effectiveness of psychotherapy, or talking about problems with a professional? (please circle a rating)

I am strongly opposed to it		Feel it neither hurts nor helps		I strongly support using it
1	2	3	4	5

13) Have you ever sought counseling or psychotherapy in the past? yes no
(this can include pastoral counseling, marriage counseling, or any type of therapy with a psychologist, psychiatrist, social worker, or certified RN)
Are you in therapy now? yes no

14) What kind of therapist(s) have you worked with? (check any that apply)

___ Psychiatrist ___Psychologist ___Counselor ___Social Worker ___Nurse ___Pastor

15) About how many months total have you attended psychotherapy? _____

Appendix D Continued

Background Memories Form (front page)

Background Memories

This form is a device to help people remember different times in their lives. Please think of your life from the earliest time you can remember up to age 6, near the end of preschool. Please answer the following questions. You do not have to list full names or addresses with cities.

1) Name any of your playmates during this time (first name only)_____

_____ _____

2) What cities or towns did you live in? _____

3) Describe in one sentence a house or apt. where you lived _____

_____

4) What was your favorite toy as a child? _____

5) How many people were supportive of you, who you could depend on? 1 2 3 4 5 6 7+

How many of these people were consistent, were always there? 1 2 3 4 5 6 7+

Please think of your life through elementary school up to age 12 and answer the following questions:

1) Name three of your best friends during this time. (first name only) _____

_____

_____

2) What cities or towns did you live in? _____

3) Can you list any of your old street addresses? _____

_____

4) Name a teacher you had in each grade:

Kindergarten _____
1st grade _____ **2nd grade** _____
3rd grade _____ **4th grade** _____
5th grade _____ **6th grade** _____

5) How many people were supportive of you, who you could depend on? 1 2 3 4 5 6 7+

How many of these people were consistent, were always there? 1 2 3 4 5 6 7+

Please think of your life through junior high, and high school, age 12 up to age 18. Please answer the following questions.

1) Can you list any of your old street addresses? _____

_____

2) What cities or towns did you live in? _____

3) Name three of your best friends during this time (first name only) _____ _____

_____

_____

Appendix D Continued

The Inventory of Life Span Events

The next few pages will ask you to rate events which have happened in your life, from your early childhood to the present. First you will be asked to remember some things in your life when you were young. Then you will be asked about your later and current life. For different events, just give us your age when they happened and rate how stressful they were to you. To complete the form, list your age or ages in years when events occurred for you, by marking it, like this:

Age(s) 5

Then mark how stressful that event was to you at the time, by circling your rating, like this:

	Not at all stressful										Extremely stressful
Parents separate or divorce											
0 to 12 years old Age(s) 5	0	1	2	3	4	5	6	(7) 5	8	9	10

If an event happened more than once, rate each time by putting your age next to the rating:

	Not at all stressful										Extremely stressful
Parents separate or divorce											
0 to 12 years old Age(s) 5, 7, 11	0	1	2	(3) 11	4	(5) 7	6	(7) 5	8	9	10

In this example, the person's parent divorced twice. They separated when s/he was 5, divorced when s/he was 7 and got another separation/divorce when s/he was 11. The first separation was the most stressful event. *If you were told about an event you can't remember, you can put a "T" next to the the age and estimate how stressful it was for you.*

If an event happened over a long period of time (across years), you can tell us by just putting an age range:

	Not at all stressful										Extremely stressful
Parents separate or divorce or remarry								5to7			
0 to 12 years old Age(s) 5to7, 11	0	1	-	(3) 11	4	5	6	(7)	8	9	10

In this example the person considers the first separation and divorce to be one long-term event and not separate events. Then the parent had another separation/divorce when s/he was 11, which is like a shorter event. The 5-7 age range tells that the first separation and divorce went on over a long period of time, and it was more stressful.

This inventory first asks about childhood (in Part A), and, with different wording, asks about later life (in Part B). "In adulthood", means when you either moved away from home, reached age 21, or when you considered yourself an adult.

At what age did you consider yourself an adult? At age _____ (please write an age here)

Please read each question carefully. Fill in the lines needed up to your current age; if you are 21, do the 19 to 30 (young adult) line but obviously you can't complete 31 to 45 or 46 and up. Part A will help you to get used to the format. Not all questions will apply to your life, but review each one and consider it carefully. The time needed to complete the form will vary from person to person, depending on the kinds of events in the person's life. Please be sure and turn over pages, since there are items on the back. You can turn the page to item 1.

2/1/95

Appendix D Continued

Form A: Early Life

Please read the items and mark an item if it happened in your life. Write above each stress rating (circled) the age that it goes with, so we know how to link a stress score with a certain time in your life.

		Not at all stressful										Extremely stressful
1)	Parents separate or divorce											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
2)	Gaining a new family member (a new brother, sister, adoption, a family member moving in)											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
3)	Death or loss of a pet											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
4)	Being ignored or lack of attention from family											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
5)	Witness or victim of crime											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
6)	You are seriously ill or injured											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
7)	A family member is seriously ill or injured											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
8)	Illness, injury, or death of a close friend											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
9)	Family arguments; parents arguing or arguments with parents											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
10)	You have concern for your safety or a family member's safety											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
11)	You develop or have a visible disfigurement or deformity.											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
12)	Parent's loss of work/parent's unemployment											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10

Appendix D Continued

	Not at all stressful										Extremely stressful
13) Family financial hardship or debt											
0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
14) Being physically abused by someone, including excessive spankings or whippings											
0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
15) Your pregnancy (or, for men, partner's pregnancy)											
0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
16) Brother or sister leaves home											
0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
17) Death of a close family member (parent, grandparent, brother, sister, etc.)											
0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
18) Being taken advantage of by others; includes getting "ripped off" or cheated in the purchase of services											
0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19) You use drugs or alcohol											
0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
20) Relationship stresses; an important dating or romantic relationship ends											
0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
21) Being let down or disappointed by friends; conflict with friends; being treated differently by friends											
0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
22) You experience work-related stress											
0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
23) Change of or losing enjoyed activities											
0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
24) Lack of or loss of friends											
0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10

Appendix D Continued

		Not at all stressful										Extremely stressful
25)	Academic pressure; including probation, expulsion from school or having to drop-out											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
26)	Boredom or feeling isolated											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
27)	Parent has legal problems											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
28)	Being teased, bullied, or not accepted by peers											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
29)	Parents use drugs or alcohol											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
30)	Problems where you live; including noise, traffic, commuting or crime											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31)	Being sexually abused or sexually assaulted											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
32)	A parent is absent from the home for more than three months (parents are not separated or divorced)											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
33)	Criticism from parents or family											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
34)	You are in a traffic accident, with or without injury											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
35)	Moving											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
36)	Parent remarries											
	0 to 12 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10

Appendix D Continued

Any additional events you wish to include:

		Not at all stressful										Extremely stressful
37) _____												
0 to 12 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
38) _____												
0 to 12 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
39) _____												
0 to 12 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10

Appendix D Continued

Form B: After Childhood

Please read the items and mark an item if it happened in your life. Write by each rating the age that goes with it.

Not at all stressful — Extremely stressful

1) Parents separate or divorce;
also in adulthood you go through separation or divorce

13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10

2) Gaining a new family member
(a new brother, sister, you have a child, adoption, a family member moving in)

13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10

3) Death or loss of a pet

13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10

4) Being ignored or lack of attention from family

13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10

5) Witness or victim of crime

13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
45 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10

Appendix D Continued

		Not at all stressful										Extremely stressful
6)	You are seriously ill or injured											
	13 to 18 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	19 to 30 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	31 to 45 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	46 years and up Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
7)	A family member is seriously ill or injured											
	13 to 18 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	19 to 30 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	31 to 45 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	46 years and up Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
8)	Illness, injury, or death of a close friend											
	13 to 18 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	19 to 30 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	31 to 45 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	46 years and up Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
9)	Family arguments: parents arguing or arguments with parents											
	13 to 18 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	19 to 30 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	31 to 45 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	46 years and up Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
10)	You have concern for your safety or a family member's safety											
	13 to 18 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	19 to 30 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	31 to 45 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	46 years and up Age(s) _____	0	1	2	3	4	5	6	7	8	9	10

Appendix D Continued

		Not at all stressful										Extremely stressful
11) You develop or have a visible disfigurement or deformity												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
12) Parent's loss of work/parent's unemployment												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
13) Family financial hardship or debt												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
14) Being physically abused by someone, including excessive spankings or whippings in childhood												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
15) Your pregnancy (or, for men, partner's pregnancy)												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10

Appendix D Continued

		Not at all stressful										Extremely stressful
16) Brother or sister leaves home												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
17) Death of a close family member (parent, grandparent, brother, sister, spouse, child, etc.)												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
18) Being taken advantage of by others; includes getting "ripped off" or cheated in the purchase of services												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19) You use drugs or alcohol												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
20) Relationship stresses; an important dating or romantic relationship ends												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10

Appendix D Continued

		Not at all stressful										Extremely stressful
21)	Being let down or disappointed by friends; conflict with friends; being treated differently by friends											
	13 to 18 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	19 to 30 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	31 to 45 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	46 years and up Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
22)	You experience work-related stress											
	13 to 18 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	19 to 30 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	31 to 45 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	46 years and up Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
23)	Change of or losing enjoyed activities											
	13 to 18 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	19 to 30 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	31 to 45 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	46 years and up Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
24)	Lack of or loss of friends											
	13 to 18 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	19 to 30 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	31 to 45 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	46 years and up Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
25)	Academic pressures; including probation, expulsion from school or having to drop-out											
	13 to 18 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	19 to 30 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	31 to 45 years old Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
	46 years and up Age(s) _____	0	1	2	3	4	5	6	7	8	9	10

Appendix D Continued

		Not at all stressful										Extremely stressful
26) Boredom or feeling isolated												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
27) Parent has legal problems; also in adulthood you have legal problems or are involved in a court case or arrested												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
28) Being teased, bullied, or not accepted by peers												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
29) Parents use drugs or alcohol												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
30) Problems where you live; including noise, traffic, commuting or crime												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10

Appendix D Continued

		Not at all stressful										Extremely stressful
31) Being sexually abused or sexually assaulted												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
32) A parent is absent from the home more than three months, in adulthood you are absent from your home more than three months												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
33) Criticism from parents or family												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
34) You are in a traffic accident, with or without injury												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
35) Moving												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10

Appendix D Continued

		Not at all stressful										Extremely stressful
36) A parent remarries or, in adulthood, you marry or remarry												
13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10

If any events have been overlooked, please add them here.

37) _____

13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10

38) _____

13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10

39) _____

13 to 18 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
19 to 30 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
31 to 45 years old	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10
46 years and up	Age(s) _____	0	1	2	3	4	5	6	7	8	9	10

Appendix D Continued

Final sheet:

1) At any time, did you need to withold information on this form? If so, why?

2) Are there any times in your life that you cannot remember, and feel that most people should be able to remember?

yes no if yes, what age(s)? _____

If yes, does this cause you concern?

3) Were any items really confusing? yes no
If so, which ones? _____

Appendix D Continued

Early Memories Form

Early Memories Sheet

ID# _____

Please Briefly describe three of your very earliest memories. Describe the memory and the event(s) that surround the memory. When you have described the memory, tell us your age at the time and any feeling that is associated with the memory.

Memory 1: **Age** ____ **The Feeling is** _____

_____

_____

_____

_____

_____

Memory 2: **Age** ____ **The Feeling is** _____

_____

_____

_____

_____

_____

Memory 3: **Age** ____ **The Feeling is** _____

_____

_____

_____

_____

_____

Appendix D Continued

Cover Letter for Packet, Abbreviated

This is the project Life Events. The packet contains several pencil-and-paper forms for you to complete. Each form measures a different and unique thing, so it's important to complete all the measures in the order they are presented in the packet. *Be very careful; some forms have front and back pages.* Please finish the packet, and drop it in the collection box by this day of the week next week. The collection box is located_____. Completion time for the measures may vary, but many individuals will finish the packet in about 90 minutes. You can take breaks if you need to, but please complete the packet within 24 hours after you have started. All data associated with this project is coded by ID number, and your name will not be associated with the data to preserve your privacy.

There is a slip of paper on the front of the packet. It is for the special extension study, which would involve filling out a much shorter packet 6 weeks from now. The packet will be sent to you by mail with a stamped, self-return envelope. You just complete it and drop it in the mail. Completion time would be 45 minutes or less. If you can join that section, just fill out the slip and put it back in the packet. I will use the slip to mail it to you and when your envelope is returned, your address and identifying information will be destroyed to preserve your privacy.

If you have any questions, feel free to call me at (704) 438-0864 and I will return your call just as soon as possible. A debriefing form will be sent to the locale of the collection box when this project is completed.

Julie Dickison, M.A.

3/16/95

Appendix D Continued

Cover letter for Packet, Extended

Thanks for your interest in the study Life Events. I'm Julie Dickison, the researcher, and this study is a doctoral dissertation in clinical psychology. It is a study of people's lives and experiences, and their feelings. Life Events consists of a packet of questionnaires. Each measure within the packet actually represents a different point of view and different assumptions about people's lives. Thus, it is important to complete the measures in the order that they are in. Hang with me—the measures may seem a little redundant but each is important in different ways that I can't divulge without blowing the study. It's been my experience that once folks begin the packet, it can be thought provoking and, many say, interesting.

Once you have done a measure, you don't need to ever turn back to it—just keep going. Your privacy will be protected by separating your name (your consent form) from your data when it is received, and you will be assigned a code number (like CTFO12 NT) which your data will be known for the rest of the project. I don't need to know people's names, just what they've experienced and what they have to say. Almost all pages are like number ratings or check-the-box type forms. Pencils seem to work best, so one has been included for your convenience.

Both clinical groups and control groups of community residents will be studied (both groups are *really important for comparisons*). On average, it's been taking most subjects 60 to 90 minutes to complete the packet. People can take the time they need, and they can take breaks if they need to. I would like to ask if people could complete the packet within a day of starting it—to assure folks were completing it in about the same time-frame.

There is an "extension study" that you can sign up for (it's completely voluntary), and I'd really appreciate your data if you can do it. It's a much shorter packet that I mail to you in 6 weeks. Again, I need address to mail it, but then I destroy your address after I assign the ID number to your packet.

If this sounds satisfactory, I welcome you to the study and truly thank you for your participation. If there are any questions, please feel free to call me at (704) 438-0864. There is a message machine at that number and I'll be glad to call back.

Best wishes,

Julie A. Dickison

Julie A. Dickison, M.A.

Appendix D Continued

Consent Forms

Research Participation Consent Form

I, _____, hereby agree to participate in the Life Events Project, conducted by Ms. Julie Dickison, M.A. I understand that all information obtained by or about me will be held in strict confidence and no information will be given that will identify me.

I understand that during the study I will complete several paper and pencil measures which will ask about my recent and past life and about my current feelings and attitudes. This will take approximately 90 minutes, and I can take breaks if I need to. These measures do not have right or wrong answers, but people will differ in how they answer, and those differences will be considered important. As a participant, I am helping represent an important group of people who are a certain gender, age, and live in the community. I also understand that participation in the study will have no potential risks, other than that some questions may be personal and potentially stressful and I can report this to Ms. Dickison at any time. There is no cost for me in this study other than my time. I may also wish to be retested and can elect to join that retest study if I choose.

I understand that I will be assigned a number which will be used to record my answers on this packet, in order to protect my privacy. If I wish for my scores to be released to my treatment team to further my treatment, I can elect to do so by signing the top of the summary score sheet, which Ms. Dickison will show me. The meaning of the test results will be provided free of charge to my doctor and my treatment team as a thanks for my participation in this project.

I understand my participation in this research project is entirely voluntary. I may withdraw at any time during the session and, if I have any questions, I may ask them at any time during the study. There will be no penalties for stopping at any time. I may refuse to answer single items on the forms if I choose, and still continue with the study.

I, _____, agree to participate in the study with full knowledge of the information presented above. I understand that I may withdraw at any time and that any questions I have will be answered by Ms. Dickison (704) 438-0864. I understand, if I have any questions or problems about this study, I can direct them to Dr. Robert Johnston, Chairman of the Psychology Department at the College of William and Mary, Williamsburg, Virginia (804) 221-3870. Ms. Dickison will also be available to answer any questions.

_____ _____

Research Subject Researcher

_____

Date

NW 3/16/95

Appendix D Continued

Research Subject Consent Form

I, _____, hereby agree to be a subject in the Life Events Project, conducted by Ms. Julie Dickison, M.A. I understand that all information obtained by or about me will be held in strict confidence and no information will be given that will identify me. I also understand that how I do on these tasks will not affect my treatment nor my stay in this facility or after discharge.

I understand that during the study I will complete several paper and pencil measures which will ask about my recent and past life and about my feelings and attitudes. This will take approximately 2 hours, and I can take breaks if I need to. These measures do not have right or wrong answers, but people will differ in how they answer, and those differences will be considered important. I also understand that being in the study will have no potential risks, except that some questions may be personal and potentially stressful, and I can report this to Julie Dickison or to my psychologist at any time. There will be no cost to the study other than my time. I may also wish to be retested and can elect to join that retest study if I choose.

I understand that I will be assigned a number which will be used to record my answers on this packet, in order to protect my privacy. My name will not appear on my answer sheets. If I wish for my scores to be released to my treatment team to further my treatment, I can elect to do so by signing the top of the summary score sheet, which Ms. Dickison will show me. The meaning of the test results will be provided free of charge to my treatment team as a thanks for my participation in this project.

I understand my participation in this research project is entirely voluntary. I may withdraw at any time during the session and, if I have any questions, I may ask them at any time during the study. There will be no penalties for stopping at any time. I may refuse to answer single items on the forms if I choose, and still continue with the study.

I agree to give Ms. Dickison permission to obtain the following information from my records:

My date of birth, diagnosis, years in school and dates of past treatment.

I, _____, agree to be a subject in the study with full knowledge of the information presented above. I understand that I may withdraw at any time and that any questions I have will be answered by Ms. Dickison. I understand, if I have any questions or concerns, I can direct them to Dr. Susan Thompson-Pope (6309), the Chairperson of the Human Research Review Committee, Dr. Jim Moore (6385), the Patient Advocate (2067), or the Hospital Director (2324).

_____ _____

Research Subject Researcher

_____

Date 10/8/95

Appendix D Continued

Research Participation Consent Form

I, _____, hereby agree to participate in the Life Events Project, conducted by Ms. Julie Dickison, M.A. I understand that all information obtained by or about me will be held in strict confidence and no information will be given that will identify me.

I understand that during the study I will complete several paper and pencil measures which will ask about my recent and past life and about my current feelings and attitudes. This will take approximately 90 minutes, and I can take breaks if I need to. These measures do not have right or wrong answers, but people will differ in how they answer, and those differences will be considered important. As a participant, I am helping represent an important group of people who are a certain gender, age, and live in the community. I also understand that participation in the study will have no potential risks, other than that some questions may be personal and potentially stressful and I can report this to Ms. Dickison at any time. There is no cost for me in this study other than my time. I may also wish to be retested and can elect to join that retest study if I choose.

I understand that I will be assigned a number which will be used to record my answers on this packet, in order to protect my privacy. If I wish for my scores to be released to my treatment team to further my treatment, I can elect to do so by signing the top of the summary score sheet, which Ms. Dickison will show me. The meaning of the test results will be provided free of charge to my doctor and my treatment team as a thanks for my participation in this project.

I understand my participation in this research project is entirely voluntary. I may withdraw at any time during the session and, if I have any questions, I may ask them at any time during the study. There will be no penalties for stopping at any time. I may refuse to answer single items on the forms if I choose, and still continue with the study.

I, _____, agree to participate in the study with full knowledge of the information presented above. I understand that I may withdraw at any time and that any questions I have will be answered by Ms. Dickison (704) 438-0864. I understand, if I have any questions or problems about this study, I can direct them to Dr. Robert Johnston, Chairman of the Psychology Department at the College of William and Mary, Williamsburg, Virginia (804) 221-3870. Ms. Dickison will also be available to answer any questions.

_____ _____

Research Subject Researcher

_____

Date

NW 3/16/95

Appendix D Continued

Research Participation Consent Form

I, _____, hereby agree to participate in the Life Events Project, conducted by Ms. Julie Dickison, M.A. I understand that all information obtained by or about me will be held in strict confidence and no information will be given that will identify me.

I understand that during the study I will complete several paper and pencil measures which will ask about my recent and past life and about my current feelings and attitudes. This will take approximately 90 minutes, and I can take breaks if I need to. These measures do not have right or wrong answers, but people will differ in how they answer, and those differences will be considered important. As a participant, I am helping represent an important group of people who are a certain gender, age, and live in the community. I also understand that participation in the study will have no potential risks, other than that some questions may be personal and potentially stressful and I can report this to Julie Dickison at any time. There is no cost for me in this study other than my time. I may also wish to be retested and can elect to join that retest study if I choose.

I understand that I will be assigned a number which will be used to record my answers on this packet, in order to protect my privacy. I understand my participation in this research project is entirely voluntary. I may withdraw at any time during the session and, if I have any questions, I may ask them at any time during the study. There will be no penalties for stopping at any time. I may refuse to answer single items on the forms if I choose, and still continue with the study.

I, _____, agree to participate in the study with full knowledge of the information presented above. I understand that I may withdraw at any time and that any questions I have will be answered by Ms. Dickison (704) 438-0864. I understand, if I have any questions or problems about this study, I can direct them to Dr. Robert Johnston, Chairman of the Psychology Department at the College of William and Mary, Williamsburg, Virginia (804) 221-3870. Ms. Dickison will also be available to answer any questions.

_____ _____

Research Subject **Researcher**

_____

Date

NW 3/16/95

Appendix D Continued

Test-Retest Participation Form

Special Extension Study:

Name: (First Initial and Last Name only)

_____

Address:

_____

_____

I am Male Female and _____ years old

Thank you. I'll send you a packet with a self-returned stamped envelope in 6 weeks. Please just return it one week later. This slip will be destroyed when your packet is returned.

(for research use only)

packet sent out _____

#_____

Appendix D Continued

Score Summary Sheet for Clinical Sites

Record form: ILSE Study

I, _____ request that these scores be released to my health care provider, _____ and/or my treatment team as a courtesy for parcipating in this study.

Date _____ ID Number _____

Test	Raw Score	Range Norm Group	Percentile	Summary
STAI-State	_____	20 to 80	_____	
STAI-Trait	_____	20 to 80	_____	
CES-D	_____	0 to 60	16 can be cutoff Ctrls mean = 9.25 s.d. 8.58 Pt. mean = 24.42 s.d. 13.51	
DES*	_____	0 - 100	> 30 cutoff median score 11 in controls	
NEO				
Neuroticism	_____	0 to 48	_____	
Extraversion	_____	0 to 48	_____	

This form records test results provided as a courtesy to this client for participating in research. Any interpretation of these scores should be conducted by a professional trained in psychological assessment.

***Table from Bernstein, E.M and Putnam, F.W. (1986) Development, reliability and validity of a dissociation scale. Journal of Nervous and Mental Disorders, 174 (12) 722-731.**

Appendix D Continued

Debriefing Forms (With and Without Retest)

Subject Debriefing Form (extension study)

Thanks for participating in the study Life Events. This is a study of a new life event measure. The measures included in your packet approached life stress in different ways and each one has different assumptions about how people understand and remember life events. These measures often focus on recent events, rather than the distant past. The symptom measures in your packet included one for depression, one for anxiety, and a measure for unusual experiences called "dissociation". When you completed the extension study, you provided important retest information on key measures in the original packet. Both clinical groups and controls from the community have been used in this study. About 300 people will participate.

A new life events measure was included, ILSE, which looks at a person's life across their entire history, in order to see if that history (including childhood) is more closely linked to current symptoms than just recent events (as most current scales use). It's hoped that the data you provide will help determine if ILSE is a valid and reliable measure or not.

Please do not discuss this study with others, as they may participate at a later time. If you feel any distress or have any questions about this study, please call me at (804) 623-1204. Best wishes and thanks again.

Julie Dickison, M.A.
Researcher

2/5/95

Appendix D Continued

Subject Debriefing Form (no extension study)

Thanks for participating in the study Life Events. This is a study of a new life event measure. The measures included in your packet approached life stress in different ways and each one has different assumptions about how people understand and remember life events. These measures often focus on recent events, rather than the distant past. The symptom measures in your packet included one for depression, one for anxiety, and a measure for unusual experiences called "dissociation". Both clinical groups and controls from the community have been used in this study. About 300 people will participate.

A new life events measure was included, ILSE, which looks at a person's entire lifenot just the recent past, in order to see if that history (including childhood) is more closely linked to current symptoms than just recent events (as most current scales use). It's hoped that the data you provide will help determine if ILSE is a valid measure or not.

Please do not discuss this study with others, as they may participate at a later time. If you feel any distress or have any questions about this study, please call me at (704) 345-6927. Best wishes and thanks again.

Julie Dickison, M.A.
Researcher

2/5/95

VITA

Julie A. Dickison

Julie Dickison was born June 17, 1960 in Hampton, Virginia but grew up in rural Oklahoma, just northeast of Tulsa. In 1982 she received a B.A. with High Honors from the University of Oklahoma, and went on to continue her studies at the University of North Carolina at Chapel Hill. She obtained a master's degree in Social Psychology from UNC, studying under the mentorship of Dr. John Thibaut, a former student of Kurt Lewin. At UNC, she learned the Lewinian approach to research and theory, which has continually influenced her research inquiries.

After leaving studies at UNC in 1985, Julie assisted the Department of Psychiatry at UNC with designing and implementing research in psychological neuroendocrinology. She then moved into industrial/organizational research by joining Hoffmann Research Associates, a small and prestigious firm in the Research Triangle area of North Carolina. There she rose to become the Director of Field Operations and coordinated the execution of large-scale research projects and logistics for the firm.

Julie returned to the Department of Psychiatry in 1987, and designed a diagnostic and behavioral measures reliability program for the NIMH research center. In 1989, Julie moved into direct clinical treatment by invitation of the department, and began coordinating the Group Therapy Division.

Seeking further training, Julie departed the department in 1992 for studies with the Virginia Consortium of Professional Psychology. Her specialization at the Consortium was crisis intervention and suicide assessment. She is currently completing her clinical psychology APA approved internship at Broughton State Hospital in Morganton, North Carolina, and will receive her Psy.D. from the Consortium in 1996. At completion of internship, Julie will sign on as Staff Psychologist II and Team Leader of the Extended Care Division, Broughton, where she will supervise staff and design treatment programming for the chronically mentally ill.