2004

Is the ecomap a valid and reliable social work tool to measure social support?

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IS THE ECOMAP A VALID AND RELIABLE SOCIAL WORK TOOL TO
MEASURE SOCIAL SUPPORT?

A Thesis

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Master of Social Work

in

The School of Social Work

by
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B.S., Louisiana State University, 2002
May 2004

DEDICATION

I dedicate this thesis to the most important people in my life. To my beloved parents, my mother Tesla Ramos Calix, and father Roberto Calix. Thank you for your unconditional love and support.

ACKNOWLEDGMENTS

To my friends Kelly Adkinson, thank you for making data entry enjoyable. Thank you for your inspirational and motivating words. To Allison Pilgreen and Mary Wong, thank you for your support and encouragement. To my best friend Amy Rome, you are truly a sister to me. I am blessed to have you in my life, your friendship means the world to me. To Rebecca Weidner, you are my role model, you inspire me to always keep trying and never give up. Thank you.

Lastly, I'd like to thank my teacher, mentor, and friend, Dr. Jill Murray. You have been a blessing and an inspiration in my life. Thank you for your help and support; I don't know where I would be without your guidance. You believed in me at times when I doubted myself. Thank you.

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ABSTRACT

The ecomap, developed in 1975, is a tool used in social work practice to measure social support (Hartman, 1995). Although the ecomap is widely utilized, due in part to its ease of administration, it has not been validated in the literature as a reliable and valid tool in the measure of social support. This study aims to quantify the ecomap, explore its psychometric soundness, and begin the process of validation using two empirically validated social support measurement tools, the Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet, Dahlem, Zimet, & Farley, 1988) and the Young Adult Social Support Inventory (YA-SSI) (McCubbin & Thompson, 1991). These efforts are expected to contribute to evidence-based practice in social work.

CHAPTER 1: INTRODUCTION

The ecomap is a paper-and-pencil simulation that maps the ecological system whose boundaries encompass the individual or family (Hartman, 1979). It was developed in 1975 by social worker, Dr. Ann Hartman who adapted it from general systems theory. The main advantages of the ecomap are its visual simulation of connections between a family and the environment, its ability to demonstrate the flow of energy into and from the family, and its depiction of nurturing as well as conflicted relationships (Compton & Galaway, 1999). The ecomap can be prepared collectively with a client, or can be completed entirely by a client, or entirely by the worker (Mattaini & Daley, 1997). The ecomap helps define and develop the worker-family or individual-client relationship as a shared, collaborative process (Hartman & Laird, 1983) by giving the worker insight into changes that may be needed with the environmental systems to provide improved interactions for the family/client. The ecomap also aids the worker in determining the resources and interventions necessary for the resolution of many family/client stressors, and is an overall useful tool in measuring social support (Thomlison, 2002).

With the focus of social work on the person in the environment (PIE), graphic tools such as the ecomap can aid a worker by capturing and organizing data in a contextual manner. The ecomap expands the PIE system in social work, which is geared toward adults, by allowing for its use with children. Although the ecomap is widely utilized, due in part to its ease of administration, it has not been validated in the literature as a reliable and valid tool in the measure of social support. Thus, social workers that choose to utilize the ecomap are doing so with no empirical evidence to prove its utility. This in turn produces an authority-based or psuedoscience practice in social work where

science-like claims are made without any evidence to validate them. If there is reliance on questionable criteria for evaluating knowledge claims in social work, clients can be harmed, false hope may be created, harmful side effects experienced, and effective methods foregone (Gambrill, 1999).

Evidence-based practice, wherein systematic research is completed to look at reliability and validity is a vital factor in the effort to place social work in the mainstream of scientifically oriented professions. In choosing assessment tools that have proven utility, social workers are protecting their clients, their credibility, and honoring their Code of Ethics. This study aims to contribute to evidence-based practice in social work by quantifying the ecomap, exploring its psychometric soundness, and beginning the process of validation using the empirically validated Multidimensional Scale of Perceived Social Support (MSPSS) and the Young Adult Social Support Inventory (YA-SSI).

There is a plethora of research indicating positive effects of high levels of social support on an individual's overall well-being. This study is concentrating on the effects of social support on students due to evidence suggesting that lower levels of stress and more social support enhance self-efficacy and academic achievement (Hackett, Betz, Casas, & Rocha- Singh, 1992). Social support has also been proven to be an important factor in student retention (Mallinckrodt, 1988).

In this study, a sample of 100 graduate students in a Master's of Social Work program were administered the ecomap, the Multidimensional Scale of Perceived Social Support (MSPSS), and the Young Adult Social Support Inventory (YA-SSI), in a group-testing format. The concurrent validity, the degree to which the ecomap correlates with the MSPSS and the YA-SSI, will be measured to determine whether the rates of social

support indicated with the ecomap positively correlate with the rates of social support

indicated by the MSPSS and YA-SSI.

CHAPTER 2: REVIEW OF THE LITERATURE

<u>Evidence Based Practice in Social Work</u>

Evidence-based practice (EBP) is the alternative to authority-based practice in social work and other helping professions (Gambrill, 1999). EBP is designed to create professionals who are lifelong learners and who draw on practice-related research findings (Gibbs & Gambrill, 2002). In EPB the distinction is made between claims that rely on authority or consensus and those in which accuracy has been critically tested (i.e., systematic research is completed and integrated with individual practice expertise).

In evidence-based social work practice, social workers seek out research findings regarding important practice decisions and share the results with their clients. If they find no evidence that a recommended method will help the client, the social worker informs the client and describes their theoretical rational for their recommendation (Gambrill, 1999). Skills utilized in EBP include identifying answerable questions relating to important practice questions, identifying the information needed to answer these questions, tracking down with maximum efficiency the best evidence with which to answer these questions, critically appraising this evidence for its validity and usefulness, applying the results of this appraisal to work with clients and, lastly, evaluating the outcomes of such practice (Gambrill, 1999).

Social workers who are authority based rely on criteria such as intuition, anecdotal experience, pronouncements of "authorities", and testimonials when selecting methods to offer their clients (Gambrill, 1999). Reliance on this type of criteria fails to demonstrate the accuracy of assessment measures or the effectiveness of service methods. Hence, the illusion that social work is based on specialized knowledge of unique value in

achieving certain outcomes, if in fact it relies on authority, requires omissions reflected in the censoring of information and faith that threats social work's claims of special expertise. This is demonstrated when social workers choose research methods that fail to critically test questions posed, resulting in gaps between what is claimed and demonstrated, and when social workers choose not to look at effectiveness in research altogether (Gamgrill, 2001). Negative reactions to constructive criticism are also a reflection of an authoritarian base, due in part to criticism being out of place when faith is the basis of a profession. Another indicator of the authoritarian base in social work is the forwarding of false knowledge or beliefs that are neither questioned or true (Gamgrill, 2001).

Gambrill (1999) states that the social work profession claims to provide special expertise to address certain kinds of problems. Social work educational programs purport to provide this specialized knowledge to their students. However, evidence to these claims are not known, although, counterevidence exists. A review of hundreds of studies concluded that there is no evidence that licenses, experience, and training are related to helping clients (Dawes, 1994). Gambrill (1999, 2001) proposes that if the social work profession is based on claimed rather than demonstrated effectiveness in helping clients attain desired outcomes, one strategy utilized to handle this 'embracing' situation has been to ignore inconsistency between claims and reality and the censoring of unsupported data by not sharing it with recipients. In turn, this omission "pronounces" what is accurate even though there is no evidence to validate it.

If there is a reliance on questionable criteria for evaluating knowledge claims in social work, clients can be harmed (Gambrill, 1999). As Sheldon (2001) states,

"It seems that only when the poor and disadvantaged are the recipients of services (or have them thrust upon them) that we allow ourselves to get so methodologically relaxed" (pp. 807). Another example of shaky reliance in social work on questionable criteria is the difference in criteria sought by social workers from their physicians. Often authority-based social workers rely on criteria such as intuition when making decisions for their clients' interventions but want their physicians to rely on the results of controlled experimental studies and demonstrated track records of success based on data when making decisions about serious medical problems of their own (Gambrill, 1999).

Thus, authority-based practice may be compared to psuedoscience wherein science-like claims are made without any evidence to validate them (Bunge, 1984). The hallmarks of this phenomena include: discouragement of critical examination of claims/arguments; use of the trappings of science without the substance; reliance on anecdotal experience; lack of skepticism; equation of an open mind with an uncritical one; ignoring or explaining away falsifying data; use of vague language; appeals to belief and faith; and forwarding beliefs that are not testable (Gambrill, 1999). The outcomes of such thinking are inaccurate conclusions about the effectiveness of a service method, the creation of false hope in clients, harmful side effects, and effective methods foregone (Gambrill, 1999).

In today's "tell me what works" society, the idea of systematically basing practice on scientific evidence is appealing. Recent concerted efforts to place social work in the mainstream of scientifically oriented professions can be considered the enactment of cultural beliefs regarding what a profession should be (Gambrill, 2001). Hence and due in part to false negatives revealed in child abuse inquiries along with other events that have

done so much to damage the reputation of social work (see Dawes, 1994), Sheldon (2000) proposes that evidence-based training, supervision, management and practice are the most promising correctives. Anonymous evaluations of 5,000 professional grade staff of 174 training courses and conferences on this topic agree with Sheldon's proposal (Sheldon & Chilvers, 2000).

Sackett, Richardson, Rosenberg, & Hayes (1997) suggest five reasons to favor EPB: new types of evidence are being generated that can increase our ability to help clients; although it is clear that we often need this evidence daily, we usually do not get it; as a result of the foregoing, both our up-to-date knowledge and our practice performance deteriorate with time; attempts to overcome these deficiencies via traditional continuing education programs do not improve performance; and a new approach to learning has been shown to keep helpers up to date (i.e. Problem-based learning). Thus, EBP may ameliorate these deficiencies and contribute to the improvement of performance.

Gambrill (2001) argues that although, social work is flourishing as evidenced by an increase in the number of schools of social work, this growth has not honored obligations in social work's code of ethics. The Code of Ethics that obligates social workers to involve clients as informed participants, empower them, and to offer competent services. Thus there continues to be a disconnect between what social work proclaims to do and value, and what is actually accomplished. To ameliorate this situation Gambrill (2001) encourages an increase in client access to information over the Internet, and a movement towards EBP in social work. This encourages transparency of what is accomplished, and to what effect, and the incorporation of clients as informed

participants. This in turn will encourage a move away from an authority-based profession.

On the contrary, Web (2001) counters that EBP and related requirements of evaluative effectiveness may undermine traditional professional practice. He contends that EBP legitimizes a harsher managerialist ethos of performance culture in social work. Web's critique does not imply that evidence is useless and irrelevant to practice, but rather that: the presuppositions made for an evidence-based methodology as practice are problematic; the underlying epistemological basis of EBP as derived from behaviorism and positivism is flawed; the epistemic process of practitioners (e.g. practical knowledge-based actions) in social work particularly in relation to decision making and predicting outcomes, does not adhere to the tenets suggested in evidence-based practice; and that the use of evidence in practice does not function or work in the way that evidence-based proponents suggest. Web also suggests that EBP entraps professional social work within an instrumental framework by regimenting, systematizing, and managing social work within a technocratic framework of routinized operations (Webb, 2001).

Nonetheless, EBP brings accountability to the profession of social work. And, accountability is of dire need when considering the expenditure of funds in public welfare social services. Without accountability of the effectiveness of social service programs they become exceedingly vulnerable to cost-conscious leadership unsympathetic to unsupported claims (Hoshino, 1972). For example, in 1973 the Senate Appropriations Committee stated the following concerning the rapidly increasing rate of expenditures for social services authorized by the public assistance titles of the Social Security Act:

"This committee is concerned that the use of this source of Federal financing is out of any reasonable control. The Department of Health, Education, and Welfare cannot even

describe to us with any precision what $2,000,000,000 of taxpayers' money is being used for. We have been informed by the Department that they intend to improve their management of this program…However, until these improvements are accomplished, this Committee believes that Congress must limit the Federal liability for this largely unknown, undefined, open-ended financing mechanism…until convinced that these funds are being spent prudently and effectively" (Hoshino, 1972).

Congress responded by imposing a ceiling of $2.5 billion on federal expenditures for social services, which changed the open-ended grant procedure to a closed-ended procedure. It also allotted for the use of 90 percent of the funds for services to current recipients excluding child-care services, family planning, services to the mentally challenged, drug addicts or alcoholics, and foster care for children (Hoshino, 1972).

Budget restrictions such as described above are symptomatic of social services programs not based in empirical evidence. This is largely because social work has not sustained the burden of proof of cost and treatment effectiveness. Service programs often operate without regard for basic accounting, and the requirements of program data collection and analysis (Newman & Turem, 1974). Since social work is exposed to a more open political process, and is largely dependent on public sources of funding, demonstrated results must and will be demanded (Newman & Turem, 1974).

The process required to provide EBP in social work is consistent with the NASW Code of Ethics, most notably its consideration of clients' values and expectations. For example, an evidence-informed patient choice (EIPC) entails three criteria: the decision involves which health care intervention or care pattern a person will or will not receive; the person is given research-based information about effectiveness (likely outcomes, risks, and benefits) of at least two alternatives (which may include the option of doing nothing) and the person provides input into the decision-making process (Entwistle, Sheldon, Sowden, & Watt, (1998).

Thus, clients are active participants in the decision-making process.

Clients' values and expectations are considered in the hallmarks of evidence-based practice. These client-centered values and expectations include converting information needs into answerable questions; acquiring the best evidence with which to answer these questions; critically assessing the evidence for treatment validity and usefulness; deciding whether research findings (if any) are applicable to a particular client; involving clients as informed participants, taking client values and expectations into account; taking action based on the best evidence; and evaluating the outcomes (Gambrill, 1999; Gray, 1997; Sackett, Richardson, Rosenberg, & Haynes, 1997).

EBP benefits social work in a multitude of ways. It brings accountability to the profession and thus places the field of social work in the mainstream of scientific professions. It contributes to the betterment of clients by offering them interventions with proven empirical evidence and therefore protects clients while honoring the social work Code of Ethics.

General Systems Theory and Person-in-Environment (PIE) Focused Social Work

The profession of social work is committed to both helping people and to promoting more humane environments. However, there is difficulty implementing this commitment because the medical-disease metaphor tends to locate people's problems and needs within the individual, thus obscuring the social processes in which the individual is entrenched (Germain & Gitterman, 1980). Nonetheless, social work draws upon several bodies of thought that affirm the complementarity that exists between the person and the environment. Both Gordon (1969) and Bartlett (1970) propose that the social purpose of social work is the matching of individual's adaptive capacities with environmental

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properties to produce transactions that will improve and maximize growth, development, and the environment. Thus, social work advocates a practice method that incorporates individual's strengths, the forces pushing toward growth, the influencing agents of organizational structures, other social systems, and physical settings. Such inclusive practice methods are believed to be more responsive to individual's needs (Gordon, 1969; Bartlett, 1970).

Social workers are trained to take a systems approach when working with clients. The Systems Perspective focuses beyond the presenting problems to assess the complexities and interrelationships of their problems. The Systems Perspective is based on General Systems Theory, with its key concepts of "wholeness", "relationship", and "homeostasis" (Zastrow, 2001).

In General Systems Theory, "wholeness" refers to objects or elements within a system that produce an entity greater than the additive sums of the separate parts. Thus, General Systems Theory is anti-reductionistic by asserting that no system can be adequately understood or completely explained once it has been broken down into parts. The concept of "relationship" asserts that the pattern and structure of the elements in a system are as important as the elements themselves. Finally, the concept of "homeostasis" in general systems theory suggests that living systems seek a balance to maintain and preserve the system (Zastrow, 2001). Thus, by utilizing General Systems Theory, social workers focus on factors beyond the presenting problem in individuals' environments and seek to understand how "relationships" produce "homeostasis."

With the primary focus of social work being the person-in-environment, as developed out of general systems theory, and unlike other helping profession, it is

important for the profession to acquire its own language.   This new language establishes a clearer definition of social work's areas of expertise, and helps to establish its area of focus as a major profession (Karls & Wandrei, 1994a).

In 1981 the National Association of Social Work (NASW) funded a two-year project for its California Chapter to develop a system for classifying the problems of social functioning experienced by the clients of social work. The task force, composed of prominent social workers, practitioners, and academics, took on the responsibility of formulating the issues and content of social work's classification system of social functioning problems (Karls & Wandrei, 1994a). "Social well-being," was identified by the task force as being the basis on the social work classification system. The task force was aided by the Rand Study, which indicated that social well-being differs from physical and mental well-being and is a separate part of an individual's health status (Donald, 1978). Social well-being was approached under the rubric of "person-in-environment," which views human behavior resulting from intrapersonal and interpersonal forces in dynamic interaction (Donald, 1978).

The task force developed the Person-in-Environment (PIE) system that describes, classifies, and codes problems of client functioning. It takes into account the explicit understanding of the diversity of clients and their environments, and the uniqueness of each individual (Vargas & Koss-Chioino, 1992). PIE allots for: a common language for all social work practitioners in all settings for describing their clients' problems; a mechanism for clearer communication among social work practitioners and between practitioners and researchers; a common capsulated description of social phenomena that can facilitate treatment or the reduction of problems presented by clients; and a basis for

gathering data required to measure the need for services and to design human services programs (Karls & Wandrei, 1992).

PIE is designed for clients' 18 or older and allows for the conceptualization of the client along two dimensions: social functioning (Factor I) and environmental factors affecting the client's social well-being (Factor II). The client's psychiatric diagnosis (Factor III) and the physical conditions that influence functioning (Factor IV) are also included in PIE (Karles & Wandrei, 1994a). The PIE Manual (1994) requires that social workers pay attention to clients' strengths. To accomplish this, a Coping Index is utilized (along with a Severity and Duration Index) to note the ability of the client to deal with the presenting problem. Although, the PIE Manual in its present form limits practitioners to utilize PIE with adults only, practitioners are able to utilize PIE with families and children when describing the problems of the adults in a child' life. Practitioners working specifically with families may utilize the PIE Manual to describe the social functioning problems of individual adults in the family and thereby analyze interactional problems in the family structure (Karles & Wandrei, 1994b).

In 1991, NASW funded a pilot reliability study on PIE. The study utilized videotapes of clinical social work interviews that were shown to social workers at four different sites. These sites included: United Charities of Chicago, Los Angeles-University of Southern California County Medical Center, the Social Work Department at the New York State Psychiatric Institute, and the Commonwealth of Massachusetts Department of Mental Health. Participants were trained in the use of PIE. A total of 197 ratings were made across 16 videotapes, with 4 to 30 raters per tape. Although actors were used in most of the tapes, a sub-study conducted indicated that the participants were

unable to distinguish the actors from real clients. The main purpose of this study was to test feasibility of the method of having groups of social workers apply the PIE system to videotapes. Limited resources made it impossible to gather enough ratings across a range of PIE categories to make definitive statements about their reliabilities. However, the exercise suggests that PIE has acceptability and feasibility in practice, as well as satisfactory reliability, at least for the major role categories. The task force thus concluded that PIE is a reasonable system for use in social work practice. (Task Force on Social Work Research, 1991).

To test the feasibility of using PIE with students an exploratory/descriptive study was conducted to determine whether or not students trained in the PIE system assessed their clients differently from those not trained in PIE. Sixty-eight first year Masters of Social Work students participated in the study. One-half of the students were trained in the PIE system along with traditional casework. The other half received only traditional casework assessment skills. The assessment skills were taught at the same time in the course while training in the PIE system was given during one, two-hour, class period. Students were required to read the PIE Manual and become familiar with the system. There was also an additional lab hour used to practice the PIE system with a case scenario that was discussed in detail, and problems and questions were addressed. To determine the utility of PIE, both groups were given two case scenarios that delineated problems with the social functioning and environmental conditions that might interfere with the resolution of a client's social functioning problems. Both groups were instructed to read each scenario and then to list the concerns or problems they believed were creating difficulties for the client. Results showed that the traditionally trained

(casework) group focused more on psychiatric symptoms or diagnosis rather than interactional social role problems. The PIE-trained group was more likely to assess the client in the different social roles in which they participated. Although, psychiatric disorders were not ignored, they took less of a priority. The PIE-trained group also listed environmental factors affecting the person's functioning more often than the traditionally trained students. MSW students trained in PIE were overall more likely to conceptualize client problems beyond a traditional casework or psychiatric/mental health mode. Thus, by utilizing the PIE system, it appears that students are encouraged to conceptualize problems with issues of client and environmental diversity in mind. According to students, the benefits of using the PIE system are that they think more holistically about the individual. Limitations of the casework/PIE comparison study included: students expressed concern of the cumbersome coding system, poor interrater reliability due to a lack of objective instrumentation, and a small sample size limiting generalizability; however, results were encouraging (Delewski, 1994).

<p style="text-align:center">Social Support</p>

Social Support is considered to be a multidimensional construct. It can be operationalized in many different ways including: on the basis of who is providing the support, the quantity and quality of support, the availability of support, and one's satisfaction with support (Letvak, 2002).

The nature of the transaction of social support is also specified in a variety of ways (Zimet, Dahlem, Zimet, & Farley, 1988). Shumaker and Browenell (1984) characterized social support as "an exchange of resources between at least two individuals perceived by the provider or the recipient to be intended to enhance the well-

being of the recipient" (p.p.13). Lin (1986) defined social support as "perceived or actual instrumental and/or expressive provisions supplied by the community, social networks, and confiding partners" (p.p. 18). Cunningham and Barbee (2000) define social support networks as the set of people from whom an individual can reasonably expect to receive help in a time of need. Tardy (1985) suggested that the best way to clarify differences in definitions and approaches to social support is to specify: direction (given and/or received support); disposition (availability vs. utilization of support resources); description of support versus evaluation of satisfaction with support; content (the form the support takes); and network (the social system or systems providing the support). Social support has also been defined "as the existence or availability of people on whom we can rely; people who let us know that they care about, value, and love us" (Sarason, Levine, Bashan, & Sarason, 1983, p.127) Social support can be interpreted from distinct yet interlocking theories including coping theory, social comparison theory, social learning theory, and social competence theory (Letvak, 2000).

There are differing hypothesis on how social support operates (Zimet, Dahlem, Zimet, & Farley, 1988). For example, the direct-effect hypothesis versus the buffering hypothesis. In the direct-effect hypothesis, support produces helpful effects directly, regardless of the level of stress or disruption in a person's life (Broadhead, Kaplan, James, Wagner, Schoenback, Grimson, Heyden, Tibblin, & Gehlbach, 1983). However, arguments that social support acts as a buffer, protecting individuals from the harmful effects of stress are also evident in the literature (Cohen & McKay, 1984; Gore, 1981; House, 1981). There is evidence to support both theories. Overall however, social support appears to be helpful in all circumstances, yet it may be particularly effective as a

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buffer during times of stress (Zimet, Dahlem, Zimet, & Farley, 1988).

The nature of the support provides another layer to social support operations. Thoits (1986) hypothesized that the deleterious impact of a stressful situation is modified when other people step in to help someone change the situation itself, alter the meaning it has, and/or change the individual's affective response to the stressor. Additionally social support seems to help engender positive emotional experiences by reducing the negative effects of stress by virtue of enhancing self-esteem and a sense of control over the environment (Pearlin, Lieberman, Menghan, & Mullan, 1981).

A plethora of research exists on the positive effects of social support on numerous populations including the college student population. One of the variables examined in a 1992 study was the contributions of perceived stress, personal support, and faculty encouragement and discouragement, in combination with social cognitive variables, to the predication of academic achievement of engineering majors at a West Coast University (N= 218, & M= 17- 19.70 years old). It was hypothesized that social support and faculty encouragement would be positively related, and stress and strain to be inversely related, to academic achievement. The results concluded that perceptions of coping with stress were positively correlated with perceptions of faculty support and inversely correlated with faculty discouragement. As predicted, greater levels of strain were related to lower levels of performance. These analyses provide some evidence to support that lower levels of stress and more social support enhance self-efficacy and academic achievement (Hackett, Betz, Casas, & Rocha-Singh, 1992).

In another study of college students and social support, predictors of social support agreement between a recipient and a provider of social support were investigated.

College students (the recipients) and their mothers (the providers) independently reported how much social support the mothers' provided the students. Predictor variables included recipient characteristics as well as measures of family structure and environment. The majority of the student sample (N=104) was female (60%), and their support providers included mothers in intact families 80% (N = 33), and mothers from non-intact families 65% (N = 42). On average, students' reported receiving significantly less social support from their mothers (M = 45.67, SD = 25.97) than mothers reported providing (M = 61.39, SD= 22.47), (t (74) = 5.58, p < .001). There was a low (.42) correlation between students' reports of social support received from their mothers and mothers' reports of support provided. A greater level of family cohesiveness was exhibited in dyads that agreed that mothers' provided high levels of social support than in dyads that disagreed about level of support. However, dyads that disagreed about the level of support reported greater family cohesiveness than dyads that agreed about low levels of support, contrary to initial expectations. Family environment was not an important predictor of social support agreement in college student/mother dyads (Calsyn, Winter, Roades, Trusty, Pruett, & Lira, 1998). This study exhibits the subjective assessment of social support. Some mothers perceived themselves providing more social support than their daughters perceived. By determining the level of social support adequacy of the receiver, the provider is made aware of the level of social support that he/she needs to impart to suffice the receiver.

Social support is attributed to attendance and success of students with learning disabilities (LD) in college. A study examined the self-perceptions of college students with and without learning disabilities (N = 50 with LD, and N = 50 without LD).

Students with LD had lower grades, test scores, and perceptions of their scholastic and intellectual abilities than students without LD. The samples did not differ in their perceptions of global self-worth, the importance they placed on academic competence, or their ratings of domain-specific competencies. LD students perceived a higher level of social support from their friends, or more social acceptance than their nondisabled peers: $F_{(1,98)} = 5.24$, $p < .05$. The authors concluded that these results could be attributed to sampling bias, students with LD who have stronger relationships are more successful in school and more likely to attend college. They also concluded that it is possible that these results are associated to opportunities to develop social supports through campus programs. LD students reported more social acceptance and support from campus organizations, than did students without LD (Cosden, & Mc Namara, 1997).

Social support is advantageous to assertive people during times of stress. The interaction between personal assertiveness and social support under stressful conditions was studied with a sample of 141 undergraduate college students (43 men and 98 women) (Elliott & Gramling, 1990). As was predicted, the unique contribution of social relationships was significantly predictive of lower depression scores for the entire sample. Lower rates of depression were also related to assertiveness. Results suggest that in times of stress, more assertive people gain more benefit from relationships with people who share their values and interests than non-assertive people. Thus, assertive people may experience fewer symptoms of depression when stressed. These results provide evidence that assertiveness may moderate certain types of social support during times of stress for college students (Elliott & Gramling, 1990).

A 1988 study's findings suggest that social support may be an important factor in

student retention. A random sample of 171 White and 98 Black undergraduate students starting their second semester at a large Eastern public university were selected for the study. Participants responded to 10 statements of perceptions of social support utilizing a 5-point Likert-type scale that ranged from strongly agree (1) to strongly disagree (5). Two of the items were taken from the Noncognitive Predictors of minority student retention measure (Sedlacek & Brooks, 1976). Seven of the items measured support from the community, and the remaining three measured support perceived from family. Utilizing the same 5-point Likert-type scale, participants also responded to three statements about leaving college (e.g., "I have doubts about whether I want to come back to school next year"). The fourth item from the scale was taken from the Noncognitive Predictors measure, which asked for potential reasons students might withdraw. Discriminant factors based on survey items measuring perceived social support predicted the academic persistence or nonpersistance for nearly 70% of the White students and over 70% for the Black students. Correlations between the 14 survey items and student persistence for Black and White respondents were calculated. With regard to social support, the item having the largest correlation with White students persistence was Item 1 "My family gives me lots of encouragement to do well in college" ($r = .27$, $p < .01$). The item most strongly associated, though not statistically significant, with persistence for Black students was the item concerning relationships in the campus community, "I am pretty satisfied with the quality of the close relationships I have with people here at school" ($r = .24$, $p > .16$). Support from members of the community may be crucial for Black students as suggested in the individual items identified in the analysis. Whereas, for White students, support from family was more important. Analysis of dropout

intention items on the survey revealed that the multiple choice Noncognitive Predictors had the highest correlation with persistence for Black students (r = .32, p, .01). The dropout intention dealing with certainty of obtaining a degree was the item most associated with persistence for White students (r=.34, p< .01). If these results are replicated in future studies, the evidence would suggest that Black students may be helped to remain in college by interventions based on increasing the levels of campus social support.

<center>Multidimensional Scale of Perceived Social Support (MSPSS)</center>

The Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet, Dahlem, Zimet, & Farley, 1988) addresses the subjective assessment of social support adequacy. It is designed to assess perceptions of social support adequacy from specific sources: family, friends, and significant others. The scale is self-explanatory, time conserving, and simple to utilize- making it an ideal research tool for use when time is limited and/or a number of measures are being administered at the same time (Zimet, Dahlem, Zimet, & Farley, 1988).

A research study conducted by Zimet, Dahlem, Zimet, and Farely (1988), described the validity, and reliability of the MSPSS with college students. Subjects included 136 female and 139 male university undergraduates. The study showed the MSPSS to be psychometrically sound, with good reliability (.88) and adequate construct validity (r = -.25, p < .01). Good factorial validity was found, the subscales were found to be moderately correlated. Both internal reliability (Cronbach's coefficient alpha .88) and test-retest reliability (.85) were established. The construct validity of the scale was addressed by investigating the relationship between perceived social support and the

<center>21</center>

presence of the symptoms of depression and anxiety. It was hypothesized that high levels

of perceived social support would be associated with low levels of depression and anxiety

symptomology. As predicted, high levels of perceived social support were associated

with low levels of depression and anxiety symptomology as measured by the Hopkins

Symptom Checklist that has been validated and demonstrated to be reliable by authors

Derogatis, Lipman, Rickels, Uhlenhuth, Covi, (1974). Findings revealed that women

perceive greater social support from friends and significant others than men (Zimet, et al

1988).

To broaden the applicability of the MSPSS, a study conducted by Zimet, Powell,

Farely, Werkman, and Berkoff (1990) extended the initial findings of the previous study

which showed the MSPSS to be psychometrically sound, with good reliability and

factorial validity by demonstrating the internal reliability, factorial validity, and subscale

validity of the MSPSS using three different subject groups. The subject groups included:

a) 265 pregnant women in their third trimester receiving prenatal care at West Virginia

medical facilities, b) 74 adolescents attending high school in Madrid or Paris, and c) 55

pediatric residents in Cleveland area hospitals. All subject groups were administered the

MSPSS. Of the 74 adolescents completing the MSPSS, 72 filled out an additional survey

in which they were asked to list persons important to them. The subjects rated those

persons on a 4-point scale of frequency in which "deepest concerns" could be shared with

the designated person, ranging from always (1) to never (4), and the subject's feelings

about the person ranging from very positive (1) to very negative (4). Relatively high

levels of mean support were reported by the subjects in all three groups.

Overall, the MSPSS demonstrated very good internal reliability with coefficient

alpha levels (.84 to .92), comparable to those obtained in the original study (Zimet et al., 1988). It was also demonstrated that subjects differentiated between sources of support, thus, helping confirm the validity of the MSPSS subscales using the additional survey filled out by the adolescent subject group. However, some issues noted in the study remain to be studied: a) the instrument may pull for socially desirable responses therefore it is important to control for social desirability b) further explorations are needed on the relationships between life stress and emotional or physical problems as moderated by social support, and c) explorative studies of whom the subjects consider "family" in the Family subscale, and "special person" in the Significant Other subscale are needed (Zimet, Powell, Farely, Werkman, & Berkoff, 1990).

The MSPSS has been used in various research studies to study social support and in efforts to extend findings of the scale's validity and reliability. A study was conducted in an effort toward validation of the MSPSS that investigated the internal reliability, factorial validity, social desirability bias, and the moderating effect of social support between stressful life events and depression (i.e., the buffering hypothesis) (Dahlem, Zimet, Walker, 1991). A sample of 154 students from diverse ethnic and socioeconomic backgrounds at an urban college, were interviewed in this study. The principal components factor analysis confirmed that individuals make distinctions on the basis of the source of social support: family, friends, and significant other. The MSPSS subscale intercorrelations indicate that the Friends and Significant Other scales are most highly correlated, and that the Family scale functions in a somewhat more independent manner. The data replicated earlier findings of high levels of reported social support. However, the non-significant correlations between both total MSPSS and MSPSS subscale scores

and the Marlowe-Crowe Social Desirability scale (Crowne & Marlowe, 1960) scores mitigate against an explanation that high MSPSS scores result only from social desirability bias. It is apparent that other factor(s) other than social desirability account for high reported levels of social support, even in diverse groups of subjects as was the sample of 154 ethnically and socio-economically diverse students used in this study. The internal reliability investigation, which utilized the Cronbach's alpha, supports earlier evaluations of MSPSS reliability (Zimet et al., 1988; Zimet et al., 1990). The coefficients of .90 and above suggest that even when diverse subject samples are involved, the MSPSS yields reliable data, from a viewpoint of internal consistency. Finally, social support was related to depression only for those subjects who were experiencing high levels of life stress, inturn lending support for the buffering hypothesis.

The psychometric and factor-analytic properties of the MSPSS were investigated in an undergraduate university student sample (N=165) and an adolescent inpatient psychiatric sample (N=51) (Kazarian, McCabe, 1991). The study confirmed the stability of the factorial structure of the MSPSS with both student populations, thus attesting to its internal consistency (alpha = .87). In terms of validity, the MSPSS strongly correlated with the Social Support Behaviors scale (Vaux, Riedel, & Stewart, 1987) and showed little relationship to social desirability. The MSPSS scores correlated negatively with two separate measures of depression, the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), and the Children's Depression Inventory (Kovacs, 1985). The MSPSS scores correlated positively with a self-concept measure, the Piers-Harris Self-Concept Scale 1984. However, the strength of the relationship between severity of depression and social support subscales differed between the two samples.

These results support the use of the MSPSS as a reliable, valid, and easy to administer measure of social support. The study also demonstrates that scores on the MSPSS are either weakly related to a socially desirable response set or are independent of such a bias. The differential effect of perceived sources of social support on mental health across populations has also been confirmed. Examination of the causal mechanisms involved in the link between perceived social support and mental health is still needed. The availability of the MSPSS as a reliable, valid, and easy to administer scale should facilitate this process.

<div align="center">Young Adult Social Support Inventory (YA-SSI)</div>

The YA-SSI is a 45-item instrument designed to measure social support in young adults, particularly in college freshmen. Although, this instrument has not been studied using other samples, it appears to have face validity for use with young adult populations other than college students (McCubbin & Thompson, 1991). The YA-SSI encompasses 11 factors, however an overall measure of social support can be attained by using the total score.

The YA-SSI has excellent internal consistency, with an alpha of .89 and excellent stability with a test-retest correlation of .90. It also has fair predictive validity, significantly correlating with academic GPA (McCubbin & Thompson, 1991). In scoring the YA-SSI, the first 12 items are not scored. The remaining items are assigned a 1 for "no", a "2" for yes, and a "3" for yes a lot. These item scores can then be summed up for a total score (McCubbin & Thompson, 1991).

<div align="center">Ecomaps</div>

The ecomap was developed in 1975 by social worker, Dr. Ann Hartman, as an

assessment tool to aide workers in public child welfare practice in examining the needs of families (Hartman, 1995). Adapted from general systems theory, ecomapping attempts to diagram the family's connection with larger social systems (Compton & Galaway, 1999). The ecomap depicts the family or individual in their life space and provides an overview of the family in their situation/environment (Hartman, 1995). The ecomap allows for a pictorial representation and understanding of the family in its environment/world, allowing the family to be viewed as a system interlayed with multiple systems. This pictorial representation of the family enables the identification of the major dynamics that operate within and to that system/family (Hartman, 1979).

The ecomap is a paper-and-pencil simulation that maps the ecological system whose boundaries encompass the individual or family (Hartman, 1995). It is prepared collectively with the client, or can be completed entirely by the client, or entirely by the worker (Mattaini & Daley, 1997). In conducting the ecomap, the family household or individual is placed in the center of the paper as a circle. Circles are drawn around the family household or individual indicating their environments such as work, day care, school, extended family, church, recreation, and friends. The circles can be drawn in any size and size may indicate the influence of that system. Lines are drawn connecting the circles that depict the quality of the relationships between the connections. Most common depictions include straight lines indicating strong connections; dotted lines signifying tenuous relationships; slashed lines signifying stressful relationships; and arrows indicating the flow of the relationship between the systems. These arrows can be drawn in both directions or one way depending on energy flow in the relationship (Thomlison, 2002).

Conducting an ecosystem assessment allows the practitioner to gather data on mutually interacting environmental systems. The genogram, which is encompassed within the ecomap, organizes the historical and developmental data that may influence present interactions. The ecomap takes into account Bronfenbrenner's (1979) model of the ecology of human development consisting of four concentric ecological subsystems: microsystem, mesosystem, exosystem, and macrosystem (Bronfenbrenner, 1979). The ecomap organizes meso-level (networks of personal settings in which we live our lives) and exo-level (the larger institutions of society that influence our personal systems) environmental contingencies that are involved in the ecosystem of the client. Micro level information, or face-to-face direct contact, is provided in the interactional assessment. Data on gender roles, distribution of power, and the individual's and the family's position in the social structure as determined by age, gender, race, ethnicity, social class, sexual orientation, and occupation, among others, are analyzed by this assessment. The macro level influence that represents the larger sub-cultural and cultural contexts is also seen using this assessment (Compton & Galaway, 1999).

Along with depicting the nature of the boundary between family and environment, the ecomap reveals: how family members are differently connected with other systems; the possibility that one or more members seem to be particularly cut off from environmental exchanges; the possibility that one member seems to be more involved in stressful connections; and the extent to which the family is involved in joint and separate transactions with other people and systems (Hartman & Laird, 1983).

The ecomap aids the worker by creating a visual picture of the family's emotional and financial resources. In constructing the ecomap it brings people/family members

together as part of a therapeutic strategy of networking for the purpose of therapeutic support and to foster change (Sherman & Fredman, 1986). The ecomap, when used as an assessment tool, gives the worker insight into where changes may be needed with the environmental systems to provide improved interactions for the individual/family. Thus, ecomaps aid the worker in determining the resources and interventions necessary for resolution of many family and individual stressors (Thomlison, 2002). Moreover, modifying the ecomap into a diagrammatic spiritual assessment tool called the spiritual ecomap, allows the worker to delineate environmental systems with the social support resources in most religious traditions (Hodge, 2000).

The main advantages of the ecomap are: its visual simulation of connections between a individual/family and the environment; its ability to demonstrate the flow of energy into and from the individual/family; and its depiction of nurturing as well as conflicted relationships (Compton & Galaway, 1999). Another advantage is that the ecomap is a useful tool in the interviewing process by helping define and develop the worker-family or individual-client relationship as a shared, collaborative process (Hartman & Laird, 1983). Moreover, the ecomap is age appropriate for children and can be beneficial with non-verbal clients.

Discussing and sharing the ecomap can lead to increased understanding and acceptance of the self on the part of the client. For example, an ecomap that is almost empty may help the client objectively share loneliness and isolation (Hartman & Laird, 1983). Families and individuals may also feel more comfortable about sharing information once they understand that the worker is aware of the intricacies and uniqueness of their system (Sherman & Fredman, 1986). Practitioners who have utilized

the ecomap report that workers and clients find it helpful in understanding what is

encompassed in the case, and for communicating a worker's interest in understanding the

contextual factors that contribute to the client's difficulties. In turn, this perhaps reduces

the tendency to blame the client. Thus, ecomaps are potentially valuable for preventing

an overemphasis on psychopathology as opposed to environmental determinants and

contributions to the situation (Mattaini & Daley, 1997).

By utilizing the ecomap the worker focuses on transactional issues. Rosen and

Livne (1993) found that workers tend to attribute client problems to intra-personal factors

while de-emphasizing environmental problems even if the client calls attention to them.

A small study conducted with thirty-eight Masters of Social Work students found that

preparing a single eco-map significantly increased attention to transactional issues as

opposed to intra-personal issues (Matnini, 1993, pp. 250-251). Thus, utilizing the

ecomap may help the worker focus on environmental stressors outside of the client.

One disadvantage of the ecomap is its imprecise terms, which make the exact

nature of the relationships portrayed difficult to determine. For example, strong versus

tenuous relationships can be defined in a multitude of ways (Compton & Galaway, 1999).

Another disadvantage of the ecomap is that there is no data on its reliability or validity,

thus complicating judgment of its adequacy as a clinical tool.

Numerous practitioners praise the ecomap for its ease of administration

(Thomlison, 2002; Mattaini & Daley, 1997; Sherman & Fredman, 1986; Hartman &

Laird, 1983), however practitioners like Mattani argue that ecomaps should be discarded

until groundwork to prove their utility occurs. He states the following: "I think we

should use instruments for our assessment that are based on proven scientific utility

rather than on lauded potential or anecdotal boasting. If we want to spotlight social work creations as techniques for our clinical use, then the social work authors must be held to the same rigorous scientific standards as any non-social work author of a measurement tool" (Mattaini & Daley, 1997, p.224).

Mattani's statement highlights the need for evidence-based practice in social work. Social workers must protect their clients by choosing assessment tools that have proven utility -utility based on carefully designed research demonstrating that a tool is reliable and valid (Mattaini & Daley, 1997).

Although the ecomap is widely utilized, due in part to its ease of administration, it has not been validated in the literature as a reliable and valid tool in the measure of social support. This study aims to quantify the ecomap, explore its psychometric soundness, and begin the process of validation using the empirically validated Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet, Dahlem, Zimet, & Farley, 1988) and Young Adult Social Support Inventory (McCubbin & Thompson, 1991). Anticipated results will begin the process of quantifying and validating the ecomap as a reliable and valid social work tool to measure social support. Hence, these efforts are important for evidenced-based social work practice where the focus is on the use of empirically sound measures for direct practice.

Research Hypothesis

The present study will address the important aspect of evidence-based practice in social work, with a particular focus on the ecomap, a social work tool that has not been validated in the literature as a reliable and valid tool in the measurement of social support. Although literature finds the ecomap to be advantageous in providing a visual

simulation of the individual/family and their environment, along with depicting the nature of relationships and flow of energy (Compton & Galaway, 1999), gaps remain on the ecomap's psychometric soundness, and validity and reliability as a social support measurement tool.   Thus this is the focus of the present study. How this question and hypotheses are defined and measured is described in the next chapter on research methods.

Research Question

Although the ecomap is widely utilized, due in part to its ease of administration, it has not been validated in the literature as a reliable and valid tool in the measure of social support. Research demonstrates that the ecomap is advantageous in providing a visual simulation of connections between the individual/family and their environment; its ability to demonstrate the flow of energy into and from the individual/family; and its depiction of nurturing as well as conflicted relationships (Compton & Galaway, 1999). Research shows that the ecomap allows the worker to focus on transactional issues while aiding the worker in determining the resources and interventions necessary for resolution of many family and individual stressors (Thomlison, 2002).   Moreover, the ecomap is found to be useful in the interviewing process by helping define and develop the worker-family or individual-client relationship as a shared, collaborative process (Hartman & Laird, 1983). Discussing and sharing the ecomap can lead to increased understanding and acceptance of the self on the part of the client (Hartman & Laird, 1983) as well as bring people/family members together for support and to foster change (Sherman & Fredman, 1986). Although much is known about the advantages of utilizing the ecomap, there are gaps in the literature concerning the ecomap's psychometric soundness, and its validity

and reliability as a measure of social support. Subsequently, social workers that utilize the ecomap are doing so with no empirical evidence to prove its utility.

In the present study, the concurrent validity, the degree to which the ecomap correlates with the MSPSS and the YA-SSI, was measured to determine whether the rates of social support indicated in the ecomap positively correlate with the rates of social support indicated in the MSPSS and YA-SSI. This study will expand on what is known about the ecomap and ask the question: Is the ecomap a valid and reliable social work tool to measure social support?

Hypothesis 1

Rates of social support indicated by measurement of the ecomap positively correlate with the rates of social support indicated in the Multidimensional Scale of Perceived Social Support (MSPSS), thus providing evidence of the ecomap's validity as a measure of social support.

Hypothesis 2

Rates of social support indicated by measurement of the ecomap positively correlate with the rates of social support indicated in the Young Adult Social Support Inventory (YA-SSI), thus providing evidence of the ecomap's validity as a measure of social support.

Hypothesis 3

The ecomap is a reliable measure of social support.

CHAPTER 3: RESEARCH METHODS

<u>Design</u>

This study used a nonrandom convenience sampling design to explore the validity

and reliability of the ecomap. This study uses data collected at two times for the purpose

of test re-test reliability, from Masters of Social Work graduate students.   Recruitment

data was collected at the Louisiana State University School of Social Work between

October 27th and October 30th, 2003. Retest data was collected from the same graduate

students at the School of Social Work, between November 10th and November 20th, 2003.

Data was collected in a group-testing format.

<u>Human Subjects Review</u>

This study was approved by the Louisiana State University Institutional Review

Board IRB # 2401. In order to ensure the confidentiality of subject data, several steps

were taken: (1) it was unnecessary to know the identity of the subjects to analyze the

data for this project, the subjects were instructed to answer two questions located on the

top of each measurement tool (Appendix D, F, H) for confidential identification

purposes, (2) computerized data was kept on one computer accessible only by the PI and

the co-investigator, (3) hard copy data was kept in the PI's office in a secure and locked

location, and (4) results were presented in aggregate format.

The participants in this study were required to sign an informed consent form at

recruitment. Participants were informed that by signing the Informed Consent Form

(Appendix A) they were consenting to the recruitment and retest portions of the study to

be conducted at the Louisiana State University School of Social Work. The participants

were informed of their right to withdraw from the study at any time, and were assured

that all data provided would be held in strict confidentiality. Participants were provided

with a copy of the Consent Form (Appendix B) at recruitment that contained the name of

the primary investigators and their contact information. Standardized instructions

(Appendix C) were read by the primary investigator to the participants at recruitment and

retest.

<div align="center">Sampling</div>

Recruitment

A total (N=100) Masters of Social Work graduate students were recruited to

participate in this study. All 100 participants were recruited by a social work graduate

student, the primary investigator, as part of her thesis research. The sample was recruited

from three Research classes and one Human Behavior in the Social Environment (HBSE)

class. Information regarding the study was announced in two of the Research classes and

the HBSE class, where upon participants were given the option to participate in the study.

A mass e-mail was sent to all students in the third Research class providing them with

information on the study and requesting their participation. Those students were asked to

meet the primary investigator during their lunch hour for a period of 25-30 minutes to

participate in the study. This was the same procedure followed for the retest session of

data collection.

Recruitment data collection took place at Louisiana State University School of

Social Work between October 27th and October 30th, 2003. Data collected on the 100

participants included informed consent, demographic information, and scores on three

social support measures. The participants did not receive any type of renumeration for

their participation in this study.

<u>Retest</u>

The 100 participants in the study were reminded at the conclusion of the recruitment that the retest portion would be conducted at the School of Social Work approximately two weeks after the recruitment session.

Retest data was collected at the School of Social Work, between November 10th and November 20th, 2003 by the primary investigator. Retest data included demographic information and scores on three social support measures. The participants did not receive renumeration for their participation.

In total, retest data was collected from 87% (n=87) of the 100 participants. Of the 13% (n=13) who left the sample from recruitment to retest, all were female, 7% self-reported being "white," and 6% self-reported being "black". There were no significant differences in age and gender of the participants who stayed in the sample for the retest and those who did not participate in the retest. There was a significant difference in race/ethnicity of the participants who stayed in the sample for the retest (for more information see Comparison of Participants to Non-responders in Chapter 4).

<div align="center"><u>Data Collection</u></div>

Recruitment data were collected from 100 Masters of Social Work students between October 27th and October 30th, 2003. The recruitment data collection included the Informed Consent Form, demographic information, the Ecomap (Hartman, 1995), the Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet, Dahlem, Zimet, & Farley, 1988), and the Young Adult Social Support Inventory (YA-SSI) (McCubbin & Thompson, 1991).

Retest data collection was conducted with (n=87) of the 100 participants between

November 10th and November 20th, 2003. The retest data collection included

demographic information, the Ecomap (Hartman, 1995), the Multidimensional Scale of

Perceived Social Support (MSPSS) (Zimet, Dahlem, Zimet, & Farley, 1988), and the

Young Adult Social Support Inventory (YA-SSI) (McCubbin & Thompson, 1991).

Measurement

The data used in this study included demographic data and three measures of

social support including the Multidimensional Scale of Perceived Social Support

(MSPSS) (Zimet, Dahlem, Zimet, & Farley, 1988), the Young Adult Social Support

Inventory (YA-SSI) (McCubbin & Thompson, 1991) and the Ecomap (Hartman, 1995),.

Demographic Data

Demographic data were gathered at recruitment and retest. All data collected

were self-report. In both recruitment and retest, demographic data collected included

race/ethnicity {coded as white (1) and black (2)}, age {coded as a continuous variable},

and gender {coded as male (1) and female (2)}.

Measures of Social Support

MSPSS

The Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet,

Dahlem, Zimet, & Farley, 1988) was given to the participants at recruitment and retest

(Appendix F). The MSPSS is a 12-item instrument that measures an individual's

perceived level of social support. It is designed to assess perceptions of social support

adequacy from specific sources: family, friends, and significant others. Participants were

asked to rate their perceived level of social support on a 7-point likert scale from 1 "very

strongly disagree" to 7 "very strongly agree."

Three subscale comprise the MSPSS: the family, friends, and significant other subscales. The whole scale has 12-items allowing for a minimum score of 12 and a maximum score of 84 (higher scores indicating a greater level of social support). By dividing the maximum score on the MSPSS by three ($84 \div 3$), for the purpose of this study a managerial decision was made to make an overall score of 1-28 to indicate low levels of social support, 29-56 moderate and 57-84 high levels of social support. The overall whole scale score is used in this study as a comparison measure in data analysis, and is measured as a continuous level variable.

The overall measure and the subscales (family, friends, and significant others) show acceptable published test-retest reliability, factorial validity (significant other and friends factors were found to be moderately correlated ($r = .63$), the family subscale was found to be more independent from the other two, with correlations of (.24) and (.34) with significant other and friend, respectively); and adequate construct validity ($r = -.25$, $p < .01$). Internal reliability ranged from .84 to .92 for the scale as a whole (Delham, Zimet, & Walker, 1991; Kazarian, & Mc Cabe, 1991, Zimet, Powell, Farely, Werkman, & Berkoff, 1990; Zimet, Dahlem, Zimet, & Farley, 1988).

YA-SSI

The Young Adult Social Support Inventory (YA-SSI) (McCubbin & Thompson, 1991) was given to the participants at recruitment and retest (Appendix H). The YASSI is a 45-item instrument designed to measure social support in young adults, particularly in college freshmen. Although, this instrument has not been studied using other samples, it appears to have face validity for use with young adult populations other than college students (McCubbin & Thompson, 1991).

The YA-SSI encompasses 11 factors; however an overall measure of social support can be attained by using the total score. In scoring the YA-SSI, the first 12 items are not scored. These 12 items are questions used to gather the participant's descriptive data. These 12 questions were coded as 1 for "yes", and 2 for "no." The remaining items are assigned a 1 for "no", a 2 for "yes", and a 3 for "yes a lot". Item scores can be summed for a total score. By dividing the maximum score on the YA-SSI being a score of 195 by three (195 ÷ 3), a managerial decision was made in the current study for an overall score of 1-65 to indicate low levels of social support, 66-130 moderate, and 131-195 high levels of social support.

The overall scale score is used in this study as a comparison measure in data analysis, and is measured as a continuous level variable. The YA-SSI has excellent internal consistency, with an alpha of .89, excellent stability, and a test-retest correlation of .90. It also has fair predictive validity, significantly correlating with academic GPA (McCubbin & Thompson, 1991).

Ecomap

The ecomap was administered to the participants at recruitment and retest (Appendix D). The ecomap, developed in 1975, is a tool used in social work practice to measure social support (Hartman, 1995). The ecomap is widely utilized, due in part to its ease of administration, however lacks empirical support because it has not been validated in the literature as a reliable and valid tool in the measure of social support. The ecomap is a paper-and-pencil simulation that maps the ecological system whose boundaries encompass the individual or family (Hartman, 1995).

The ecomap can be prepared collectively with a client, or can be completed

entirely by a client, or entirely by a worker (Mattaini & Daley, 1997). In administrating the ecomap, the family household or individual is placed in the center of the paper as a circle. Circles are drawn around the family household or individual indicating their environments such as work, day care, school, extended family, church, recreation, and friends. The circles can be drawn in any size depicting strength of that support system. Lines are drawn depicting the quality of the relationships with the connections. Most common depictions include straight lines signifying strong connections; dotted lines signifying tenuous relationships; slashed lines signifying stressful relationships; and arrows indicating the flow of the relationship between the systems. These arrows can be drawn in both directions or one way depending on energy flow.

For this study the ecomap was prepared entirely by the participant. The participants indicated the nature of connection/relationship between themselves and each person in the circles depicting their environments by drawing the appropriate line between themselves and each person. Lines were drawn depicting the quality of relationships. A straight line signified strong relationships, slashed lines signified stressful relationships, and dotted lines signified weak or poor relationships. The circles depicting the individual's environment included family, extended family, friends, internship, current living situation, recreation, work, religion, school, and an unlabeled circle in which the participant could fill in people who did not fit into any of the other categories.

The ecomap has been quantified in this study in an effort to validate it. Special consideration was taken upon quantifying a highly visual tool. For ease of replication by other practitioners, the ecomap was quantified in a reasonably straightforward manner.

The ecomap depicts the types of connections the individual/family has with their environments, therefore it was important to quantify the ecomap in a way that would measure the types of connections (i.e., Strong, Stressful, Weak/Poor) as well as the number of people significant in the individual/family's life. This produced two continuous variables: Variable 1 (Connectedness) - which measures the Strong, Stressful, or Weak/Poor connections with the individual and their family, friends, and significant others; Variable 2 (People) - measuring the number of people depicted in the ecomap. Although the participants were instructed to place only people in their ecomaps, a few participants placed the names of student organizations in which they were active. For example, some participants placed the name of a social work student organization. In these cases the student organization was counted as one person.

In scoring the Connectedness variable, a Strong connection (signified by a straight line), was given the value of 3 while a Stressful connection (signified by a slashed line) was given a value of 2 and a Weak/Poor connection (signified by a dotted line) was given a value of 1. Each line (straight, slashed, or dotted) depicting the connection was summed and multiplied by its line value (i.e., all straight lines signifying strong connections were added together and then multiplied by 3 the value of a strong line). A total Connectedness variable was then produced by summing all of the line values. One person in the study did not follow directions and used two lines to depict their connection with two people in their ecomap, for this participant one line was selected and the Connectedness variable was calculated.

The People variable was produced by summing the total number of people depicted in every circle. An overall ecomap score was produced by summing the total

Connectedness variable score and the total People variable score. The overall scale score

is used in this study as a comparison measure in data analysis, and is measured as a

continuous level variable. Being that the mean ecomap score in the current study was 90,

by dividing 90 by three (90 ÷ 3), for the purpose of this study a managerial decision was

made for an overall score of 1-30 to indicate low levels of social support, 31-60 moderate

levels, and 61 and above high levels of social support.

CHAPTER 4: RESULTS

Between October 27th and October 30th, 2003, 100 Masters of Social Work

graduate students were recruited to participate in this study. Among these 100 graduate

students, 87 (87%) participated in the 2-week follow-up.

Data Analysis

Descriptive statistics (see Table 1) and frequency distributions were computed for

all variables using alpha $\leq$ .05, two-tailed test.

Scores from the three social support measures were transformed into z-scores.

The transformation of scores to z-scores on the standard normal distribution locates the

original scores in terms of how many standard deviations the score is away from the

mean (Kiess, 1996). The z-score value for any score is simply how many standard

deviation units the score is above or below the mean of zero on the standard normal

distribution (Kiess, 1996).

Binary logistic regression was used to compare participants and non-responders.

The dependent variable was whether the graduate students participated in the retest. For

this analysis the odds ratio (OR) was used to quantify the strength and direction of

relationships between the independent variables. The OR is ideally suited for analyzing

multidimensional tables and provides a number of maximum likelihood estimators for

sample data that permit tests of significance and association (Lindsey, 1992). The OR

determines how strongly two variables are related by examining the relative influence of

the independent variables on the dependent variables. If the odds are the same in each

category, their ratio will equal one. A value of one indicates no relationship. If the odds

for the categories are sufficiently different (i.e., a value greater or less than one), then

Table 1. Demographic Characteristics Responders (n=87) and Non-responders (n=13)

CHARACTERISTIC	(n=87)	(n=13)
AGE		
Minimum	21	22
Maximum	54	33
Mean	27	24
GENDER		
Male	5.7%	0%
Female	94.3%	100%
RACE		
White	83.9%	53.8%
Black	16.1%	46.2%

there is a relationship. The greater the departure from one, the stronger the relationship (Lindsey, 1992). The <u>OR</u> is insensitive to marginal distributions and size samples (Lindsey, 1992). Hypotheses about individual independent variables were tested using the <u>Wald</u> statistic. Overall and incremental model fit was tested using chi-square. Cook's D was used to determine whether there were influential outliers, and tolerance levels were examined to determine whether multicollinearity was a problem.

<div align="center">Comparison of Participants and Non-responders</div>

Participants in the study (n=87) were compared with non-responders (n=13) (Table 2). For the purpose of this comparison, non-responders were defined as those graduate students from the original sample who did not participate in the retest portion of the study.

Binary logistic regression was used to compare the demographic differences between study participants and non-responders given that the dependent variable was binary. The dependent variable was whether the graduate students participated in the retest, coded as a dichotomous variable as No (0) and Yes (1). Demographic variables measured for participants and nonresponders at recruitment were used as predictor variables. These variables included ethnicity/race, age, and gender. There were no missing data in this analysis.

In the recruitment sample of graduate students (N=100), the likelihood of participation in the retest did not differ by age or gender. However, there was a significant difference in the ethnicity/race variable. The binary logistic regression showed that white participants were .84 times more likely to participate in the retest. The Omnibus Tests of Model Coefficients which included age, gender, and ethnicity/race

Table 2. Comparison of Study Participants (n=87) to Non-Responders (n=13)

Characteristic	B	Wald	p	OR
Age	.143	2.6	.108	1.15
Gender	-6.7	.082	.775	.001
Race	-1.8	7.4	.007	.156

Note. Study participants significantly differed from non-responders only in race (X^2 (3) = 11.59, p = .009).

within the model showed (x²= 12, df= 3, p= .009, R²= .11).   The overall model is significant, 11% of variability is accounted for by race, gender, and ethnicity/race.

Missing Data

Patterns of missing data reported in this section are based on the 87 participants who participated in the retest portion of the study.

Missing Scale Item Data

The Young Adult Social Support Inventory (YA-SSI) was the only scale with some missing item data, but with more than 70% completed items. The YA-SSI had 2% missing data from both the recruitment and retest data. Missing values were imputed using mean substitution (SPSS version 11), substituting a variable's mean value computed from available cases to fill in missing data values on the remaining cases (Acock, 1997). Mean substitution was used because the scale items were hovering around the mean.

Missing Scale/Variable Data

The YA-SSI was the only scale with some missing data. Out of the (n=87) participants in the retest, (n=25) had some missing data.

Reliability of Measures

Coefficient alpha was computed for each measure using the retest sample (Table 3). All measures except the MSPSS demonstrated excellent to good internal reliability (YA-SSI .93, ecomap .88). The recruitment YA-SSI had an alpha of .93 and .95 for retest. Before removing outliers, the alpha coefficient for the MSPSS (using the retest sample) was .28. After removing (n=7) outliers in the MSPSS, the scale had excellent

Table 3. Measure Reliability

_____

Measures	Coefficient Alpha
Ecomap (N= 87)	
Scale	.88
YA-SSI (N= 87)	
Scale	.93
Recruitment	.93
Retest	.95
MSPSS (N= 80)	
Scale	.91
Recruitment	.86
Retest	.89

internal reliability of .91 with an alpha of .86 for recruitment and .89 for the retest

(outliers will be discussed in the Correlation Analysis).

<u>Assumptions</u>

Linear relationships between the independent and dependent variable were tested.

The lack of curvilinear patterns in the scatter plots of the dependent and independent

variables in the population attested to the linear relationship of the variables.

<u>Descriptive Data</u>

Demographic data gathered at recruitment demonstrate that of the (N=100)

recruitment participants, 80% self-reported their race/ethnicity to be "white," while 20%

self-reported being "black." The 100 participants age ranged from 21 to 54 years of age,

(M=27, <u>SD</u>= 7.7). Of the 100 participants, 5% self-reported being "male," while 95%

self-reported being "female."

Additional descriptive data were collected from 12 questions in the YA-SSI. Data

gathered from the (n=87) participants who participated at both recruitment and retest

indicated the following: 96.6% have one or both parents living; 89.7% reported having

siblings; 100% reported having other relatives such as grandparents, aunts, uncles, and

cousins; 81.6% reported having highschool friends; 92% reported having college friends;

50.6% reported having a paying job where they have co-workers; 66.7% reported

belonging to a church or a synagogue; 97.7% reported having spiritual beliefs; 90.8%

reported having contact with college faculty, counselors, and administrators, 93.1%

reported having contact with professionals or service providers such as doctors, nurses,

barbers, and diet counselors; 73.6% reported belonging to special organized groups for

minorities, hobbies, fitness, and athletics; and 98.9% reported watching television,

listening to the radio or reading newspapers, magazines, pamphlets, or non required books.

In total, retest data were collected from 87% of the 100 participants (Table 1). Among the 13% who did not participate, all were female and 7% self-reported being "white," while 6% self-reported being "black." The non-responders ranged in age from 22-33 years, (M=24, $\underline{SD}$= 2.9). Additional descriptive data collected from 12 questions in the YA-SSI on the 13% non-responders showed the following: all respondents (n= 13) reported having one or both parents living; having college friends; having other relatives such as grandparents, aunts, uncles, cousins; having contact with professionals or service providers such as doctors, nurses, barbers, and diet counselors; belonging to any organized group; and watching T.V. and listening to the radio or reading newspapers, magazines, pamphlets, or non-required books; 92.2% reported having siblings; 92.3% reported having high school friends; 46.2% reported having a paying job where they had co-workers; 69.2% reported belonging to a church or a synagogue; 92.3% reported having spiritual beliefs; and 92.3% reported having contact with college faculty, counselors, and administrators.

There were no significant differences between the participants and non-responders on the 12 YA-SSI descriptive questions. There was a significant difference in the ethnicity/race variable between participants and nonresponders that showed white participants were .84 times more likely to participate in the retest.

<u>Correlation Analysis</u>

The objective of this study is to determine whether the rates of social support indicated in the ecomap positively correlate with the rates of social support indicated in

the MSPSS and the YA-SSI. In order to investigate this research question scores from the three measures were transformed into z-scores and with-in and between 2-tailed correlations were conducted. The reliability of measures was assessed using Cronbach's alpha. Alpha was set at ≤.05.

Research Question

Is the ecomap a valid and reliable social work tool to measure social support? The results for this research question will be explained fully below in reporting tests of Hypotheses 1, 2, and 3. In each case the MSPSS and YA-SSI were used as comparison measures in data analysis.

Hypotheses 1

Rates of social support indicated by measurement of the ecomap positively correlate with the rates of social support indicated by measurement of the Multidimensional Scale of Perceived Social Support (MSPSS) thus providing evidence of the ecomap's validity as a measure of social support.

To test this hypothesis the MSPSS was used as a comparison measure in data analysis. Scores on both the ecomap and MPSS were transformed into Z-scores. With-in and between correlations were assessed, and two-tailed tests were conducted. With-in correlations were assessed for the ecomap recruitment and retest and the MSPSS recruitment and retest. Between correlations were assessed between recruitment and retest ecomap and MSPSS.

The scores on the MSPSS at both recruitment (M= 74, SD= 8.6, range= 73) and retest (M= 74, SD= 8.7, range= 72) indicated that the average participant receives a high level of social support (see Table 4 and 5 for range in scores). No association emerged

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Table 4. Levels of Social Support

Measure	Low	Moderate	High
Ecomap			
Recruitment	2%	12%	86%
Retest	2.2%	24.4%	73.4%
MSPSS			
Recruitment	3%	2%	95%
Retest	4.4%	2.2%	93.4%
YA-SSI			
Recruitment	0%	40%	60%
Retest	0%	39.1%	60.9%

Score Ranges
Ecomap
Low: 1-30
Moderate: 31-60
High: 61- above

MSPSS
Low: 1-28
Moderate: 29-56
High: 57-84

YA-SSI
Low: 1-65
Moderate: 66-130
High: 131-195

Table. 5 <u>Participant (n=87) Characteristics and Levels of Social Support</u>

Levels		AGE	GENDER	RACE
MSPSS	Low	21-47	1 male, 4 female	3 white, 1 black
	Moderate	22-29	2 female	1 white, 1 black
	High	21-54	4 male, 76 female	69 white, 12 black
YA-SSI	Low	0	0	0
	Moderate	21-51	1 male, 29 female	46 white, 3 black
	High	21-54	4 male, 53 female	46 white, 11 black
Ecomap	Low	24-48	2 female	2 white
	Moderate	22-47	3 male, 19 female	14 white, 8 black
	High	21-54	2 male, 61 female	59 white, 6 black

between the ecomap and MSPSS recruitment scores (r= .19, p= .086) and retest scores (r= .14, p= .194). Results showed that the ecomap's scores at recruitment and retest were not correlated, respectively, with the MSPSS scores at recruitment and retest. Hence, hypothesis 1 is not supported when the full data set was used.

However, scatter plot analysis of the MSPSS data revealed outliers (n= 7). These outliers were attributed to the (n=7) participants inverting the MSPSS scale at recruitment, and thus reporting very low social support at recruitment and high levels of social support two weeks later at retest. When the outlier data were removed from analysis (n=80), the MSPSS internal validity increased to (.91). Using this subsample (n=80) for subsequent analysis, the retest scores on the MSPSS positively correlated with the ecomap's recruitment scores (r= .23, p=.040) and retest scores (r= .25, p=.018), however the MSPSS recruitment scores did not positively correlate with the ecomap (Table 6). Hence, hypothesis 1 was partly supported when outliers (n=7) were removed and when using the MSPSS's retest scores only.

Hypothesis 2

Rates of social support indicated by measurement of the ecomap positively correlate with the rates of social support indicated by measurement of the Young Adult Social Support Inventory (YA-SSI) thus providing evidence of the ecomap's validity as a measure of social support.

To test this hypothesis the YA-SSI was used as a comparison measure in data analysis. Scores on both the ecomap and YA-SSI were transformed into Z-scores. With-in and between correlations were assessed, and two-tailed tests were conducted. Within correlations were assessed with the YA-SSI recruitment and retest, and between

correlations were assessed between the recruitment and retest YA-SSI and ecomap.

The recruitment scores on the ecomap (M= 89, SD= 31.1, range= 207) and the recruitment scores on the YA-SSI (M= 133, SD= 18.6, range= 107) indicated that the average participant receives a high level of social support (see Table 4 and 5 for range in scores). The retest scores on the ecomap (M= 82, SD= 31.8, range= 153) and the retest scores on the YA-SSI (M= 134, SD= 21.1, range= 111) also indicated that the average participant receives a high level of social support.

A positive association emerged between the ecomap and YA-SSI recruitment scores (r = .33, p =.002) and retest scores (r = .38, p = .000). Rates of social support measured by the ecomap positively correlated with the rates of social support measured by the Young Adult Social Support Inventory (YA-SSI) thus providing evidence of the ecomap's validity as a measure of social support (Table 6). Hence, hypothesis 2 is supported.

Hypothesis 3

Test-retest reliability is demonstrated with the ecomap, providing evidence of the ecomap's reliability.

To test this hypothesis a test of test-retest reliability was assessed using Cronbach's Alpha. Results indicate the ecomap's reliability alpha of (.88), providing evidence of the ecomap's test-retest reliability. Hence, hypothesis 3 is supported.

Summary of Results

The total number of participants in the study included (N=100) social work graduate students between the ages of 21 and 54, (M= 27, SD= 7.7). The majority of the participants 80% were white; the remaining 20% were black. The majority of

Table 6. Relationships Among Dependent Variables

Dependent Variable	1 Ecomap Recruitment	2 Ecomap Retest	3 MSPSS Recruitment	4 MSPSS Retest	5 YA-SSI Recruitment	6 YA-SSI Retest
1		.780 **	.153	.230 *	.326 **	.402 **
2			.156	.264 *	.271 *	.382 **
3				.846 **	.475 **	.422 **
4					.355 **	.360 **
5						.852 **
6						.852 **

participants were also female 95%.   Of the 100 participants at recruitment, 87

participated in the retest. The 13% that did not participate in the retest were all female,

with 7 white, and 6 black. The likelihood of participation in the retest did not differ by

age or gender. However, there was a significant difference in the ethnicity/race variable.

The binary logistic regression revealed that white participants were .84 times more likely

to participate in the retest. The attrition pattern of the sample may be a threat to external

validity. Thus the study may only be generalizable to a Caucasian sample. The Omnibus

Tests of Model Coefficients provided a test of the joint predictive ability of all covariates

in the model which included age, gender, and ethnicity/race.   The model was significant

(x^2= 12, df= 3, p= .009, R^2= .11) with 11% of variability accounted for by age, gender,

and ethnicity/race.

The coefficient alpha obtained for the MSPSS with this sample indicated low

internal consistency. However, an analysis of the MSPSS data revealed 7 respondents

with outlying data. These outliers were attributed to the (n=7) participants inverting the

MSPSS scale at recruitment, and thus reporting very low social support at recruitment

and high levels of social support two weeks later at retest. Upon removal of the 8% (n=7)

of participants with outlying data, analysis revealed the MSPSS to be psychometrically

sound with excellent reliability (.91). Thus, this subsample (N=80) of MSPSS data were

used in subsequent analyses.

The scores on the MSPSS at both recruitment (M= 74, SD= 8.6) and retest

(M= 74, SD= 8.7) indicate that the average participant receives a high level of social

support. Upon removing the outliers (n=7) from the MSPSS analysis, a significant

relationship emerged between the retest scores on the MSPSS and the ecomap's

recruitment and retest scores, indicating that the scores positively correlate. However, the MSPSS recruitment scores did not positively correlate with recruitment and retest scores on the ecomap. This may be due in part to lingering measurement error of the MSPSS at recruitment after the (n=7) outlier data were removed, as evidenced by the MSPSS alpha being higher at retest (.89) than recruitment (.86). Hence, hypothesis 1 is supported only when removing the outliers (n=7) and only when using the MSPSS's retest scores. In removing the outliers (n=7) from the analysis, a significant relationship emerged between the MSPSS and the YA-SSI at recruitment and retest, indicating that scores positively correlate.

The YA-SSI was found to be psychometrically sound, with excellent reliability (.92). The scores on the YA-SSI at recruitment (M= 133, SD= 18.6, range= 107) and retest (M= 134, SD= 21.1, range= 182) indicate that the average participant receives a high level of social support. A significant relationship emerged between the YA-SSI's recruitment and retest scores and the ecomap's recruitment and retest scores, indicating that the scores positively correlate. Upon removing the (n=7) outliers from the MSPSS analysis, the YA-SSI positively correlated with the MSPSS at recruitment and retest. Rates of social support indicated with the YA-SSI positively correlate with rates of social support indicated with the ecomap thus supporting hypotheses 2.

In this study the ecomap was found to be psychometrically sound, with good reliability (.88). The scores on the ecomap at recruitment (M= 89, SD= 31.1, range= 207) and retest (M= 82, SD= 31.8, range= 153) indicate that the average participant receives high levels of social support.

Test-retest reliability were explored, revealing strong test-retest data for all of the

measures (see Table 3). A test of the ecomap's reliability revealed the ecomap to be a

reliable measure in this study with a test-retest alpha of (.88), thus supporting hypothesis

3.

CHAPTER 5: DISCUSSION

The ecomap has not been validated in the literature as a reliable and valid measurement tool. Consequently, this limitation is the basis for the current study. This study aims to begin the validation process of the ecomap by providing evidence of its validity and reliability. These efforts are important for evidence-based social work practice where the focus is on the use of empirically sound measures for direct practice. The evidence-based practice movement in social work is an effort to bring accountability and credibility to the field, in turn placing social work in the mainstream of scientifically oriented professions. In recent years there has been a concerted effort to promote evidence-based practice as an alternative to authority-based social work practice where science-like claims are made without any evidence to validate them. Social work practitioners who rely on questionable criteria for evaluating knowledge claims place clients at risk of experiencing harmful side effects, and creating false hope, while foregoing effective treatments (Gambrill, 1999). This places responsibility on social work researchers to provide evidence of the validity of assessment tools, like the ecomap, to contribute to the knowledge base of the social work profession. Bringing practice effectiveness concerns of social work practitioners together with the resources represented by social work researchers is vital (Austin, 1999).

The ecomap is a social work tool developed in 1975 to measure social support. Although it has been widely utilized for this purpose due, in part, to its ease of administration, it has not received empirical support as a reliable and valid tool in the measure of social support. Thus, social workers who have utilized the ecomap to measure social support have done so without empirical evidence to demonstrate its utility

for this specific purpose. Results of this present study revealed that the rates of social

support measured with the ecomap positively correlated with the rates of social support

measured with two valid and reliable social support measures (MSPSS and YA-SSI).

Additionally, this study provides preliminary evidence of the reliability of the ecomap as

a tool for measuring social support.

<div align="center">Strengths of Current Study</div>

Sample

Sample retention at retest was high at 87%, and the sample had marked variability

in age.

Measurement

The strengths of the ecomap are its visual simulation of connections between a

family and the environment, its ability to demonstrate the flow of energy into and from

the family, and its depiction of nurturing as well as conflicted relationships. The ecomap

can be prepared collectively with a client, or can be completed entirely by a client, or

entirely by the worker. The ecomap also expands on PIE which is used only with adults,

by allotting for the use with children.

The comparison measures used in this study (i.e., MSPSS and YA-SSI) all have

published reliability and validity and were found to be reliable in the current study.

Moreover, there was relatively little missing data in the current study.

Statistical Methods

Appropriate statistical methods were used in the current study. Participants who

participated in the retest were compared to non-participants using binary logistic

regression in an effort to rule out sample selection bias. This procedure is frequently

overlooked in other research, potentially introducing unknown bias to the characteristics of participants who withdraw from research. Correlations were used to test the hypotheses. Correlation analysis was selected as the most appropriate tool for data analyses in this study due to its effectiveness in measuring how variables are related.

<div align="center">Limitations and Weaknesses of Current Study</div>

<u>Sample</u>

The current study consisted of Masters of Social Work graduate students at Louisiana State University. A primary disadvantage of this sample is the disproportionately greater number of white and female students. Representativeness was a key sampling issue that affected generalizability in this study. The sample of social work graduate students used in the current study may not be representative of a client population with which the ecomap would be utilized. The sample size and the sample selection may have also contributed to problems with external validity, specifically generalizability.

The significant difference between the retest responders and the retest non-responders by race/ethnicity may be attributed to the under representation of black students at the Louisiana State University School of Social Work. The small number (n=20) of black participants in this study may have elevated the Odds Ratio or likelihood of black and whites participating in the retest, causing a significant difference in this variable. The attrition pattern of the sample may cause a threat to external validity. The binary logistic regression revealed that white participants were .84 times more likely to participate in the retest. Thus the study may only be generalizable to a Caucasian sample. The attrition of participants may be reflected in attendance patterns in class on the days in

<div align="center">61</div>

which data was collected. Students may not have been present on the day of retest thus contributing to the attrition pattern. Differential patterns of socialization may also account for the attrition of participants, in that some participants may highly value research and may have also felt obligated to follow through with the study and participate in the retest. The attrition of nonresponding black participants in the current study is in accordance with the literature on minority research participants indicating that black research participants choose to discontinue research participation due to suspicion of the research agenda (Arean & Gallagher-Thompson, 1996; Thompson, Neighbors, Munday, & Jackson, 1996). For example, the mental health status of black participants historically has been used to justify slavery and to reinforce the concept of racial inferiority (Williams, 1986). These concepts were due to researchers either misrepresenting their work, or in some cases, falsifying data (Lawson, 1986, p. 50). These negative images make it difficult to recruit black participants into research studies because black respondents tend to distrust research in general and, in particular, research conducted by white researchers (Thompson, Neighbors, Munday, & Jackson, 1996) and they thus may artificially elevate their actual level of social support to appear in a more favorable light.

Measurement

The measures in the current study are all self-report measures, and were selected on the basis of psychometric soundness. However, participants may have tailored their responses in self-report measures to appear in a more favorable light (Nunnally & Bernstein, 1994).

The MSPSS encompasses a likert scale in which participants rate their level of social support perceived by family, friends, and significant others. In this study, the likert

scale may have confused a few participants. It appears that (n=7) participants may not

have read the directions closely and inverted the scale at retest. Thus, their social support

scores on the MSPSS at recruitment were very low, as opposed to the retest where they

may have realized their error and their social support scores were significantly higher.

Hence, recruitment scores did not correlate with retest scores making the MSPSS

psychometrically unsound and invalid measure of social support for our sample. This

psychometric result is unsupported by the plethora of research that has found the MSPSS

to be a reliable and valid measure of social support (Delham, Zimet, & Walker, 1991;

Kazarian, & Mc Cabe, 1991, Zimet, Powell, Farely, Werkman, & Berkoff, 1990; Zimet,

Dahlem, Zimet, & Farley, 1988). Furthermore, upon removal of the outlier data from

MSPSS analysis, the MSPSS was found to be reliable and valid. Thus the reliability

results of the MSPSS in this study can be attributed to participant/measurement error (i.e.,

directions not properly being read by some participants).

<div align="center">Suggested Future Research</div>

This study used a non-clinical sample to assess the validity and reliability of the

ecomap. The sample also consisted of a small number of male and minority participants.

Additional research is needed to test the validity of the ecomap with a probability sample

that is more representative of the client populations with which ecomaps are utilized.

This includes better representation of minority and male participants. Hence, a more

diverse sample is needed with a larger randomly selected sample to enhance

generalizabilty.

The ecomap's imprecise terms, which make the exact nature of the relationships

portrayed difficult to determine (i.e., strong versus stressful or weak relationships can be

defined in a multitude of ways), and its lack of specificity of whom participants consider "family" or "extended family" should be explored in subsequent studies.

In the current study, the quantified ecomap may not allow for the level of specificity that can be achieved with other measures. For example, the MSPSS allows for the measurement of social support from three specific sources and can provide a score for each individual source. Unlike the ecomap that allows for the measurement of several sources but only provides a global score. Although the ecomap provides a pictorial representation of the type of connections the individual/family has with every source on their ecomap and thus provides the worker with the knowledge of the level of support they receive from that source, an individual score is not provided for the different sources. By creating a range (i.e., -3 to +3), precision may also be enhanced in quantification of the ecomap. Thus, further research into the quantification of the ecomap to enhance its specificity and precision would be very beneficial.

The ecomap may prove to be a more reliable measure of social support for some types of clients because it is a highly visual tool. Nonverbal clients, children, and clients who may find it difficult to express themselves through words may find it easier to pictorially express themselves. Hence, additional research to test whether the ecomap may be a more reliable tool for measuring social support than other paper-and-pencil instruments for these types of clients should be explored in subsequent studies.

Although this study found the ecomap to be a reliable and valid measure of social support and has begun the validation process, other studies are needed to affirm the ecomap's reliability and validity in measuring social support.

Practice Implications

The use of tools without empirical research to demonstrate their reliability and validity undermines the current goals of evidence-based practice in social work. Social work practitioners must protect their clients by choosing assessment tools that have empirically verified utility, based on empirical research. In choosing tools that have demonstrated utility, social workers contribute to the effort of placing social work in the mainstream of scientifically oriented professions.

With the primary focus of social work being the person-in-environment (PIE), as developed out of the general systems theory, utilizing the ecomap reinforces PIE paradigm. The ecomap allows for a pictorial representation and understanding of the family in its environment/world, allowing for the family to be viewed as a system interlayed with multiple systems. The ecomap organizes micro-level, meso-level, and exo-level contingencies that are involved in the ecosystem of the client. By utilizing the ecomap the worker focuses on transactional issues and understanding contextual factors that contribute to the client's difficulties. In turn, this perhaps reduces the tendency to blame the client and prevent an overemphasis on psychopathology as opposed to environmental determinants and contributions to the situation.

The ecomap expands on PIE which is designed for clients' 18 or older by allotting for the use with children. It may be a more appropriate tool for measuring social support than other paper-and-pencil instruments for some clients. The ecomap is age appropriate for children and can be beneficial for non-verbal clients. Its visual simulation of connections between a individual/family and the environment may make individuals and families more comfortable about sharing information once they understand that the

worker is aware of the intricacies and uniqueness of their system. A client who has a difficult time expressing themselves through words may find it easier to pictorially express themselves such as is allotted by the ecomap.

The current study quantified the ecomap to explore its psychometric soundness and begin the process of validation. In quantifying the ecomap in the current study, a connectedness variable which measured the strong, stressful, or weak/poor connections and the people variable which measured the number of people depicted in the ecomap were very easily calculated. The quantification of the ecomap in the current study is very straightforward and can be reasonably expected to be achieved by other practitioners.

<u>Conclusion</u>

There are a multitude of advantages in utilizing the ecomap: it provides a pictorial representation and understanding of the family in its environment/world, it organizes meso-level, exo-level, and micro-level environmental contingencies; gives the worker insight into where changes may be needed with the environmental systems to provide improved interactions for the individual/family; and discussing and sharing the ecomap can lead to increased understanding and acceptance of the self on the part of the client, among others.

The findings in the current study provide evidence to the ecomap's reliability and validity. These findings seek to promote evidence-based practice in social work where social workers utilize tools with demonstrated empirical evidence of their effectiveness. In turn, bringing accountability to the social work profession and ensuring that the social work Code of Ethics which obligates social workers to involve clients as informed participants, empower them, and to offer competent services, is honored.

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Informed Consent

Is the Ecomap a Valid and Reliable Social Work Tool for Measuring Social Support?

We are asking you to be part of a research study being conducted by Alexandra Calix, MSW Student and Daphne Cain, P.h.D., of Louisiana State University in an effort to validate the Ecomap, a social support measure.

Being part of this study will involve completing three social support measurement tools at two times this semester (late October, late November). The tools are the Ecomap, the Multidimensional Scale of Perceived Social Support (MSPSS), and the Young Adult Social Support Inventory (YA-SSI). These tools will solicit information on the social support you perceive from your family, friends, and significant others. Completing these measures should not take more than 30 minutes.

Protections for you. We hope you will be part of this study, but you do not have to participate. If you do, what you tell us will be kept strictly confidential and stored on a computer without your name and only a study number, where no one but the researchers can see it. Your participation in this study is voluntary and you may change your mind and withdraw from the study at any time without penalty.

Risks and advantages. There will be no direct benefits to you for participating in this study. There are no risks associated with this study.

The researcher director's name, address and telephone number are**: Dr. Daphne S. Cain, LSU School of Social Work, 311 Huey P. Long Fieldhouse, Baton Rouge, LA, 70803, (225) 578-0433.** If you have questions or concerns, you may call her.

Your signature below says that you want to complete the Ecomap, the Multidimensional Scale of Perceived Social Support (MSPSS), and the Young Adult Social Support Inventory (YA-SSI) today and will complete these measures again in the latter part of November. Thank you for helping us with this important study.

_____   _____
Participant   Date

_____
Witness

LOUISIANA STATE UNIVERSITY-BATON ROUGE CAMPUS
CONSENT FORM

1.	Study Title:	Is the Ecomap a Valid and Reliable Social Work Tool for Measuring Social Support?
2.	Site:	LSU School of Social Work
3.	Investigators:	Alexandra Calix, MSW Student/ Daphne Cain, P.h.D. : (225-578-0433)
4.	Purpose pf the Study:	The purpose of this study is to begin the process of validation of the ecomap using the empirically validated Multidimensional Scale of Perceived Social Support (MSPSS).
5.	Subject Inclusion:	Masters and PhD Social Work Students
6.	Subject Exclusion:	Any student who wishes not to participate.
7.	Description of the study:	This study will attempt to demonstrate the validity and reliability of the ecomap in measuring social support.
8.	Benefits:	There will be no direct benefits to you for being in the study. By being a part of this research you will be helping the researchers determine the validity of the ecomap.
9.	Risks:	As per Code of Federal Regulations (CRF), this data cannot be released without your consent. Also, a number assigned by the instructor will identify you in the database. It is called a unique identifier and is made up of numbers. This unique identifier is used in the database instead of your name. Your name will not be associated with your responses. Your consent form will be kept in a separate location and in no way tied to your responses on the evaluation instruments.
10.	Right to refuse:	You may choose not to be in this study or withdraw at any time without any penalty to you.
11.	Privacy:	The results of the study may be published in aggregate form but privacy of participating subjects will be protected your identity will not be revealed.
12.	Release of Information:	The researchers will not release this data without your consent unless it is required by a court order or subpoena.
13.	Financial Information:	There is no cost or financial reward for participation.

STANDARDIZED INSTRUCTIONS

Being part of this study will involve completing three social support measurement tools at two times (once in late October, once in late November). The tools are the Ecomap, the Multidimensional Scale of Perceived Social Support (MSPSS), and the Young Adult Social Support Inventory (YA-SSI). These tools will solicit information on the social support you perceive from your family, friends, and significant others. Completing these three measures should not take more than 30 minutes.

Your participation in this study is voluntary and you may change your mind and withdraw from the study at any time without penalty. There will be no direct benefits to you for participating in this study. There are no risks associated with this study.
If you have questions or concerns, you may call the PI: **Dr. Daphne S. Cain, LSU School of Social Work, 311 Huey P. Long Fieldhouse, Baton Rouge, LA, 70803, (225) 578-0433.**

Please answer the two questions at the top of the MSPSS, YA-SSI and the Ecomap. The questions are for the purpose of confidential identification.

At the end of the fall semester you will be asked to submit your GPA on paper along with the two answered questions that will provide identification. This information will not be linked to you. You will confidentially place the paper in the researcher's mailbox #45 in the School of Social Work lounge.

1. Please complete the MSPSS by indicating how you feel about statements 1-12.
2. After you are finished completing the MSPSS turn it over on your desk.
3. Please complete the YA-SSI by indicating how much support you receive from each of the sources. After completing the YA-SSI turn it over on your desk.
4. Instructions on how to complete the ecomap will be read as soon as everyone has completed theYA-SSI.
5. Please complete the ecomap.
    - In the large center circle describe your current living situation- meaning who physically lives in your house with you. Do not write your name in the circle simply place the word "Me" to depict you in place of your name.
    - In the other circles, identify significant people in your life. You may only mention each person once in your ecomap, no repeats.
    - Indicate the nature of connections between you and the people in each circle including the large center circle by drawing the appropriate line from the word "ME" to every person listed on the ecomap. Please use box depicting strong, stressful, or weak/poor connectedness.
    - Turn your ecomap over when you are finished and make sure you answer the two questions on each form providing the same answers on both forms.
    ## **Thank you for your participation**

What street did you live on as a child?_____
What is your favorite number?_____

* Do not write your name in the center circle, simply write the word **"ME"** to depict you
   in place of your name.
*Identify significant people and fill in empty circles as needed. Only mention people one
   time, **no repeating names.**
*Indicate nature of connection/relationship between you and each person in the circles by
   drawing the appropriate line between you and each person.

_____ Strong
_ _ _ _ _ _ _ _ _ Stressful
…………………Weak or Poor

Family

Extended Family

Friends

Internship

Current living situation

Recreation

Work

Religion/Culture

School
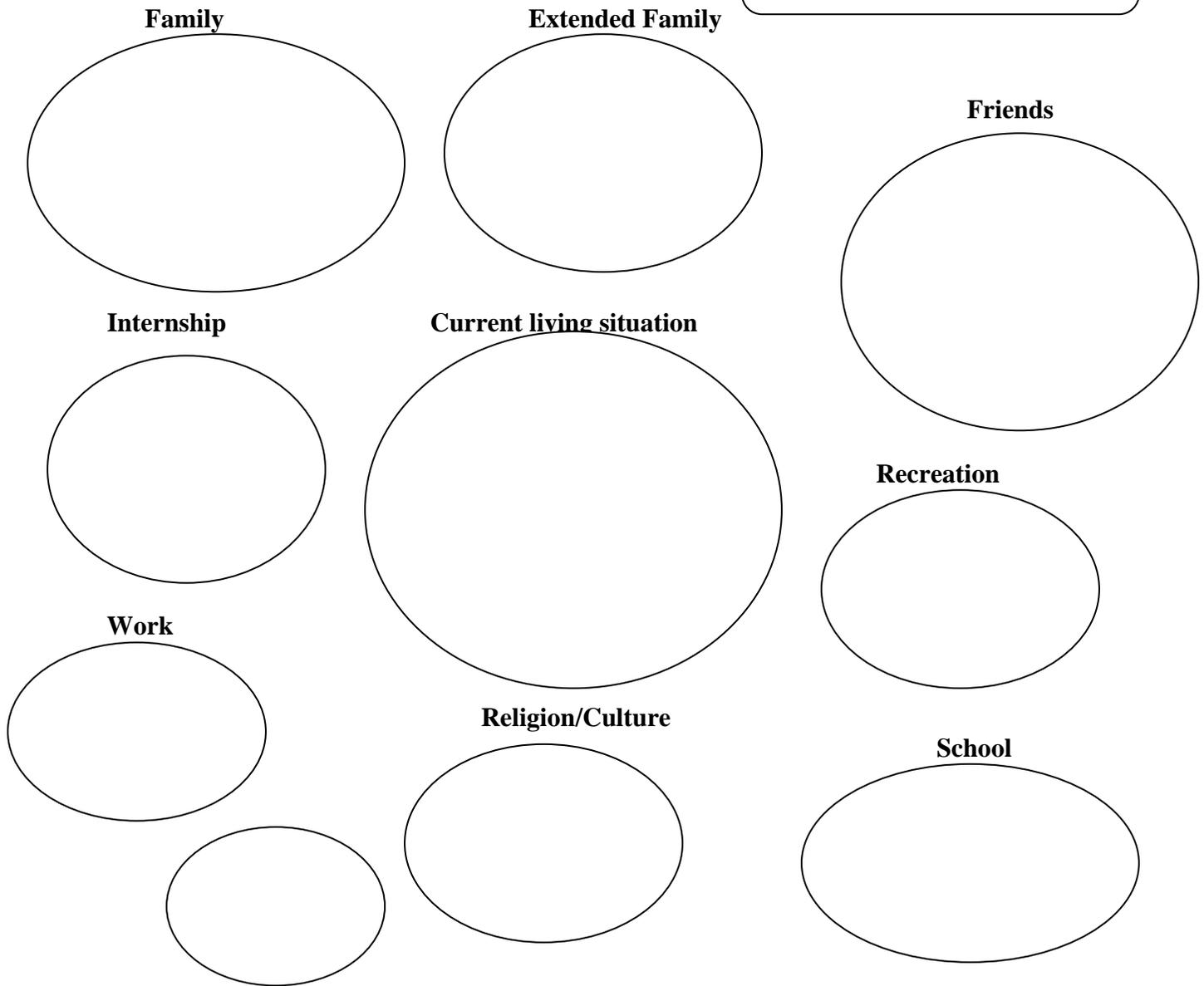
APPENDIX E: ECOMAP PERMISSION LETTER

Memo

Sent by: Lahart7894@aol.com
To: acalix1@lsu.edu
Subject: Re: Ecomap

Feel free to use the ecomap. I sent you an email some time ago to give you permission but guess it got lost in cyberspace.

Ann Hartman

http://mail111.lsu.edu/mail11e/acalix1.nsf/38d46bf5e8f08834852564b500129b2c/a72c53 8…9/28/03

What street did you live on as a child?_____
What is your favorite number?_____

Multidimensional Scale of Perceived Social Support
(Zimet, Dahlem, Zimet & Farley, 1988)

Instructions: *We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.*

Circle the **"1"** if you **Very Strongly Disagree**
Circle the **"2"** if you **Strongly Disagree**
Circle the **"3"** if you **Mildly Disagree**
Circle the **"4"** if you are **Neutral**
Circle the **"5"** if you **Mildly Agree**
Circle the **"6"** if you **Strongly Agree**
Circle the **"7"** if you **Very Strongly Agree**

1. There is a special person who is around when I am in need.   1 2 3 4 5 6 7

2. There is a special person with whom I can share my joys and sorrows.   1 2 3 4 5 6 7

3. My family really tries to help me.   1 2 3 4 5 6 7

4. I get the emotional help and support I need from my family.   1 2 3 4 5 6 7

5. I have a special person who is a real source of comfort to me.   1 2 3 4 5 6 7

6. My friends really try to help me.   1 2 3 4 5 6 7

7. I can count on my friends when things go wrong.   1 2 3 4 5 6 7

8. I can talk about my problems with my family.   1 2 3 4 5 6 7

9. I have friends with whom I can share my joys and sorrows.   1 2 3 4 5 6 7

10. There is a special person in my life who cares about my feelings.   1 2 3 4 5 6 7

11. My family is willing to help me make decisions.   1 2 3 4 5 6 7

12. I can talk about my problems with my friends.   1 2 3 4 5 6 7

INDIANA UNIVERSITY
SCHOOL OF MEDICINE

August 6, 2003

Dr. Daphne Cain
School of Social Work
Louisiana State University
207 Huey P. Long Fieldhouse
Baton Rouge, LA 70803

Dear Dr. Cain:

I am writing to indicate that I give Alexandra Calix permission to use the Multidimensional Scale of Perceived Social Support (MSPSS) in her research.

Let me know if you or Alexandra need any additional information.

Sincerely,

DEPARTMENT OF PEDIATRICS
SECTION OF
ADOLESCENT MEDICINE
Riley Outpatient Garage
Room 070
575 North West Drive
Indianapolis, Indiana
46202-5205

317-274-8812
Fax: 317-274-0133

Gregory Zimet, PhD

Professor of Pediatrics and
Clinical Psychology

What street did you live on as a child?_____
What is your favorite number?_____

YA-SSI
Please answer the following questions. (Circle the appropriate response: Y-**yes**, N- **no**)

1.   Are one or both of your **parents** living?   Y   N
2.   Do you have **siblings**? (i.e., brothers and/or sisters) Y   N
3.   Do you have **other relatives** such as grandparents, aunts, uncles, cousins? Y   N
4.   Do you have **high school friends**?   Y   N
     (friendships developed during high school years)
5.   Do you have **college friends**?   Y   N
     (friendships developed during college)
6.   Do you have a paying job where you have **co-workers**? Y   N
7.   DO you belong to a **church or synagogue**? Y   N
8.   Do you have **spiritual beliefs**? Y   N
9.   Do you have contact with **college faculty, counselors, administrators**? Y   N
10. Do you have contacts with **professionals or service providers** such as doctors, nurses, barbers, diet counselors, etc? Y   N
11. Do you belong to any **special organized groups** such as groups for minorities, hobbies, fitness, athletics, etc.? Y   N
12. Do you watch **television**, listen to the **radio** or read **newspapers, magazines, pamphlets**, or **non-required books**? Y   N

Please read each statement and then indicate how much support you receive from each of the sources listed by circling the appropriate response. (N- *no*, **Y**- *yes*, or **YA**- *yes a lot*)

I. I have a feeling of being loved or cared about from:
13. My parents   **N   Y   YA**
14. My siblings   **N   Y   YA**
15. Other relatives **N   Y   YA**
16. High school friends **N   Y   YA**
17. College friends **N   Y   YA**
18. Co-workers **N   Y   YA**
19. Church/synagogue groups **N   Y   YA**
20. My spiritual health **N   Y   YA**
21. College faculty, counselors, administrators **N   Y   YA**
22. Other professionals or service providers **N   Y   YA**
23. Special groups I belong to **N   Y   YA**
24. Reading books, watching TV, listening to music **N   Y   YA**
25. Other **N   Y   YA**

II. I feel I am valued or respected for who I am and what I can do by:
(**N**- *no*, **Y**- *yes*, or **YA**- *yes a lot*)

26. My parents   **N**   **Y**   **YA**
27. My siblings   **N**   **Y**   **YA**
28. Other relatives   **N**   **Y**   **YA**
29. High school friends   **N**   **Y**   **YA**
30. College friends   **N**   **Y**   **YA**
31. Co-workers   **N**   **Y**   **YA**
32. Church/synagogue groups   **N**   **Y**   **YA**
33. My spiritual health   **N**   **Y**   **YA**
34. College faculty, counselors, administrators   **N**   **Y**   **YA**
35. Other professionals or service providers   **N**   **Y**   **YA**
36. Special groups I belong to   **N**   **Y**   **YA**
37. Reading books, watching TV, listening to music   **N**   **Y**   **YA**
38. Other   **N**   **Y**   **YA**

III. I have a sense of trust or security from the "Give and Take" of being involved with: (**N**- *no*, **Y**- *yes*, or **YA**- *yes a lot*)

39. My parents   **N**   **Y**   **YA**
40. My siblings   **N**   **Y**   **YA**
41. Other relatives   **N**   **Y**   **YA**
42. High school friends   **N**   **Y**   **YA**
43. College friends   **N**   **Y**   **YA**
44. Co-workers   **N**   **Y**   **YA**
45. Church/synagogue groups   **N**   **Y**   **YA**
46. My spiritual health   **N**   **Y**   **YA**
47. College faculty, counselors, administrators   **N**   **Y**   **YA**
48. Other professionals or service providers   **N**   **Y**   **YA**
49. Special groups I belong to   **N**   **Y**   **YA**
50. Reading books, watching TV, listening to music   **N**   **Y**   **YA**
51. Other   **N**   **Y**   **YA**

IV. When I need to talk or think about how I'm doing with my life, I feel understood and get help from: (**N**- *no*, **Y**- *yes*, or **YA**- *yes a lot*)

52. My parents **N   Y   YA**
53. My siblings **N   Y   YA**
54. Other relatives **N   Y   YA**
55. High school friends **N   Y   YA**
56. College friends **N   Y   YA**
57. Co-workers **N   Y   YA**
58. Church/synagogue groups **N   Y   YA**
59. My spiritual health **N   Y   YA**
60. College faculty, counselors, administrators **N   Y   YA**
61. Other professionals or service providers **N   Y   YA**
62. Special groups I belong to **N   Y   YA**
63. Reading books, watching TV, listening to music **N   Y   YA**
64. Other **N   Y   YA**

V. I feel good about myself when I am able to do things for and help:
   (**N**- *no*, **Y**- *yes*, or **YA**- *yes a lot*)

65. My parents **N   Y   YA**
66. My siblings **N   Y   YA**
67. Other relatives **N   Y   YA**
68. High school friends **N   Y   YA**
69. College friends **N   Y   YA**
70. Co-workers **N   Y   YA**
71. Church/synagogue groups **N   Y   YA**
72. My spiritual health **N   Y   YA**
73. College faculty, counselors, administrators **N   Y   YA**
74. Other professionals or service providers **N   Y   YA**
75. Special groups I belong to **N   Y   YA**
76. Reading books, watching TV, listening to music **N   Y   YA**
77. Other **N   Y   YA**

Demographics:

Age:_____

Race:_____

Male☐   Female☐

YASSI copyright: Janet R. Grochowski

Health and Human Performance

UNIVERSITY *of* ST. THOMAS

Mail #5003
2115 Summit Avenue
St. Paul, MN 55105-1096

Telephone: (651) 962-5970

October 10, 2003

To: Dr: Daphne Cain
           School of Social Work
           Louisiana State University
           207 Huey P. Long Fieldhouse
           Baton Rouge, LA 70803

Fr: Professor Janet R. Grochowski, PhD
           Director Health Studies and Family Studies Programs
           University of St. Thomas
           Mail #4023
           2115 Summit Ave.
           St. Paul, MN 55105
           651 9625975
           jrgrochowski@stthomas.edu

Subject: Request for use of Y A-SSI©

Dear Dr. Cain,

I received an email from your graduate student, Ms. Alexandra Calix, requesting the use of an instrument I developed, YA-SSI©. I am pleased to give permission for the use of this instrument. I stressed with Ms. Calix that since this is copyrighted material she is required to note me as the author and developer of YA-SSI©. I also noted that I would be most interested in learning about the findings from her study along with a copy of the study itself.

Please contact me if you need further information on this matter. Thank you.

Respectfully yours,

St. Paul, Minnesota
Minneapolis, Minnesota'
Owatonna, Minnesota.
Rome, Italy

Janet R. Grochowski, PhD
Professor

VITA

Alexandra R. Calix was born in Tegucigalpa, Honduras, on February 1, 1980. She moved with her parents and two sisters to New Orleans, Louisiana, at the age of five. She received her Bachelor of Science in psychology from Louisiana State University. She will be receiving her Master in Social Work degree from Louisiana State University in May 2004.   She will be pursing her doctorate in social work at the University of North Carolina at Chapel Hill in the fall of 2004.