

ASSESSMENT OF THE CONSTRUCT OF SOCIAL SUPPORT AS MEASURED BY FIVE
SELF-REPORT INSTRUMENTS

by

Rebecca Broder

A thesis
presented to the University of Manitoba
in partial fulfillment of the
requirements for the degree of
Master of Arts in Psychology
in
The Faculty of Graduate Studies
University of Manitoba

Winnipeg, Manitoba

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REBECCA BRODER

A thesis submitted to the Faculty of Graduate Studies of
the University of Manitoba in partial fulfillment of the requirements
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MASTER OF ARTS

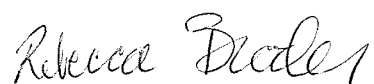
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ABSTRACT

While the concept of social support has received a great deal of attention during the past 10 to 15 years, conceptual confusion has made the application of social support research difficult. Lack of consensus regarding its definition has resulted in wide variations in both the content and approach used in measures of the construct (Vaux & Harrison, 1985). Little is known about how the plethora of social support measures interrelate empirically or conceptually. It remains to be established whether these often widely differing instruments measure the same underlying construct.

A problem common to most social support instruments is their neglect of the construct's multidimensionality (Kessler, 1982; Thoits, 1982). The instruments generally provide one or a small number of summary scores which combine multiple dimensions into unidimensional representations (Kessler, 1982). This practice results in "loss" of potentially important information and has been labeled as a reason for the failure of most research to identify specific health-promoting aspects of social support (Thoits, 1982).

The purpose of this thesis was the clarification of the above problems regarding the internal consistency and construct validity of measures of social support. A sample of five self-report instruments which are representative of different approaches to both defining and measuring social support were compared. The internal consistency of each of these

measures, the degree to which each samples the various subject areas encompassed by social support, and the extent to which they tap the same underlying construct were explored. Cronbach's alpha, item-total correlations and factor analysis were used to examine the above questions.

A sample of 273 undergraduate psychology students were administered a questionnaire battery which included: a series of demographics items, the Inventory of Socially Supportive Behaviors (ISSB; Barrera, 1981; Barrera, Sandler, & Ramsay, 1981), the Perceived Social Support from Friends and from Family Scales (PSS-Fr and PSS-Fa; Procidano & Heller, 1983), the Social Support Questionnaire (SSQ; Sarason, Levine, Basham, & Sarason, 1983), and the Social Support Resources Questionnaire (SS:R; Vaux & Harrison, 1985).

Evaluation of the internal consistency of the instruments lent support to the claim that unidimensional scoring of social support instruments results in "loss" of meaningful information (e.g., Kessler, 1982; Thoits, 1982). The PSS-Fr and the PSS-Fa both seem to tap three different subject areas: subjective appraisal of intimacy and guidance available, perception of being needed by others, and degree of comfort in relationships. The ISSB seems to reflect availability of affection and esteem, directive guidance, positive social interaction, and financial assistance from network members, while the SSQ seems to assess degree of satisfaction with social support, and size of the social network perceived as available. The SS:R reflects characteristics of social network composition such as size and predominance of colleagues over family members.

Each of the instruments thus seems to tap a number of aspects of social support which have been hypothesized as having differential impact on health and well-being (e.g., Barrera, 1981; Cohen & Wills, 1985; Wheaton, 1985). The results of this study suggest that future research using any of the above instruments will glean more information from them by deriving multiple scores. This is particularly the case for the PSS-Fr, the PSS-Fa and the ISSB which have been scored unidimensionally by other researchers (e.g., Barrera, 1981; Procidano & Heller, 1983).

Examination of the structure of social support across instruments suggested that as a group they fall into several theoretically discriminable, but intercorrelated categories: support perceived from friends, type of support, support perceived from family members, and quantitative social network characteristics. This finding lends support to the argument that social support may best be conceptualized as a multidimensional construct. Research in the area might thus be easier to understand if investigators used greater specificity regarding the aspects of social support instruments assess. Identification of specific health-promoting aspects of social support might be more likely if instruments assessing different aspects of social support were used together (e.g., Barrera, 1981; Vaux & Harrison, 1985).

The above results were compared with dimensions of social support identified in the literature. The validity of the assumptions underlying the design of this study and resulting limitations were also evaluated.

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INTRODUCTION

While the impact of interpersonal relationships on psychological well-being is an issue which has long received attention from social scientists (e.g., Cooley, 1909; Freud, 1930), the present upsurge of interest in the subject has been spurred by the more recent work of Cassel (1974) and Cobb (1976). Both converged on the conclusion that the presence of, or perceived access to supportive others determines whether individuals develop adverse health consequences after being exposed to high levels of stress.

This observation has important implications for identification of high risk groups and development of treatment programs (Barrera, 1981; Heller, Swindle, & Dusenbury, 1986; Henderson, 1984; Lieberman, 1986; Mitchell & Trickett, 1980; Turner, 1983; Veiel, 1985). Social support has been proffered as both a critical buffer against stress (e.g., Antonovsky, 1974; Caplan, 1974; Caplan, 1979; Cassel, 1974, 1976; Chan, 1977; Cobb, 1976, 1979; Kaplan, Cassel, & Gore, 1977; Lin, Ensel, Simeone & Kuo, 1979; Rabkin & Struening, 1976) and as an important ingredient for physical and psychological well-being in and of itself (e.g., Aneshensel & Stone, 1982; Cohen & Wills, 1985; Syrotuik & D'Arcy, 1984; Thoits, 1982; Turner, 1983; Wheaton, 1985). According to some authors, social support is the most important subject of research (Barrera, 1981; Dean & Lin, 1977; Turner, 1981).

Despite the large number of articles published on the subject over the last 10 to 15 years, the definition and measurement of social support remain subjects of intense debate (Barrera, 1981; Cohen & Wills, 1985; Heller, et al., 1986; Kessler, Price & Wortman, 1985; Lin, Dean & Ensel, 1981a; Lin, Woelfel & Light, 1985; Tardy, 1985; Thoits, 1982; Vaux & Harrison, 1985; Veiel, 1985). The theoretical confusion surrounding the construct is reflected in the multitude of different measures used by researchers (Veiel, 1985). According to Tardy (1985), "literally dozens of different measures have been published" (p. 190).

However, little is known about how these different measures interrelate at either a conceptual or an empirical level. It has not been established, for example, whether these different measures tap the same underlying construct (i.e., social support) or if they measure independent constructs. In the literature they are all subsumed under the umbrella of social support. They are used singly, and are all described solely as measures of social support despite evidence suggesting they may be differentially related to health outcomes (e.g., Barrera, 1981; Cohen & Wills, 1985; Fiore, Becker, & Coppel, 1983; Hirsch, 1980; Hirsch & Reischl, 1985; LaRocco, House, & French, 1980).

Another problem which compounds difficulties in understanding social support is the tendency toward operationalizing the construct in a unidimensional manner. Researchers generally collect information on a variety of subjects which they see as indicators of social support and combine it to obtain one "social support score" which represents the "amount" of support (Kessler, 1982). This involves the assumption that social support is a unitary construct and ignores its potential complexity.

Treating it as unitary also precludes determination of the process through which it functions.

The lack of agreement surrounding the conceptualization and measurement of social support hinders generalizability of research on its functioning (Tardy, 1985). In lieu of a widely-accepted measure of social support, research comparing instruments may facilitate both choosing among them and explaining inconsistencies across studies using different measures (Vaux & Harrison, 1985). In addition, the wide variety of social support measures, the lack of data on how they interrelate and the use of unidimensional operationalizations of the construct contribute to conceptual ambiguity in the literature.

This study compared a sample of five of the more well validated self-report instruments in the literature which are representative of different approaches to defining and measuring social support. The following research questions were explored: how internally consistent are the included measures of social support; to what extent do they sample the content areas which define social support; do they measure the same underlying construct?

The study involved administration of a questionnaire battery to a sample of 273 undergraduate university students. Measures included:

1. a series of demographic questions (e.g. age, sex, marital status)
2. the Inventory of Socially Supportive Behaviors (ISSB; Barrera, 1981; Barrera et al., 1981)
3. the Perceived Social Support from Friends and from Family Scales (PSS-Fr and PSS-Fa; Procidano & Heller, 1983)

4. the Social Support Questionnaire (SSQ; Sarason, Levine, Basham, & Sarason, 1983)
5. the Social Support Resources Questionnaire (SS:R; Vaux & Harrison, 1985).

Following is a critical review of the literature pertaining to the definition, functioning, and measurement of social support. Those issues which provided the rationale for this study will be highlighted. It is important to specify that while there are a number of structured interviews which assess social support (e.g., Barrera, 1980, 1981; Henderson, Byrne, Duncan-Jones, Scott & Adcock, 1980; Hirsch, 1980; Jones & Fischer, 1978) this study and the following review emphasize self-report questionnaire measures. In addition, the scope of this study was limited to problems relating to their reliability and convergent validity. Problems with the discriminative validity of measures of social support will not be addressed.

Definitions of Social Support

While most of us have a general intuitive sense of the meaning of the term social support, the large number of divergent definitions proposed in the literature reveals that there is little agreement among researchers about the essential meaning of the term (Heller et al., 1986; House, 1981; LaRocco et al., 1980; Kessler, 1982; Kessler et al., 1985; Leavy, 1983; Thoits, 1982; Veiel, 1985). House (1981), for example, notes that

support, like stress, is a concept that everyone understands in a general sense, but it gives rise to many conflicting definitions and ideas when we get down to specifics (p. 15).

It is generally agreed that social support is provided in the context of "social support systems" or "social networks" which are usually defined as those people (e.g., family members, friends, co-workers, neighbours, etc.) to which an individual is linked by emotional bonds and/or behavioral interactions (Barrera & Ainlay, 1983; Flaherty, Gaviria, Black, Altman & Mitchell, 1983; Gottlieb, 1983; Greenblatt, Becerra & Serafetinides, 1982; Lin & Ensel, 1984; Saulnier, 1982).

It is also generally agreed that social support is a multidimensional construct (Kessler et al., 1985). A number of researchers (e.g., Barrera, 1991; Barrera & Ainlay, 1983; Cutrona, 1986; Dean & Lin, 1977; Hammer, 1981; Henderson, 1977; House, 1981; Kaplan et al., 1977; Lin & Dean, 1984; Turner, 1983; Veiel, 1985; Walker, MacBride & Vachon, 1977; Wells, 1980) have suggested the salience of dimensions of social support such as the structure of the social support network, the sources of support (e.g., relatives, friends, spouse), the amount of support (e.g., the intensity and frequency of provision), the types of support provided (e.g., emotional, instrumental, guidance), whether it is perceived as accessible or actually utilized and whether it is generalized or focused on a particular problem. However, the agreement ends there.

While the distinction is one of degree, definitions of social support fall into two loose categories: those emphasizing functional aspects of social support networks, and those stressing the cognitive appraisal of social support (Killilea, 1982; Turner, 1983).

1. Functional Definitions

The majority of definitions stress the behaviours enacted by individuals when they provide social support. Cassel's (1974) definition of social support as feedback that indicates behavioral, cognitive and emotional deviations exemplifies these definitions. Caplan (1974) similarly defined it as attachments which promote mastery, offer guidance, and provide identity-validating feedback about behavior. Other definitions of social support which emphasize functional characteristics of support systems have been provided by authors such as Weiss (1969, 1974), Walker et al. (1977), Hirsch (1980), and Gottlieb (1983).

In an attempt to integrate the conceptualizations of social support in the literature House (1981) identified four interdependent types of socially supportive behaviors: emotional support (e.g., caring, trust, and empathy), instrumental support (e.g., loaning money, sharing tasks), informational support (e.g., teaching skills and providing information to assist in problem solution), and appraisal support (e.g., providing feedback on personal performance). Barrera and Ainlay (1983) identified six similar functions commonly attributed to social support in the literature: directive guidance (e.g., providing advice, information and instruction), intimate interaction (e.g., expressions of intimacy, esteem, trust and physical affection), positive social interaction (e.g., joking, discussing interests, engaging in recreational activities), material aid (e.g., lending money or physical objects), behavioral assistance (e.g., sharing of tasks) and feedback.

2. Perceptual Definitions

A smaller number of authors have placed emphasis on respondents' cognitive appraisal or evaluation of their social interactions. Cobb (1976), for example, defined social support as information that makes a person feel loved, valued, and part of a network of communication and mutual obligation. Porritt (1979) defined effective crisis support as involving conveyance of empathic understanding, respect, and constructive genuineness. More recently, Procidano and Heller (1983) differentiated between perceived support and actual support, describing perceived support as "the extent to which an individual believes that his/her needs for support, information and feedback are fulfilled" (p. 2). Finally, according to Heller et al. (1986) a social activity involves social support if it is perceived by its recipient as esteem enhancing or stress reducing. From the perceptual perspective, social support is thus viewed as a subjective and personal experience, as opposed to a set of objective circumstances or a set of interpersonal interactions (Turner, 1983).

3. An Integration of Definitions of Social Support

The mapping-sentence definition of social support provided by Turner (1983) (see Table 1) represents a synthesis of the characteristics generally ascribed to social support in the literature, and makes explicit the multidimensionality implied in the previously mentioned definitions. In addition, it identifies the alternatives within each element which have been the subject of debate. These issues include whether the respondent is the only viable source of information or whether information from other sources is also relevant in assessing social support, what quantitative

dimensions are relevant in assessing social support, whether it is subjective, objective or both, whether there are different types of social support which should be assessed, and whether the perceived access or actual utilization of support is most relevant (Turner, 1983). It also summarizes the various possible sources of social support mentioned in the literature, and suggests the salience of whether it is assessed in general or with respect to a specific problem.

Turner (1983) did not proffer his mapping sentence as an archetypal definition of social support. Rather, he suggested that it provides guidelines for assessing the degree to which instruments incorporate or assume different aspects of the construct. It is in this capacity that his definition of social support was utilized in this study.

Definitional Problems

While there are a number of definitional problems present in the social support literature, most relate to the imprecision, lack of clarity, or nonexistence of definitions proposed by many researchers (Kessler et al., 1985; Lin et al., 1985; Thoits, 1982; Vaux & Harrison, 1985). A number of researchers have drawn items such as presence or absence of a spouse or confidant, or marital status from available data and called them social support without providing further definition of the construct (e.g., Brown, Bhrolchain, & Harris, 1975; Eaton, 1978; Lowenthal & Haven, 1968; Myers, 1975). It is thus unclear what exactly the authors of these studies mean when they refer to social support.

TABLE 1

Mapping-Sentence Definition of Social Support

The domain of social support is defined as:

		A	
		<u>sources of data</u>	
The assessment of the		1. respondent	
		2. investigator	
		B	C
		<u>objectivity</u>	<u>quantitative</u>
		<u>of the data</u>	<u>characteristics</u>
of the	1. objective		1. intensity
	2. subjective		2. frequency
			3. durability
		D	E
		<u>qualitative</u>	<u>tangibility</u>
		<u>characteristics</u>	
of the	1. love and/or affection		1. accessible
	2. status and/or esteem		2. utilized
	3. information and/or		
	interpretation		
	4. aid and/or guidance		
		F	G
		<u>sources</u>	<u>specificity</u>
from	1. wife or husband		1. in general
	2. intimates		2. with respect to
	3. confidants		a focused
	4. parents		problem
	5. children		
	6. friends		
	7. acquaintances		
	8. neighbours		
	9. co-workers		
	10. associates		
	11. professionals		
	12. unspecified significant		
	others		

(Adapted from Turner (1983) p. 111.)

Others have developed instruments to measure the construct based on imprecise or unclear conceptual definitions (e.g., Kaplan et al., 1977; Lin et al., 1981a; McFarlane, Neale, Norman, Roy, & Streiner, 1981). Lin et al. (1981a), for example, define social support as "support accessible to an individual through social ties to other individuals, groups and the larger community" (p. 74). What "support" is remains unspecified, leaving their definition of the construct ambiguous (Thoits, 1982).

The wide variety of definitions of social support in the literature and the equivocal nature of many have contributed to lack of clarity as to what it is as well as to haphazard, inexplicit measures of the construct (Cohen & Wills, 1985; Kessler, 1982; Lin et al., 1985; Thoits, 1982). Theory and measurement design are difficult when the construct remains vague and/or undefined. In addition, it is correspondingly difficult to assess the implications of this theoretically cloudy research.

Another problem relates to confusion in the literature between social network analysis and social support. A number of authors point out the distinction between social networks and social support (e.g., Gottlieb, 1983; Hammer, 1979; Leavy, 1983). According to Gottlieb (1983), for example, individuals are embedded in social networks composed of individuals who generate both support and stress at different times. Social support is only one product of interaction in social networks. Social network analysis is thus broader than the study of social support. However, some research (e.g., Brown et al., 1975; Eaton, 1978; Lowenthal & Haven, 1968; Myers, 1975) equates social network analysis with the study of social support by equating the assessment of structural characteristics of social networks with the assessment of social support.

Theories of Social Support

While testing theories of social support was beyond the scope of this study, a brief description and critique of them is warranted because problems stemming from theories of social support have affected measurement design. Theories of social support generally fall into two main categories: those specifying social support as having a protective or buffering effect against the negative effects of stress, and those defining it as an independent etiological variable in the development of both physical and psychological disorders (Aneshensel & Stone, 1982; Cohen & Wills, 1985; Syrotuik & D'Arcy, 1984; Thoits, 1982; Turner, 1983; Wheaton, 1985).

There are a number of interpretations of the buffering hypothesis (e.g. Antonovsky, 1974; Caplan, 1974, 1981; Cassel, 1974, 1976; Chan, 1977; Cobb, 1976, 1979; Kaplan et al., 1977; Lin et al., 1979; Rabkin & Struening, 1976). However, they generally posit one of three ways in which social support mediates the causal sequence between stress and illness (Cohen & Wills, 1985; Wheaton, 1985). First, it can moderate the effects of stress such that in its presence stress has substantially less impact (Wheaton, 1985). For example, the perception that others will help may intervene between a stressful event and a resultant stress reaction by bolstering an individual's perceived ability to cope with the situation (Cohen & Wills, 1985). Social support may also function to suppress the effects of stress (Wheaton, 1985). In this second case, social support is mobilized by increases in stress and thus may dampen its overall impact (Wheaton, 1985). Finally, it may decrease the impact of stress by providing a solution to the problem or by facilitating healthful behaviors (Cohen & Wills, 1985).

Cohen and Wills (1985) ascribe positive main effects of social support to its provision of positive affect, a sense of stability and recognition of self-worth. Involvement in a social network may also directly promote avoidance of stressful and/or negative experiences. A corollary of the main effects model is that lack of social support, or removal of social support constitutes a source of stress in itself (Gottlieb, 1983; Turner, 1983).

It has also been suggested that there are direct negative effects of involvement in social networks (Barrera & Ainlay, 1983; Coyne & DeLongis, 1986; McCannell Saulnier & Rowland, 1985; Saulnier, 1982). Negative potential in social support networks lies in their ability to weaken self-esteem, to stifle or restrict access to new opportunities, and to reinforce or maintain problem behaviors (e.g., alcohol use, criminal activity, abusiveness) (McCannell Saulnier & Rowland, 1985; Saulnier, 1982). Potential sources of support may also be more demanding and draining than nurturant (Coyne & DeLongis, 1986).

Finally, a number of authors have suggested that the buffering and main-effects models of social support are not necessarily mutually exclusive (Aneshensel & Stone, 1982; Dean & Ensel, 1983; Henderson, 1984; Syrotuik & D'Arcy, 1984). According to this view, social networks function as both active support systems, providing for the routine satisfaction of day-to-day expressive and instrumental needs, and as reactive support systems, available to respond to atypical stressors (Dean & Ensel, 1983).

Problems Stemming from Theories of Social Support

1. Lack of Sensitivity of Measures of Social Support

A number of conceptual difficulties in the social support literature contribute to the existing lack of clarity as to what exactly social support instruments should assess and how they should be validated (Cohen & Wills, 1985; Lin et al., 1979; Thoits, 1982). Theories of social support do not address issues such as whether different aspects of social support function differently (Aneshensel & Stone, 1982; Cohen & Wills, 1985; Gottlieb, 1983; Thoits, 1982; Turner, 1983), and whether negative effects result from social interactions in addition to positive effects (Barrera & Ainlay, 1983; Coyne & DeLongis, 1986; Gottlieb, 1983; Saulnier, 1982; Thoits, 1982). How exactly social support reduces risk of physical and mental disorders remains to be specified (Cohen & Wills, 1985; Heller et al., 1986; Lieberman, 1986; Lin et al., 1986; Thoits, 1982). Without anchoring theory, the content which should be included in measures of social support is difficult to specify. Conversely, without sensitive, well-validated instruments the above questions are difficult to answer.

2. Insufficient Consideration of Multidimensionality

Several critics have claimed that the linear processes hypothesized by both main effects and buffering hypotheses are inappropriate because the ongoing processes of social networks are interactive and dynamic (Coyne & DeLongis, 1986; Heller et al., 1986; Leavy, 1980; Mitchell & Trickett, 1980; Wolfe, 1981). Everyday experience leads to the perception of social reality as an integrated and ever-changing whole, while theories of social support split it into conceptually independent constructs (Eckenrode, 1983; Liem & Liem, 1978).

This theoretical approach has been criticized because it leads to research geared toward "proving" that support, stress and illness are related, and not toward attempts to understand the processes through which social support works (Eckenrode, 1983; Heller et al., 1986; LaRocco et al., 1980; Thoits, 1982). It has correspondingly led to use of measures of social support which treat it as a unitary construct and thus do not enable examination of either specific factors which make it effective, or the processes through which it works. Multivariate models may thus be more fruitful (Heller et al., 1986; Hirschfeld & Cross, 1982; Wallston, DeVillis & DeVillis, 1983).

It has been argued that social support may function differently depending on the situation, and the needs and personal characteristics of individuals (Cohen & Wills, 1985; Coyne & DeLongis, 1986; Dean & Lin, 1977; Dean & Ensel, 1982, 1983; Eckenrode, 1983; Gottlieb, 1983; Heller et al., 1986; Leavy, 1983; Liem & Liem, 1978; Rabkin & Struening, 1976; Walker et al., 1977). Some research evidence supports this argument. Effects of lack of social support on depression, for example, have been found to vary as a function of sex (D'Arcy, 1980; Dean & Ensel, 1982, 1983; Henderson et al., 1980; Leavy, 1983; Miller & Ingham, 1976; Sarason et al., 1983), age (D'Arcy, 1980; Dean & Ensel, 1982, 1983), socioeconomic status (Eckenrode, 1983; Liem & Liem, 1978; Lin et al., 1979; Turner, 1981; Turner & Noh, 1983), and marital status (Lin et al., 1979, 1985).

There is also some suggestion that different aspects of social support function according to different models (Aneshensel & Stone, 1982; Barrera, 1981; Syrotuik & D'Arcy, 1984). Cohen and Wills (1985) conclude that evidence for a buffering model is found when perceived availability of

social resources that are responsive to stress-elicited needs is assessed, while evidence for a main effects model is found when the support measure assesses the degree to which an individual is integrated in a social network. However, the unidimensional scoring used in most social support instruments, and the reliance of most researchers on single instruments preclude clarifying the above issues.

These criticisms in turn suggest the need for broad measures of social support which assess multiple aspects of social support (e.g., perceived versus available support, different support functions) and which provide different scores summarizing different aspects of social support. Theories of social support are missing discussion of a number of important issues. However, this problem is circular because inadequacies in the measurement of social support also impede clarification of these issues.

Measurement of Social Support

The diversity of conceptualizations of social support is matched by the diversity of measures and indicators of it. In attempts to impose some order on this heterogeneity several authors have proposed categories or dimensions for classifying social support measures (e.g., Barrera, 1981; Barrera et al., 1981; Cohen & Wills, 1985; Leavy, 1983; Tardy, 1985; Turner, 1983; Veiel, 1985).

The most commonly proposed categorization posits three basic types of social support instruments: those emphasizing structural aspects of support networks, those which tap subjective evaluations of support, and those which attempt to quantify the activities involved in the provision of

support (Barrera, 1981; Barrera et al., 1981; Leavy, 1983). However, regardless of the categorization system, some measures cannot be neatly classified, since they combine assessment strategies. In addition, the above measurement types generally cut across the domains of social support defined by Turner (1983) (see Table 2).

1. Structural Measures

The structural approach to measurement of social support (e.g., Eaton, 1978; Hirsch, 1979, 1980; Sandler, 1980) is the most indirect of the three. Measures of this type are based on the assumption that social support is a by-product of participation in social relationships. Differentiation of the salient characteristics of social relationships is the focus of this assessment strategy.

Two types of measures fall into this category: those using network analysis techniques, and those utilizing (typically ad hoc) demographic indicators. They are generally objective and emphasize the quantitative and structural domains which Turner (1983) delineates in his mapping-sentence definition of social support (groups C and F, respectively in Table 1). While some assess the different types of behavior involved in support provision (Turner's group D) (e.g., Flaherty et al., 1983; Vaux & Harrison, 1985) most do not. In addition, they assess structural network characteristics in general, rather than characteristics related to solution of a specific problem (see Table 2).

Network analysis has been used to quantify the characteristics of successful or supportive networks (Barrera, 1981; Gottlieb, 1983; Leavy,

TABLE 2
Summary of the Content of Self-Report Social Support Instruments

Instrument	Measurement Approach	Domains Tapped ¹				Disposition	Source	Generality
		Objectivity	Quantitative	Support Type				
Inventory of Socially Supportive Behaviors (Barrera, 1981)	functional	objective	frequency	directive ² guidance nondirective support positive social interaction tangible assistance	utilized	not tapped	general	
Perceived Social Support from Friends (Procidano & Heller, 1983)	evaluative	subjective	not tapped	status/ esteem aid/guidance love/ affection	accessible & utilized	friends	general	
Perceived Social Support from Family (Procidano & Heller, 1983)	evaluative	subjective	not tapped	status/ esteem aid/guidance love/ affection	accessible & utilized	family	general	
Social Relationships Scale (McFarlane, Neale, Norman, Roy, & Streiner, 1981)	structural & evaluative	objective & subjective	reciprocity ²	information/ interpretation aid/ guidance	utilized	friend family co-workers spouse	general	
Social Support Questionnaire (Sarason, Levine, Basham, & Sarason, 1983)	structural & evaluative	objective & subjective	not tapped	aid/ guidance status/ esteem love/ affection information/ interpretation	accessible	not tapped	general	
Social Support Vignettes (Turner, 1981)	evaluative	subjective	not tapped	love/ affection status/ esteem	not tapped	not tapped	general	
Social Support Resources (Vaux & Harrison, 1985)	structural & evaluative	objective & subjective	frequency ² closeness reciprocity complexity	emotional ² practical socializing advice/ guidance	utilized	spouse family friend acquaintance	general	
Traditional Social Support Index (Holohan & Moos, 1979)	structural	objective	frequency	aid/ guidance social activity	utilized & accessible	friends family co-workers community organizations	general	
Strong Tie Support Index (Lin & Ensel, 1981)	structural	subjective	not tapped	not tapped	accessible	confidant	general	
Instrumental-Expressive Support Scale (Lin, Dean & Ensel, 1981)	structural & evaluative	subjective & objective	durability frequency reciprocity importance	aid/ guidance	utilized	confidant spouse neighbourhood	general	
Social Support Network Inventory (Flaherty, Gaviglia, Black, Altman, & Mitchell, 1983)	structural	objective & subjective	not tapped	emotional ² practical event-related	utilized	closest network members	general	
Social Network List (Hirsch, 1980)	structural	objective	not tapped	not tapped	utilized	family friends non- mental health professionals	general	

¹ From Turner (1983). See table 1, categories B to G.

1983; Mitchell & Trickett, 1980; Mueller, 1980; Walker et al., 1977). Characteristics such as number of members, density (i.e., the proportion of possible links among members which actually exist), frequency of contact with members, proportion of kin and non-kin, reciprocity of relationships, strength of ties, durability of relationships, and the multiplexity of relationships (i.e., the variety of content areas, such as recreational, economic, etc., in relationships) have typically been examined (Mitchell & Trickett, 1983; Mueller, 1980; Walker et al., 1977). However, while many researchers using a network analytic approach to assessment of social support have not established set instruments for doing so (e.g., Brugha, 1984), a number of validated network analytic instruments do exist (e.g., McFarlane et al., 1981; Vaux & Harrison, 1985).

Also falling into the category of structural measures of social support are indices such as marital status (e.g., Eaton, 1978), access to a close confidant (e.g., Brown, et. al., 1975; Brown & Harris, 1978; Costello, 1982; Miller & Ingham, 1976), church attendance (e.g., Brown & Prudo, 1981), and presence of both parents in a household (e.g., Sandler, 1980). These are used as indirect indicators of the extent to which individuals are linked to other people, and by assumption thus have opportunities to obtain social support.

2. Evaluative Measures

Instruments falling into the second general category of assessment strategies place emphasis on individuals' subjective appraisals of social support which is either received or accessible (see Table 2). This approach emphasizes the quality of relationships, rather than structural

characteristics or function. Researchers have thus used instruments which quantify, for example, perceived adequacy of social attachments (e.g., Henderson, 1981; Henderson, Duncan-Jones, McAuley & Ritchie, 1978), satisfaction with social support available (e.g., Flaherty et al, 1983), and perceived social support from family and friends (Procidano & Heller, 1983).

3. Functional Measures

A third approach to measurement of social support involves the assessment of the specific supportive behaviors of which individuals are the recipient. The inventoried behaviors are usually defined a priori on either an intuitive or an empirical basis as being socially supportive. While many social support instruments contain items which tap a number of the support types mentioned by Turner (1983) (e.g., Sarason et al., 1983; Vaux & Harrison, 1985), only one to date was designed explicitly to assess the types of supportive behaviors respondents receive (i.e., Barrera, 1981) (see Table 2).

4. Multidimensional Measures

While most social support instruments tap a variety of Turner's (1983) domains of social support, there are a number which also incorporate a variety of the three described measurement strategies (e.g., McFarlane et al., 1981,; McFarlane, Norman, Streiner, & Roy, 1984; Sarason et al., 1983; Syrotuik & D'Arcy, 1984) (see Table 2). The Social Support Questionnaire, (SSQ; Sarason, et al., 1983) for example, asks respondents to both list the names of people to whom they can or would turn in each of a given set of

circumstances and rate their satisfaction with the support available in each situation.

Problems in the Measurement of Social Support

1. Lack of Reliability and Validity

The relative lack of attention to the development of reliable, valid, theory-based measures of social support is a common criticism of the social support literature (e.g., Cohen & Wills, 1985; Kessler, 1982; Lin et al., 1985; Veiel, 1985). Psychometric data is available for only a small number of measures and still fewer instruments or indices measure the construct with acceptable levels of reliability and validity (Dean & Lin, 1977; House, 1981; Leavy, 1983; Gottlieb, 1983; Rabkin & Struening, 1976). To date there is no single instrument which comprehensively measures social support.

According to House (1981), measures of social support are often "conglomerations of anything that might protect people from stress and disease" (p. 15). As a result, they tend to be both overinclusive (i.e., to lack discriminative validity) and to ignore important content (i.e., to lack content validity) (Vaux & Harrison, 1985; Veiel, 1985). For example, the validity of some instruments suffers (e.g., Kaplan et al., 1977; Lin et al., 1981a) because they confound life events with social support by including items which are also indicators of life events (Kessler, 1982; Thoits, 1982).

It has been suggested that variables such as the degree of support access versus support utilization (Kessler, 1982; Turner, 1982), negative

perceptions of social networks and social support (Coyne & DeLongis, 1986; Fiore, et al., 1983) and the impact of unmet expectations of support in social interactions (Fiore et al., 1983; Leavy, 1983) warrant inclusion in measures of social support. In addition, Tardy (1985) has observed that given the emphasis on emotional support in many definitions and theories of social support, there is surprisingly little emphasis on this in social support measures.

While greater attention has been paid to issues of reliability and validity in the development of more recently published instruments (e.g., Barrera, 1981; Procidano & Heller, 1983; Sarason et al., 1983), problems relating to both of these issues remain. For example, even these newer instruments, with the exception of the Social Support Resources Questionnaire (Vaux & Harrison, 1985) and the Social Support Questionnaire (Sarason et al., 1983) are scored unidimensionally and thus "lose" potentially important data.

In addition, a number of criticisms made by Milardo (1983) of network analysis methods also apply to social support measures. He suggests that the questions asked by some instruments (e.g., "Who are your best friends?") may result in a response set which selectively omits important network members, such as co-workers, neighbours, and acquaintances, who are not intimate with respondents, but may nonetheless be important. The responses generated to such questions may also be biased toward the socially desirable (Milardo, 1983). Another difficulty stems from evidence suggesting that interpretations of closeness and intimacy vary across individual characteristics such as gender (e.g. Lowenthal, 1975), stage of the life-cycle (Dickens & Perlman, 1982), historical period (Degler, 1980;

Gadlin, 1977; Scanzoni, 1979), and ethnicity or culture (Johnson, 1977, 1982) (Milardo, 1983). Finally, Milardo (1983) mentions research evidence suggesting that retrospective accounts of social activity may lack accuracy (e.g., Bernard & Killworth, 1977; Killworth & Bernard, 1979).

No one instrument assesses all of the content areas encompassed by social support. Different measures seem to emphasize different aspects. (see Table 2). However, little is known about how the various measures relate either empirically or conceptually. While these often very different measures are all defined a priori as assessing social support, it has not been established whether they do, indeed, tap the same underlying construct. Comparisons between studies are thus difficult to make (Gottlieb, 1983; Sandler & Barrera, 1980; Tardy, 1985; Veiel, 1985).

In addition, the wide variety in the content of measures of social support almost guarantees differing empirical results across measures (Veiel, 1985). However, because of the general lack of reliability, validation and comparative data it is difficult to assess the reason for inconsistencies across studies. A more practical problem resulting from the lack of comparisons between measures is that it is difficult to choose between them.

2. Use of Unidimensional Measurement Strategies

Many authors have stressed the complex nature of social support and have indicated that combination of measurement approaches is most desirable and effective (Barrera, 1981; Barrera et al, 1981; Dean & Ensel, 1982; Fiore et al., 1983; Gottlieb, 1983; Kessler et al., 1985; Mueller, 1980; Thoits,

1982). Recent reviews of the literature suggest that there is agreement among researchers regarding both of the above points (Barrera, 1981; Barrera et al., 1981; Cohen & Wills, 1985; Gottlieb, 1983; Kessler, 1983; Kessler et al., 1985; Leavy, 1983; Lin et al., 1981a; Sarason et al., 1983; Tardy, 1985; Thoits, 1982).

Given the problems with the reliability and validity of many measures of social support, and the lack of data on how they interrelate it is difficult to make generalizations from studies using only one measure of support (Barrera, 1981). The simultaneous use of different types of social support instruments would enable examination of their interrelationships, and would take into account the multidimensional nature of social support (Barrera, 1981; Barrera et al., 1981; Mueller, 1980). In addition, a multi-method approach would allow for investigation of which aspects of social support are most predictive for different populations and/or for different types of adjustment (Barrera, 1981; Gottlieb, 1983). However, regardless of agreement that a multidimensional and/or multi-method approach is advantageous, little research has incorporated these approaches.

Despite the consensus that social support is best assessed using multidimensional and/or multi-method strategies, there is a gap between conceptualization and measurement. Measures of social support have been criticized for their neglect of its complexity. (Dean & Ensel, 1982; Gottlieb, 1983; Kessler, 1982; Leavy, 1983; Lieberman, 1986; Thoits, 1982; Turner, 1983; Veiel, 1985). The typical measure of social support adds together subjective evaluations of social transactions and more objective items about functional and structural aspects of social support with no

specified rationale for choosing the relative weights for combining them, or for combining them in the first place (Kessler, 1982). This reductionistic tendency prevents the identification of how social support works since it precludes establishment of interrelationships among different aspects of social support (Leavy, 1983; Procidano & Heller, 1983; Tardy, 1985; Thoits, 1982; Turner, 1983; Vaux & Harrison, 1985; Veiel, 1985). It is thus important to operationally distinguish components of social support previously lumped together into heterogeneous instruments (Kessler, 1982).

3. Criticisms of Specific Instrument Types

A great deal of criticism has been levied against specific types of social support measures. Kessler (1982), for example, says that using structural measures as indicators of social support adds more confusion than anything else. He suggests that structural factors should instead be used as predictors of support.

The use of ad hoc structural indices such as marital status (e.g., Eaton, 1978; Kessler & Essex, 1982; Thoits, 1982b; Warheit, 1979) and having relatives living near by (e.g., Husaini, Neff, Newbrough & Moore, 1982; Warheit, 1979) has been criticized due to their failure to identify the conditions under which social support leads to improved adjustment (Coyne & DeLongis, 1986; Dohrenwend, Dohrenwend, Dodson, & Shrout, 1984; Liem & Liem, 1978; Veiel, 1985).

Such global ad hoc indices have also been criticized for the lack of precision which results from the assumptions made in their use (Dean & Lin,

1977). For example, use of marital status as an indicator of social support involves the assumption that married people have more support than people who are not married. However, not all married persons necessarily have access to adequate support, nor are all unmarried persons lacking in social support. Further, even if the above assumption were true, it does not indicate what about being married is advantageous.

None of the three assessment strategies previously described is without its advantages and disadvantages. Choosing between relatively objective (i.e., structural or functional) and subjective measures of social support involves deciding between the unbiased score and relatively large error (due to the differing interpretations of similar social events by different people) provided by objective measures, and the more precise scores of subjective measures which are potentially biased due to confounding with psychological variables such as depression (Barrera, 1981; Dohrenwend et al., 1985; Turner, 1981, 1983; Veiel, 1985). An additional difficulty with many structural and functional measures which is not present for subjective measures is their operational confounding of support with life events (Turner, 1983).

Studies Comparing Different Aspects of Social Support

A relatively small number of studies have involved comparisons of different aspects of social support. They generally have found relationships between subjective and structural variables. However, they are somewhat inconsistent with one another. For example, while Sarason et al. (1983) and Vaux and Harrison (1985) found significant correlations between support satisfaction and network size variables, other researchers

did not. Sandler and Barrera (1980) found that support satisfaction was inversely related to the number of network members with whom conflict was experienced, but not with total network size. Barrera (1981) similarly found no relationship between network size and support satisfaction. Oritt, Behrman and Paul (1982) found that support satisfaction during stressful life events was related to its availability and inversely to network conflict, but not to network size or multiplexity. Finally, one study found that support satisfaction was related to network size and presence of confidants in a curvilinear fashion (Stokes, 1983).

Research relating support satisfaction to network density has also been inconsistent. Three studies yielded negative relationships between support satisfaction and network density (Hirsch, 1979, 1980; Stokes, 1983). However, a fourth study found a positive relationship between these two variables (Vaux & Harrison, 1985).

Two other studies have included additional variables. Vaux and Harrison (1985) found, in addition to their results reported above, that both support satisfaction and perceived support are positively related to closeness of relationships with network members, the presence of a spouse, and network composition with the proportion of close friends, social acquaintances, and immediate family being particularly important. Procidano and Heller (1983) found unexpectedly that perceived support from friends was inversely related to the average time for which network members were known and was positively associated with reciprocity in tangible support such as loaning money. Perceived support from family members, on the other hand, was negatively related to tangible support provided, but positively related to the provision of intangible or emotional support.

Problems in the Existing Comparative Studies

The studies described above have several shortcomings. The comparisons reported were tangential in several of the studies (e.g., Procidano & Heller, 1983; Sarason et al., 1983). They emphasize support satisfaction and pay relatively little attention to perceived support as a subjective component of social support. In addition, only one (Procidano & Heller, 1983) examines different support functions separately. All include structural variables, but only a few (e.g. Barrera, 1981; Vaux & Harrison, 1985) include a comprehensive sampling of network characteristics, and none uses established instruments to assess all compared aspects of social support. Finally, the subject populations vary across the studies.

Summary

A number of problems and gaps in the literature highlight the importance of this study. For example, most researchers in the area of social support have used ad hoc items and/or surrogate indices such as marital status and church attendance which are of questionable reliability and validity (Lin et al., 1981a; Tardy, 1985). A common demand has been for increased attention to the development of reliable, valid, theory-based measures of social support (Cohen & Wills, 1985; Lin et al., 1981, 1985; Kessler, 1982; Veiel, 1985). According to Kessler (1982) we are lagging in the area of measurement of social support more than in conceptualization or analysis methodology. This absence of precise measures of social support hinders both theory development and the application of research findings (Tardy, 1985). Research attention to the measurement of social support was thus considered to be necessary.

A problem common to most social support instruments is their neglect of the multidimensionality of social support (Fiore et al., 1983; Kessler, 1982; Kessler et al., 1985; Thoits, 1982). They generally provide one or a small number of summary "social support" scores, combining multiple dimensions into unidimensional representations (Kessler, 1982). This neglect of the multidimensionality of social support in measures of the construct has been labeled as one of the reasons for the failure of most research to identify specific distress-relieving or health-promoting aspects of social support (Thoits, 1982). Veiel (1985), for example, says that

reification of social support is widespread despite a relatively early discussion of different functions and types of supportive social relationships ... Whenever social support measures were partitioned into several dimensions, diverging effects -- qualitative as well as quantitative were found. It does not seem warranted, therefore, to speak of social support as a quality of social relationships (p. 157).

A gap in the literature is thus the validation of these unidimensional scoring strategies. This is particularly important given the questionable utility of this practice.

An additional problem stems from the wide variety of operationalizations and measures of social support presently in use. Comparisons and generalizations across studies are difficult to make when definitions and measures of social support vary across studies and the relationship between these measures has not been established (Veiel, 1985). Barrera (1981) writes that not all measures of social support are related to adjustment in

similar ways; the role of social support depends on how it is conceptualized and measured. Cohen and Wills (1985) reached similar conclusions in their review of the literature. The establishment of how different measures of social support interrelate has thus been deemed necessary (Veiel, 1985). In addition, the small amount of research which has compared different aspects of social support suggests that the relationships among them are complex. This problem thus merits further attention.

RESEARCH QUESTIONS

This study explored the following questions:

1. How internally consistent are each of the five included social support measures?
2. Based on the dimensions represented in each instrument and Turner's (1983) mapping-sentence definition of social support, which domains of social support are represented in each?
3. Do the included social support instruments tap the same underlying unidimensional construct?

In this research problems relating to the reliability and convergent validity of measures of social support were addressed. The literature was lacking clarification of the relationship between the construct of social support and how it is measured. This study represents an attempt to clarify that relationship.

METHOD

Subjects

Participants were 273 undergraduate students taking intersession and summer courses in Psychology. Due to the large sample size required use of an undergraduate sample was considered expedient. Use of this population is often criticized due to its homogeneity on certain variables (e.g., age, socioeconomic status). However, there was no reason to suspect that social support should be any more or less variable in an undergraduate sample than in any other.

Two hundred and fourteen participants were recruited from Introductory Psychology classes. These students participated in the study to obtain course credit. This sample was supplemented with 59 volunteers recruited from three other Psychology courses. The questionnaire battery was administered to all recruits.

The sample was heterogeneous with respect to demographic characteristics. There were 119 males (43.6%) and 154 females (56.4%). The mean age was 23.7 years, with participants ranging from 17 to 49 years of age. The majority were single (N=216, 79.1%), but were involved in some type of dating relationship (N=121, 44.3%). The remaining individuals were either married (N=48, 17.6%), or separated or divorced (N=9, 3.3%).

Participants came from families representing a wide range of socioeconomic statuses (SES) as measured by Blishen and McRoberts' (1976) revised Socioeconomic Index for Occupations in Canada. The mean SES was 50.19 (S.D. 16.04) with a range of 18.63 to 75.28. Occupations such as registered nurses and real estate salesmen are representative of the mean SES, while fisherman and university administrator were the lowest and highest SES occupations represented, respectively.

Members of a variety of racial groups participated in the study. The majority (N=139, 50.9%) described themselves as white. However, 99 (36.3%) indicated they were Oriental or Asian Americans and 35 (12.8%) described themselves as Black, or Metis or North American Indian. Approximately half of the participants (N=126, 46.2%) indicated that English was not their first language.

Procedure

The questionnaire battery (see Appendix A) was group-administered by the investigator in a classroom situation. An average of 20 students participated in each sitting. The investigation was introduced to participants as a study on social interactions (see Appendix A). Participants were told they could leave when they had completed the questionnaire battery. The investigator gave Introductory Psychology students their experimental credit, and gave each participant a brief written description of the purpose of the study as (s)he was leaving (see Appendix B).

Measures

The questionnaire battery contained each of the following: a set of demographic questions, the Inventory of Socially Supportive Behaviors (ISSB; Barrera, 1981; Barrera et al., 1981), the Perceived Social Support from Friends and from Family Scales (PSS-Fr & PSS-Fa; Procidano & Heller, 1983), the Social Support Questionnaire (SSQ; Sarason et al., 1983), and the Social Support Resources Questionnaire (SS:R; Vaux & Harrison, 1985).

In order to control for possible order effects there were four different versions of the questionnaire battery, which were administered in approximately equal amounts (N=69, 70, 69 and 65 for forms 1, 2, 3, and 4, respectively). Each of the four versions began with the demographics section, followed by the five remaining questionnaires. The order of the instruments was determined randomly for each of the four versions of the questionnaire battery as follows: 1. ISSB, PSS-Fr, SS:R, PSS-Fa, SSQ; 2. PSS-Fa, SSQ, ISSB, SS:R, PSS-Fr; 3. SS:R, PSS-Fa, PSS-Fr, SSQ, ISSB; and 4. SSQ, PSS-Fa, SS:R, ISSB, PSS-Fr.

1. Demographic Items

Participants were asked to provide the following demographic information: age, sex, year of university, marital status, dating status if unmarried, present living arrangements, racial origin, level of parental education, parental occupation, their own and their parents' income, and whether English was their native language (see Appendix A).

2. Measures of Social Support

The particular social support measures included in the proposed study were chosen based on presence of validation data. They were also chosen to obtain a content-valid sample of strategies used to assess social support. Instruments were included representing each of the major categories of social support measures described in the literature: those which assess support indirectly through measuring structural aspects of support networks (i.e., the SS:R; Vaux & Harrison, 1985), those emphasizing perceived social support (i.e., the PSS-Fr and PSS-Fa; Procidano & Heller, 1983) or satisfaction with support received (i.e., the SSQ; Sarason et al., 1983), and measures which assess behaviors involved in support provision (i.e., the ISSB; Barrera, 1981; Barrera et al., 1981).

i. Inventory of Socially Supportive Behaviors (ISSB).

The ISSB (Barrera, 1981; Barrera et al., 1981) is a 40-item self-report measure designed to assess the frequency with which respondents have been the recipient of various types of social support (see Appendix A). Items were designed to tap six social support functions: material aid (i.e., providing tangible materials such as money), behavioral assistance (i.e., sharing of physical labor), intimate interaction (i.e., listening, expressing esteem, caring and understanding), guidance, feedback and positive social interaction (i.e., fun, relaxation) (Barrera & Ainlay, 1983).

Respondents are instructed to rate the frequency of each item's occurrence during the preceding month using a 5-point scale ranging from 0 (not at all) to 4 (about every day). The ISSB provides one score, ranging

from 0 to 160 , calculated by summing the ratings for each of the 40 items. Higher scores thus indicate a higher frequency of receiving socially supportive behaviors.

Studies examining the psychometric properties of the ISSB have provided evidence suggesting that it is both a reliable and valid instrument for assessing the enactment of supportive behaviors. The scale has shown a high degree of internal consistency. Coefficient alphas of .93 and .92 were found with college students (Barrera et al., 1981) and pregnant adolescents (Barrera, 1981), respectively. A test-retest correlation of .88 was obtained over a two-day period (Barrera et al., 1981). In addition, some validation of the ISSB has been provided by moderate but significant correlations found with family cohesiveness (Barrera et al., 1981), total network size, and stressful life events (Barrera, 1981). Two studies factor analyzing the ISSB (Barrera & Ainlay, 1983; Stokes & Wilson, 1984) reported similar, but not identical factor solutions. According to the authors of these two studies this suggests that the instrument taps the targeted content areas.

ii. Perceived Social Support from Family and from Friends (PSS-Fa and PSS-Fr).

Procidano and Heller (1983) report a series of three studies assessing two similar measures of perceived social support, one quantifying perceived support from family members, and the other perceived support from friends. Items tap both support provision by respondents and support received, as well as support enactment and availability. The item content is thus quite heterogeneous. However, according to Tardy (1985) this scale is best interpreted as a measure of emotional support received since the majority of items fall into this category.

The two measures are comprised of the same 20 declarative statements to which respondents answer "Yes", "No", or "Don't know". In one (PSS-Fa) the items are worded for family members and in the other for friends (PSS-Fr) (see Appendix A). Responses indicating support are scored as +1, while other responses are not scored. Scores thus range from 0 to 20, with higher scores indicating more perceived support.

Analyses suggest that both PSS-Fa and PSS-Fr are homogeneous measures. In an undergraduate sample both showed high internal consistency, with Cronbach's alphas of .90 and .88 respectively. Similarly, factor analyses using orthogonal factor rotation yielded a single factor solution for each scale. The authors also report a test-retest reliability of .83 over a one-month interval for a preliminary, 35-item version of the scales.

Some research suggesting the validity of these scales was also reported. Both the PSS-Fa and the PSS-Fr showed moderate correlations with measures of psychopathology and psychological distress. In addition, social behavior was also found to relate significantly to PSS-Fa and PSS-Fr scores.

iii. Social Support Questionnaire (SSQ).

This instrument, designed by Sarason et al. (1983), measures availability of and satisfaction with social support. Most of the items focus on emotional support, although items representing other types of support are included (Tardy, 1985). Respondents are asked to identify up to 9 individuals to whom they would or could turn in each of 27 situations. Respondents are also asked to rate the level of their satisfaction with the overall support they receive in each situation on a 6-point scale where 1 equals very satisfied and 6 equals very dissatisfied.

The instrument yields two scores. One, ranging from 0 to 9, describes the availability of support (SSQ-N). It is calculated by dividing the total number of people listed by the number of items. The second score, SSQ-S, represents respondents' satisfaction with available support. This score which ranges from 1 to 6, is the average satisfaction rating indicated over the 27 items. In this study higher scores indicated lower overall satisfaction.

Sarason et al. (1983) reported a series of 4 studies which provide evidence of the reliability and validity of this instrument for use in undergraduate samples. The two subscales were found to be significantly but moderately correlated ($r=.54$) lending some support for the validity of calculating two separate scores. Both subscales showed high internal reliability. Alpha coefficients of .97 and .94 were found for SSQ-N and SSQ-S, respectively. Further support for the internal consistency of the two SSQ subscales was found from factor analyses which suggested that single factor solutions were appropriate for each. Test-retest correlations over a 4-week interval were .90 and .83 for SSQ-N and SSQ-S, respectively. According to Sarason et al. (1983) other evidence for the validity of the SSQ has been found in the significant correlations of SSQ-N and SSQ-S with measures of depression.

iv. Social Support Resources (SS:R) .

The SS:R (Vaux & Harrison, 1985) was designed to assess support network characteristics (see Appendix A). Respondents are asked to list the first names or initials of up to 10 individuals who provide them with each of emotional support, practical assistance, financial assistance, socializing

and advice. Thus respondents can identify up to 50 different people. Respondents are, in addition, asked to answer a series of eight questions about the characteristics of their relationship with each different person mentioned (see Appendix A). Finally, respondents are asked to rate their overall satisfaction with the support they receive in each of the five categories on a 5-point scale.

Twenty-four scores are calculated from responses on the instrument. Six network size scores are computed: total network size (i.e., the number of different people listed), and five mode-specific network size scores, one for each type of support. The mean of the five specific satisfaction scores provides an index of support satisfaction. One score, comprised of the mean across the different network members listed, is calculated for each of frequency, closeness, reciprocity, complexity and network density items. The gender item is used to compute the proportion of network members who are of the same sex as the respondent. Finally, the relationship type and the context items are used to calculate seven and five scores, respectively, one representing the proportion of network relationships falling into each possible response category (see Appendix A).

In a validation study the total satisfaction with support scale showed relatively high internal consistency (a coefficient alpha of .88) in a sample of female mature University students (Vaux & Harrison, 1985). However, no data are provided on the internal consistency of the other scales. The validity of calculating a summary index of support satisfaction is supported by the relatively high intercorrelations among the five subscales (ranging from .45 to .88). In addition, significant

negative correlations of moderate magnitude (ranging from $-.32$ to $-.46$) were reported between depressed mood and support satisfaction measures.

While data establishing the reliability and validity of the SS:R are comparatively sparse, it was selected for use in this study because it provides a more comprehensive sampling of network characteristics than other published self-report instruments assessing network characteristics (e.g., McFarlane et al.'s Social Relationship Scale, 1981).

It is important to explain, at this point, that because the SS:R has an extremely large number of items ($N=405$), the main method of data analysis used in this study, factor analysis, was not viable on the sample of individual items. Conducting such an analysis would have required an extremely large sample. In addition, the repetition of items would likely have produced a relatively meaningless factor structure (Gorsuch, 1974).

The data from the SS:R were thus collapsed into 50 composite items. This both reduced the number of items to be analyzed and decreased item repetition. Each of the five support type categories were scored as a single item. This yielded scores ranging from 0 to 10 representing the mode-specific network size. The mean across individuals listed for each support mode was calculated for the questions on frequency of contact, closeness of the relationship, reciprocity, degree of complexity in the relationship and network density. The gender item was used to compute the proportion of members of each of the five networks who are of the same sex as the respondent. In addition, the relationship type item was used to calculate the proportion of members of each of the five networks who are relatives. Three context scores were calculated from the context item,

representing the proportion of network members who are work/classmates, neighbours and fellow organization members, respectively. Eleven scores were thus computed for each support mode. Finally, the five satisfaction items were also included.

Data Analysis

Examination of the research questions involved calculation of item-total correlations and Cronbach's alpha (Cronbach, 1951) for the summary scores proposed by the authors of the five included instruments (described previously). It also entailed factor analysis of each of the following: 1. the items of each of the PSS-Fr, the PSS-Fa, the ISSB, the SSQ, and the SS:R, 2. the summary scores proposed by the authors of each of the above instruments, and 3. the weighted factor scores derived based on the first five factor analyses listed above. Seven factor analyses were thus conducted. Prior to examination of the research questions, the data were assessed for presence of missing values, outliers and conformity to assumptions of normality.

RESULTS

Item Distributions

The mean, variance, range, standard error, and skewness were examined for each item on each questionnaire (see Appendices C to I for frequency histograms for items on the PSS-Fr, PSS-Fa, ISSB, SSQ, SS:R, total test scores and weighted factor scores, respectively).

None of the items on the PSS-Fr or the PSS-Fa were judged to be appreciably skewed (cf. Tabachnick & Fidell, 1983) (see Appendices C and D). For the ISSB, 27 items were judged to be approximately normally distributed and 13 were judged to deviate from normal. Of these, 12 were positively skewed and one did not discriminate across choices (see Appendix E). The majority of the 54 items on the SSQ were positively skewed (N=37) (see Appendix F), while for the scores generated by the composite scoring strategy adopted for the SS:R in this study, 16 scores were positively skewed, 9 were negatively skewed and the remaining 35 scores were approximately normally distributed (see Appendix G). Of the summary scores proposed by the instruments' authors, 16 conformed to approximately normal distributions, 13 were positively skewed and one was negatively skewed (see Appendix H). Finally, the distributions of 12 of the weighted factor scores were approximately normal, while 5 were positively skewed.

In those factor analyses for which more than half of the items were skewed (i.e., the SSQ and the SS:R), use of transformations to reduce

skewness was considered due to the possibility of attenuation of correlation coefficients (Gorsuch, 1974; Tabachnick & Fidell, 1983). In the case of the SSQ, since 68 percent of the items were relatively severely positively skewed, the decision was made to use a common logarithm transformation on all 54 items (Gorsuch, 1974; Tabachnick & Fidell, 1983). After transformation, 38 items were approximately normally distributed while the remaining 16 were skewed. This represents a notable improvement over the untransformed item distributions (see Appendix F). The 25 non-normally distributed items on the SS:R were so skewed so as to not be appreciably improved by transformation. Also, there is no transformation which corrects for both positive and negative skewness at the same time. The items on the SS:R were thus not transformed. Rather, as a check for the effects of the skewed items, the final solution for the SS:R was repeated twice, once removing the 16 positively skewed items and once removing the nine negatively skewed items.

Finally, as a check for possible effects of skewness on the factor solutions for the ISSB, the author suggested summary scores and the weighted factor scores, the final solution for each was repeated using a common logarithm transformation. This transformation was chosen because, where items were skewed they were generally positively skewed.

Missing Values

Missing values on each item were replaced with its mean or mode, as appropriate, calculated separately for males and females. This choice was based on the rationale that inserting means for different demographic groups was less conservative than inserting the overall item mean, and

would result in less attenuation of correlations with other variables (Tabachnick & Fidell, 1983). Gender was chosen as an appropriate demographic characteristic for this purpose because of data suggesting sex differences in social support (e.g. D'Arcy, 1980; Leavy, 1983; Miller & Ingham, 1976; Sarason et al., 1983; Stokes & Wilson, 1985). Item modes rather than means were used where data was nominal (i.e., on the PSS-Fr, the PSS-Fa, and on "Relationship" and "Sector" items on the SS:R) because, in these cases, mean values would have had little meaning.

According to Tabachnick and Fidell (1983), correlation coefficients based on items which have relatively few missing values will not be appreciably affected by the method chosen to deal with missing data. While most items on the five social support instruments had less than 5 percent of cases missing (N=14), 10 items each on the SSQ, and the SS:R had 10 percent missing values or greater. As a precaution against the possibility that replacing this comparatively large quantity of missing values with means affected the factor solutions, the final solutions for the SSQ and the SS:R were rerun without the offending variables. The final solution of the scores suggested by the instruments' authors was also rerun without the two scores based on the SS:R items with greater than 10 percent missing values.

Outliers

Data were also assessed for outliers, with outliers being defined as cases with scores greater than ± 3 standard deviations from the mean score on the instrument. It was initially proposed that outliers discriminable based on being non-native English speakers would be deleted; it was assumed

that these individuals might not have understood instructions correctly. However, examination of the outliers showed that they were not concentrated solely among non-native English speakers (30 vs 47 for native and non-native English speakers, respectively), nor were outliers concentrated in any particular variable. Scrutinization of the questionnaires of non-native English speakers with outliers did not reveal any evidence of difficulty in following instructions. Deleting all cases with outliers would have substantially reduced the sample size (from 273 to 196). The decision was thus made to leave outliers in the sample.

Internal Consistency

The five social support instruments generally showed moderate to high internal consistency, both with respect to Cronbach's alpha (Cronbach, 1951) and item-total correlations (see Table 3) (Guilford, 1956; Shavelson, 1981). However, of note are several of the above indices which are suggestive of low internal consistency. In the case of the ISSB, items 1, 4, 20, 22, and 40 showed low item-total correlations (i.e., below .40). As well, the scales on the SS:R measuring the proportion of individuals' social networks taken up by spouses, immediate family members and intimate sexual partners produced notably low Cronbach's alphas (see Table 3).

Significance of the Correlation Matrices

Both Gorsuch (1974) and Comrey (1978) suggest five to ten times the number of items, but not less than 200 subjects as a general rule of thumb for determining the sample size required to obtain stable correlation matrices on which to base factor analyses. According to this guideline,

300 subjects was the minimum sample size required for this study. The obtained sample (N=273) fell marginally short of this mark.

Gorsuch (1974) cautions that because research suggests that random data can yield results that can be interpreted in a factor analysis, it is advisable to test the correlation matrix for significance. He recommends Bartlett's (1950) chi-square test for this purpose (Gorsuch, 1974). Each of the seven correlation matrices which were analyzed in this study yielded significant Bartlett's chi-square tests (see Table 4). They were thus considered to be of sufficient stability to be suitable for factor analysis.

Tabachnick and Fidell (1983) advise against the use of Bartlett's chi-square test due to its sensitivity and its dependence on sample size. They suggest, rather, that correlation matrices with a number of correlations in excess of .30 are appropriate for factor analysis. The seven correlation matrices also met this criteria.

Table 3

Cronbach's Alphas and Item-total Correlations for the Five
Social Support Instruments

Instrument	Score	# Items	Alpha	Item-total Correlations	
				Range	Mean
1. PSS-Fr	Total	20	.864	.407-.652	.529
2. PSS-Fa	Total	20	.878	.456-.669	.550
3. ISSB	Total	40	.942	.232-.731	.562
4. SSQ	Network Size	27	.969	.651-.802	.742
	Support Satisfaction	27	.953	.561-.755	.648
5. SS:R	Total Network Size	50	.836	.011-.567	.339
	Emotional Support Network	10	.898	.219-.881	.691
	Socializing Network	10	.904	.394-.876	.723
	Practical Assistance Network	10	.916	.462-.865	.744
	Financial Assistance Network	10	.917	.370-.875	.742
	Guidance Network	10	.912	.484-.856	.734
	Frequency of Contact	50	.742	.198-.485	.356
	Relationship Closeness	50	.645	.099-.505	.268
	Relationship Reciprocity	50	.748	.015-.457	.155
	Relationship Complexity	50	.703	.145-.565	.311
	Relationship Type				
	-Spouse	50	.268	0-.675	.062
	-Immediate Family	50	.288	.001-.387	.090
	-Extended Family	50	.658	0-.442	.189
	-Intimate Sexual	50	.445	0-.337	.106
	-Close Friend	50	.706	0-.404	.161
	-Social Acquaintance	50	.808	0-.529	.231
	-Other	50	.742	0-.377	.200
	Relationship Sector				
	-Neighbour	50	.706	0-.503	.183
	-Work/Classmate	50	.775	0-.518	.201
	-Organization Member	50	.893	0-.636	.296
	-Sorority/Fraternity	50	.675	0-.597	.134
	-Other	50	.838	.008-.572	.203
	Same-sexed Network Members	50	.686	.001-.278	.100
	Network Density	50	.727	.346-.746	.561
	Support Satisfaction	5	.832	.629-.824	.773

TABLE 4

Bartlett's Chi-Square Tests for Significance of the Correlation Matrices

Matrix	Chi-Square	D.F.	Significance
1. PSS-Fr	1320.08	190	p<.01
2. PSS-Fa	1519.55	190	p<.01
3. ISSB	5504.67	780	p<.01
4. SSQ	10893.90	1431	p<.01
5. SS:R	13168.84	1770	p<.01
6. Summary Scores Used by the Instruments' Authors	4507.79	435	p<.01
7. Weighted Factor Scores Based on 1 to 5 Above	42.15	136	p<.01

Factor Analysis Methods Used

A number of choices were made during the following seven factor analyses regarding the factor extraction procedure, the number of factors to retain and the rotation of the factor solution. Principal factor solutions were performed in all cases both because these extraction methods account for the most variance with the fewest variables, and because they most accurately reproduce the correlation matrix, given a certain number of factors (Gorsuch, 1974). Principal components extraction was chosen because of its ability to summarize data accurately (Tabachnick & Fidell, 1983), and because it enables calculation rather than estimation of weighted factor scores (Gorsuch, 1974). In addition, according to Gorsuch (1974) when variables have high communalities (e.g., greater than .4), and when there are a moderately large number of variables (e.g., greater than 30) there will be few differences between the solutions generated by different methods of factor extraction. Since only 15 final communality estimates were below .4 across the seven factor analyses, it was assumed that the use of principal components extraction in this study was appropriate.

Three criteria were combined for deciding the number of factors to extract. The root > 1 criterion suggests a fairly consistent number of factors as a function of the number of variables. However, because it often overestimates the number of factors, it was used only as an indicator of the upper limit for the appropriate number of factors to extract (Gorsuch, 1974; Zwick & Velicer, 1986). Cattell's scree test (1966) was used as a second criteria. Recent research comparing rules for determining the number of components to retain in principal components analysis

suggests that the scree test is generally accurate (Zwick & Velicer, 1986). Where the scree test generated more than one possibility for the appropriate number of factors, both the proportion of variance in the original variables accounted for by the different solutions, and the percentage of variance within each solution accounted for by interpretable factors were examined (Gorsuch, 1974); the most parsimonious solution was accepted in these cases.

Despite the expectation, based on theory (e.g., House, 1981; Barrera & Ainlay, 1983) that factors might be intercorrelated, the decision was made to adopt orthogonal solutions. This decision enabled greater ease of interpretation of results (Tabachnick & Fidell, 1983). Also, oblique solutions would not have allowed calculation of weighted factor scores, making the final analysis looking at the overall structure of social support in this sample impossible (Tabachnick & Fidell, 1983). Varimax rotation was thus chosen.

However, an oblique rotation was performed on the final solution for each of the seven factor analyses to evaluate the degree to which the interpretation of the two types of solutions differed, and to assess the degree to which factors were intercorrelated. Promax rotation with power set to three was used for this purpose. This power value produces a fairly oblique solution (Gorsuch, 1974).

The next six sections contain detailed descriptions of the decisions made in each of the factor analyses. Interpretation follows.

PSS-Fr and PSS-Fa

Principal components factor extraction generated four eigen values greater than one for both the items of the PSS-Fr and the PSS-Fa. This suggested four factors as the maximum number appropriate to extract in both cases. Cattell's scree test on each set of eigen values generated the same conclusions (see Figures 1 and 2). In addition, three factor solutions (see Appendices J and K) using varimax rotation accounted for substantially smaller proportions of the original variance than did similarly extracted four factor solutions (55.9% versus 42.4% for the PSS-Fr, and 49.4% versus 44.1% for the PSS-Fa). A four factor solution with principal components extraction and varimax rotation was thus considered most appropriate and meaningful for both the PSS-Fr and the PSS-Fa. Finally, while four factor oblique solutions suggested moderate and statistically significant correlations between all factors, oblique solutions yielded essentially the same factors as the respective orthogonal rotations in both cases (see Appendices J and K).

ISSB

For the 40 items of the ISSB, principal components extraction yielded eight eigen values greater than one, while a cut-off of six to eight factors was indicated by Cattell's scree test (see Figure 3). Six, seven and eight factor solutions were extracted and a varimax rotation was performed on each. The eight factor solution accounted for the greatest proportion of variance in the original items (60.8%) (see Appendix L). However, interpretation of this solution was difficult. The six factor solution accounted for a considerably smaller proportion of the original

FIGURE 1

Scree Test for the PSS-Fr

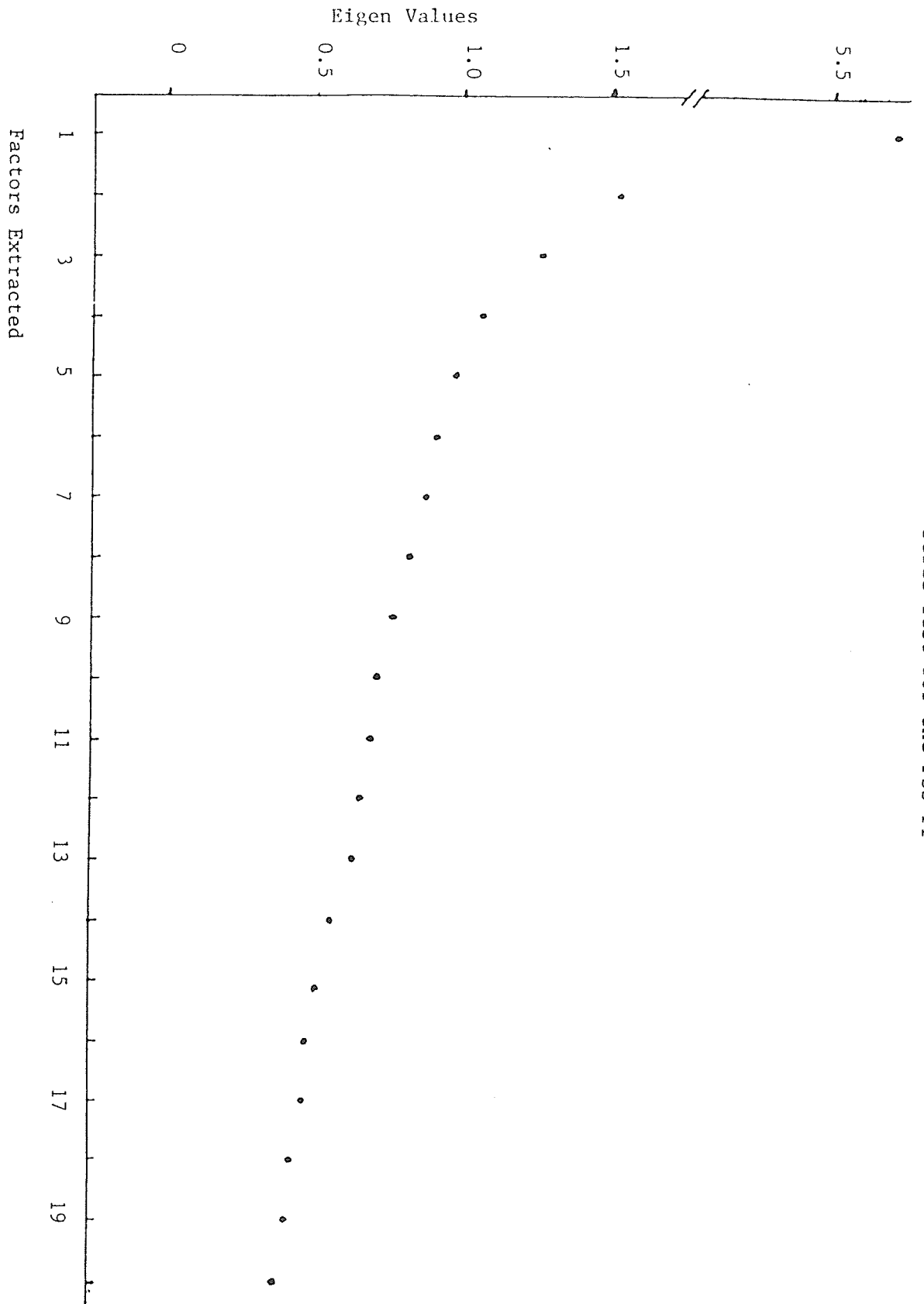


FIGURE 2
Scree Test for the PSS-Fa

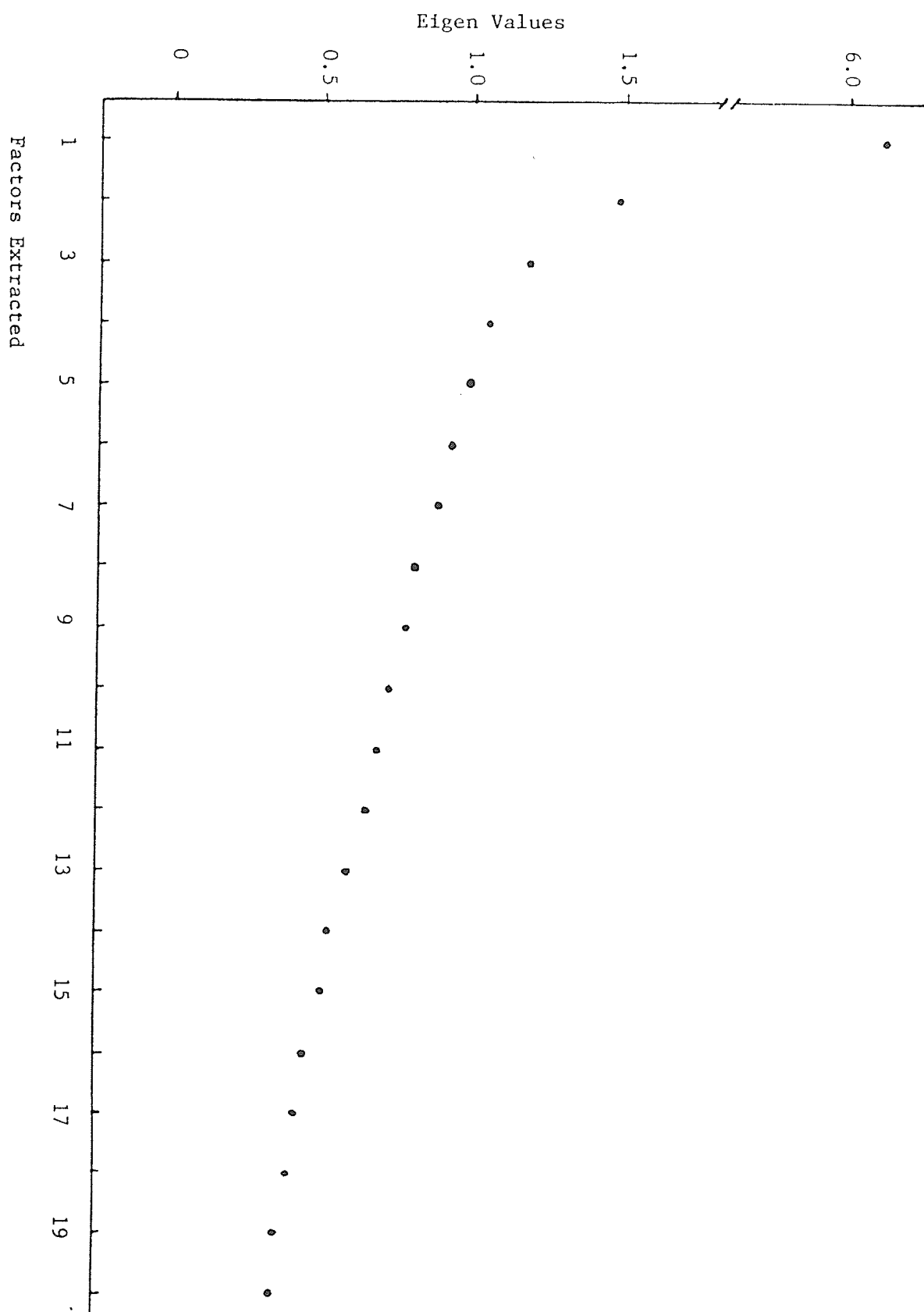
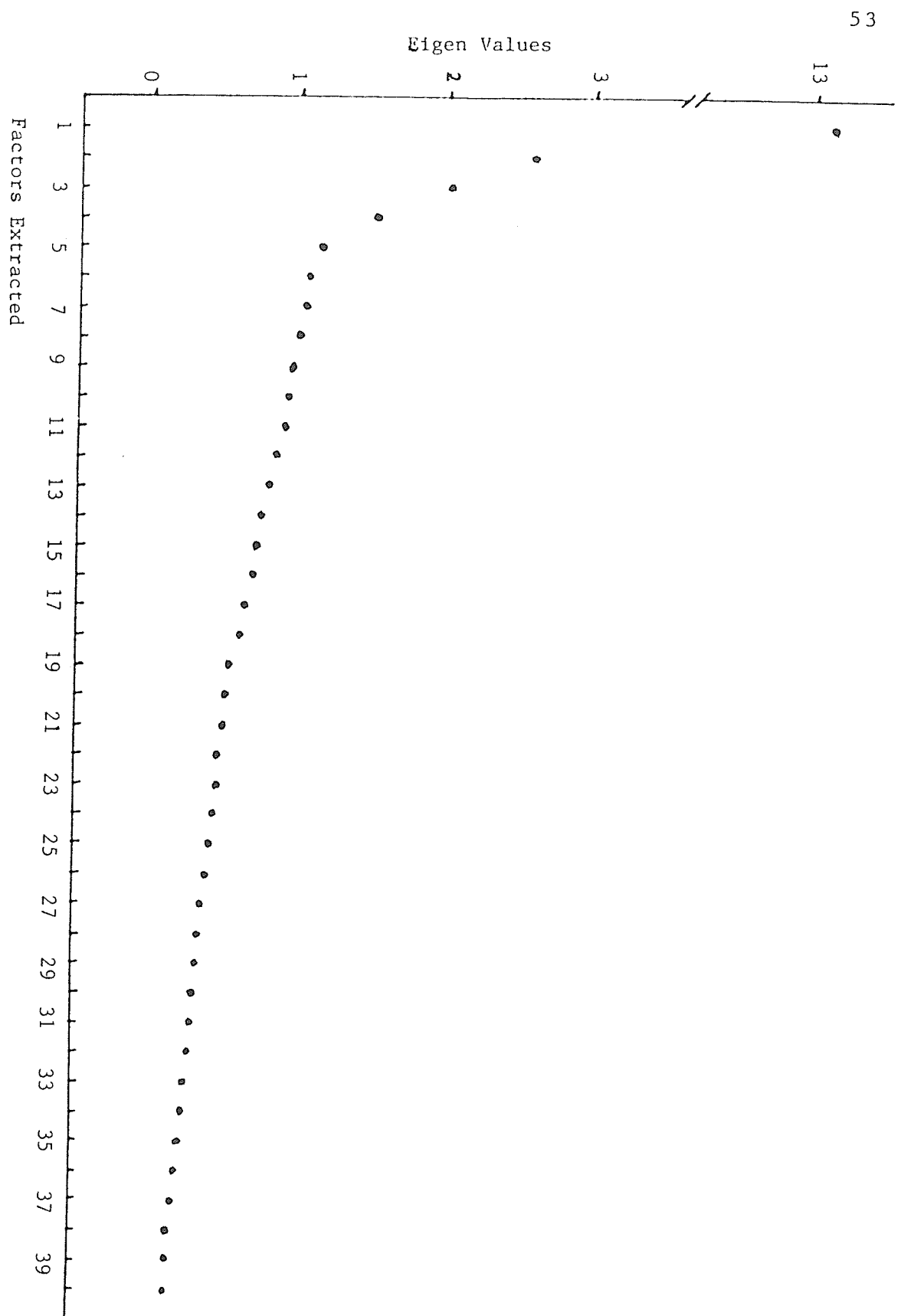


FIGURE 3
Scree Test for the ISSB



variance (55.6%) and was, in addition, difficult to interpret (see Appendix L). The seven factor solution was thus considered to be most meaningful and appropriate for the ISSB. A seven factor oblique solution suggested the existence of moderately large and statistically significant correlations between factors (see Appendix L). However, interpretation of this solution was much the same as for the seven factor orthogonal solution.

SSQ

Principal components factor extraction based on the 54 items of the SSQ (using a common logarithm transformation, as described earlier) produced eight eigen values greater than one. Interpretation of Cattell's scree test, however, suggested that either eight or five factors should be retained (see Figure 4). Both six and eight factor principal components extractions using varimax rotations yielded similar solutions (see Appendix M). Since the last three factors of the eight factor solution were not interpretable in any case, and because the five factor solution provided a clearer interpretation, the five factor solution was adopted. A five factor oblique solution suggested a moderate and significant negative correlation between factors one and two ($r = -.36$), but the pattern of item loadings was essentially identical to the five factor orthogonal solution (see Appendix M).

SS:R

The root > one criterion suggested a maximum limit of a 15 factor solution for the SS:R. However, on the basis of Cattell's scree test it was determined that either 15, 11, nine or six factors should be retained (see Figure 5). Four analyses were implemented using principal components extraction and varimax rotation retaining 15, 11, nine and six factors, respectively. Comparison of the four solutions recommended the nine factor solution as most meaningful and appropriate. The 15 factor solution accounted for 76.2 percent of the original variance in test scores, but the last five factors were difficult to interpret (see Appendix N). Similarly, the last three factors of the 11 factor solution were uninterpretable (see Appendix N). The six factor solution accounts for appreciably less of the original variance than the other three solutions (52.1%) and was generally difficult to interpret. The nine factor solution, on the other hand, accounted for 63.2 percent of the original variance and lent itself to interpretation similar to the understandable factors in the two larger solutions. Repetition of the nine factor extraction using an oblique rotation yielded a solution with essentially the same interpretation as the orthogonal solution (see Appendix N). However, it did suggest a number of significantly intercorrelated factors (see Appendix N).

FIGURE 4
Scree Test for the SSQ

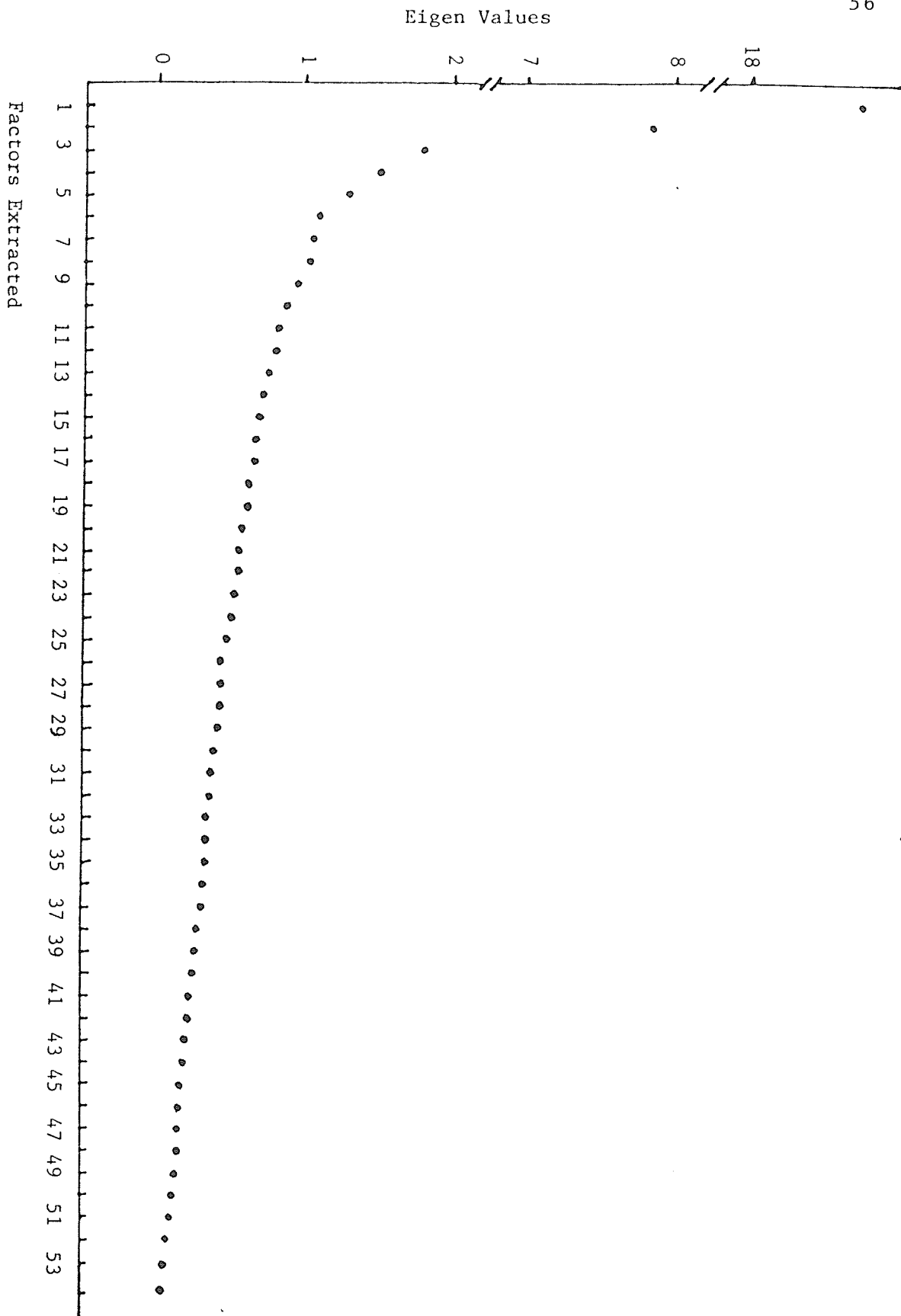
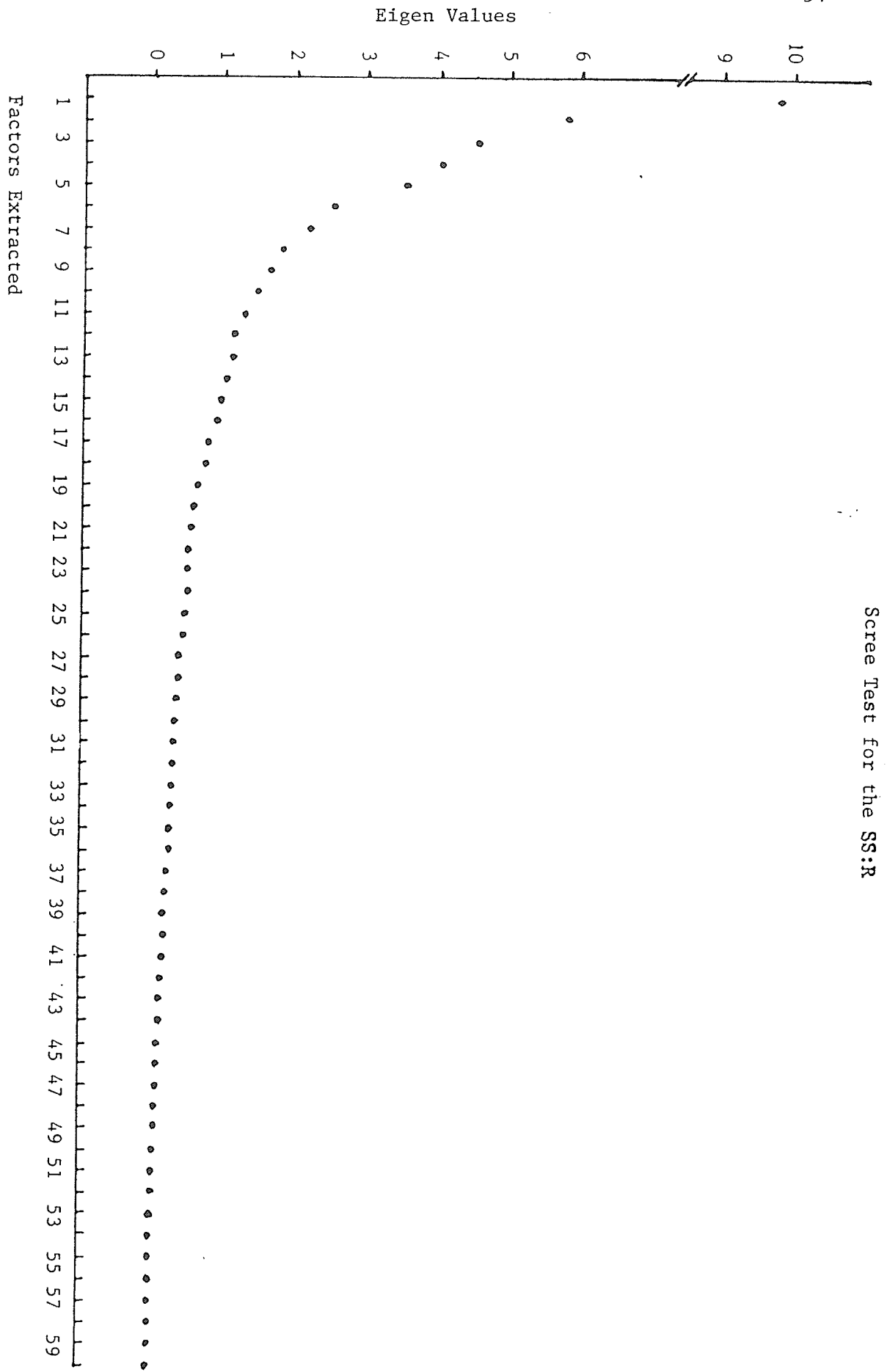


FIGURE 5
Scree Test for the SS:R



Summary Scores Used by the Instruments' Authors

For the factor analysis on the set of the 30 summary scores used by the authors of the five instruments the eigen value > 1 criteria suggested retaining a maximum of 10 factors. Interpretation of Cattell's scree test indicated that either eight or six factors should be retained (see Figure 6). Principal components extractions using varimax rotations retaining each of 10, eight, and six factors were implemented. Both the 10 and eight factor solutions yielded a substantial number of uninterpretable factors (six and four, respectively). However, the interpretation of the first three factors remained unchanged across the three solutions (see Appendix 0). The six factor solution was thus adopted as most appropriate and meaningful. Repetition of this solution using an oblique rotation yielded generally non-significant correlations between factors and essentially the same interpretation as the orthogonal rotation (see Appendix 0).

Weighted Factor Scores

The items included in this factor analysis were 17 weighted factor scores, one for each interpretable factor in the solutions for each of the five social support instruments adopted above. Seventeen weighted factor scores were thus computed for each participant. For each factor the weighted factor score was the product of the score on each item and its factor loading summed across those items loading significantly on that factor. These weighted factor scores thus represented the scores participants would have received on each underlying factor if the factor were measured directly.

Both the eigen value > 1 and Cattell's scree test suggested that retention of five factors was appropriate in this case (see Figure 7). Principal components extraction with varimax rotation was carried out retaining both five and four factors. The five factor solution was adopted because it offered greater interpretational simplicity and accounted for appreciably more original variance (64.4%) than the four factor solution (57.8%). An oblique five factor solution of the weighted factor scores suggested moderate and significant correlations between some factors, but had essentially the same interpretation as the orthogonal solution (see Appendix P).

FIGURE 6

Scree Test for the Authors' Summary Scores

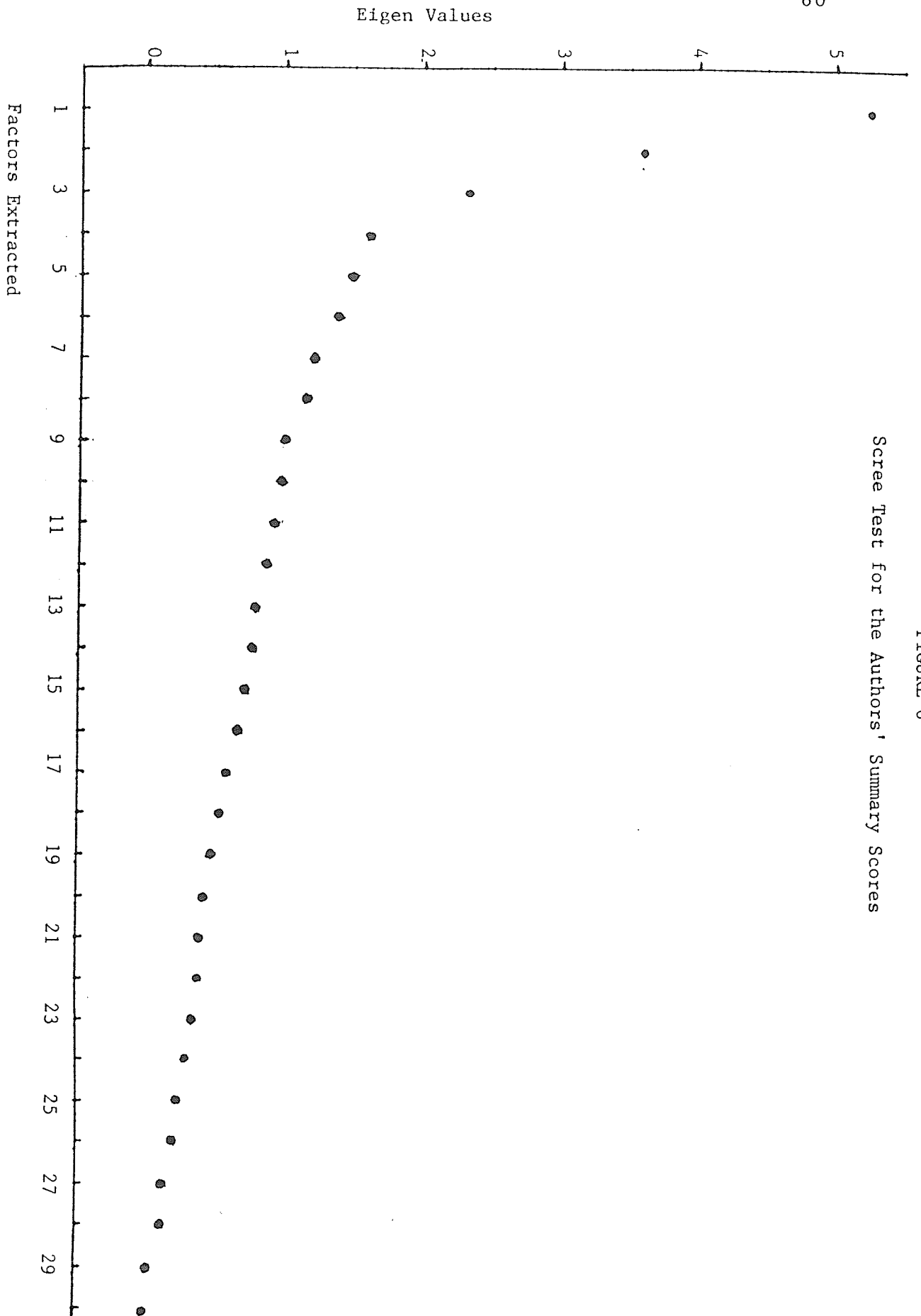
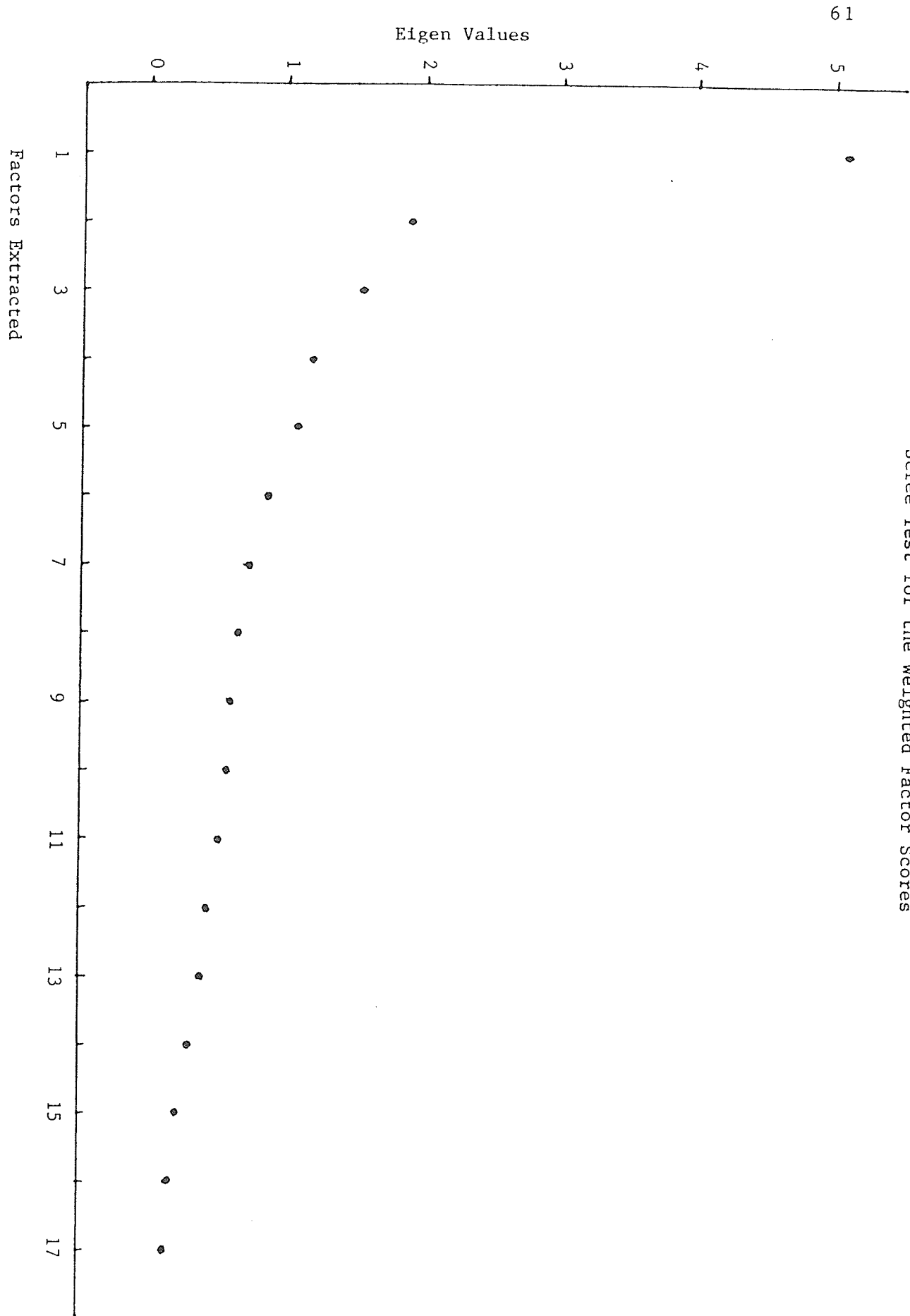


FIGURE 7

Scree Test for the Weighted Factor Scores



Validity Tests of Multivariate Assumptions

As described earlier, the validity of assumptions made regarding the method of dealing with missing values and item distributions were checked. For the ISSB, the authors' summary scores and the weighted factor scores addition of a common logarithm transformation yielded factor solutions similar in interpretation, in each case, to the solution adopted (see Appendices L, O, and P). Repetition of the adopted solution on the SSQ removing the common logarithm transformation also produced a solution similar to the one adopted (see Appendix M).

For the SS:R repetitions of the adopted solution, once removing positively skewed items and once removing negatively skewed items resulted in changes in the order of the factors as well as changes in the interpretation of the last four factors (see Appendix N). These differences in interpretation suggested that the stability of these four factors in the adopted nine factor solution was questionable.

Repetition of the solution adopted for the SSQ, the SS:R and the authors' summary scores removing items which had greater than 10 percent missing values produced no appreciable changes in interpretation (see Appendices M, N, and O). The above series of analyses thus supported the validity of assumptions made regarding the treatment of missing values. They similarly suggested the validity of the assumptions made regarding treatment of items with skewed distributions, except in the case of the SS:R.

Interpretation of Factors

A factor loading of .40 was adopted as the minimum acceptable for interpretation (Tabachnick & Fidell, 1983). In order to facilitate interpretation, items with significant loadings were rank ordered for each factor and recorded with their content in Tables 12 to 29. In addition, those items which load significantly on more than one factor were labeled as complex items on each Table. Factors were labeled and interpreted within the framework laid out by Turner (1983) in his mapping-sentence definition of social support (see Table 1).

PSS-Fr and PSS-Fa

The PSS-Fr and PSS-Fa generated almost identical solutions in this sample. The first factor was given a similar label for the two instruments, "Intimacy and Guidance Received from Friends" for the PSS-Fr and "Intimacy and Guidance Received from Family" for the PSS-Fa (see Tables 5 and 6). This factor seems to tap the closeness and consistency of relationships. On the PSS-Fr it also seems to emphasize emotional availability of friends, while for the PSS-Fa it seems to tap responsiveness of family members to respondents' emotional needs. In both solutions, Factor 1 also appears to reflect the quality of the guidance provided by the targeted network members. Within Turner's framework this factor connotes qualitative characteristics of relationships (Category D), in particular love and/or affection, and aid and/or guidance. It also seems to tap utilization, rather than accessibility of these resources (Turner's Category E).

TABLE 5

PSS-Fr Factor 1: Intimacy and Guidance Received From Friends

Item #	Loading	Item content
12	.68948	My friends are good at helping me to solve problems.
5	.64287	I rely on my friends for emotional support.
19	.62595	I've recently gotten a good idea about how to do something from a friend.
13	.61459	I have a deep sharing relationship with a number of friends.
1	.61197	My friends give me the moral support I need.
10	.57491	My friends are sensitive to my personal needs.
9	.43367	My friends and I are very open about what we think about things.
18	.42884	I don't have a relationship with a friend that is as intimate as other people's relationships with friends.
*11	.42601	My friends come to me for emotional support.

*complex item

Note: Accounts for 16.9% of the original variance and 35.3% of the solution variance.

TABLE 6

PSS-Fa Factor 1: Intimacy and Guidance Received From Family

Item #	Loading	Item Content
13	.65861	Members of my family are good at helping me solve problems.
1	.62617	My family gives me the moral support I need.
6	.60972	Members of my family share many of my interests.
*8	.56478	I rely on my family for emotional support.
2	.54172	I get good ideas about how to do things or make things from my family.
14	.51245	I have a deep sharing relationship with a number of members of my family.
11	.48632	My family is sensitive to my personal needs.
*20	.40702	I wish my family were much different.

*complex item

Note: Accounts for 15.6% of the original variance and 31.6% of the solution variance.

Factor 2 was named "'Neededness' in Friendships" and "Within the Family" for the PSS-Fr and the PSS-Fa, respectively (see Tables 7 and 8). The degree to which respondents perceive themselves as being sought out by friends and family members in need of guidance, company and affection seems to be reflected by this factor. For the PSS-Fr, it also appears to tap respondents' comfort in seeking out friends. While this factor does not easily fit into Turner's description of social support, it seems to most closely reflect the quantitative characteristic of reciprocity (Category C).

The third factor, while similar for the two instruments, was different enough to warrant separate description. For the PSS-Fr this factor was entitled "Perceived Closeness and Comfort in Friendships" (see Table 9). It appears to tap feelings of inclusion and satisfaction with friendships, as well as trust and closeness. On the PSS-Fa this factor was labeled "Comfort in Family Relationships" (see Table 10). It seems to reflect the degree to which respondents felt comfortable expressing needs or being vulnerable with family members. Factor 3 reflects somewhat different content across the two instruments. However, it is best categorized in Turner's framework as reflecting the degree of closeness and integration in the targeted relationships in both cases (i.e., Turner's Category D; quantitative characteristics). For both instruments, Factor 4 is only a doublet (see Tables 9 and 10). It is uninterpretable and was not included in the final analysis on the weighted factor scores.

TABLE 7

PSS-Fr Factor 2: 'Neededness' in Friendships and Reciprocity

Item #	Loading	Item content
4	.64452	Certain friends come to me when they have problems or need advice.
16	.61279	My friends seek me out for companionship.
*11	.58431	My friends come to me for emotional support.
3	.56959	My friends enjoy hearing about what I think.
8	.53566	There is a friend I could go to if I were just feeling down without feeling funny about it later.
*17	.46546	I think that my friends feel that I'm good at helping them solve problems.

*complex item

Note: Accounts for 13.2% of the original variance and 27.6% of the solution variance.

TABLE 8

PSS-Fa Factor 2: 'Neededness' Within the Family

Item #	Loading	Item Content
12	.69519	Members of my family come to me for emotional support.
7	.67489	Certain members of my family come to me when they have problems or need advice.
18	.62422	I think that my family feels that I'm good at helping them solve problems.
15	.58290	Members of my family get good ideas about how to do things or make things from me.
17	.49577	Members of my family seek me out for companionship.

Note: Accounts for 12.2% of the original variance and 24.7% of the solution variance.

TABLE 9
Factors 3 and 4 on the PSS-Fr

Factor 3: Perceived Closeness, Comfort in Friendships

Item #	Loading	Item Content
7	.71236	I feel that I'm on the fringe of my circle of friends.
6	.64062	If I felt that one or more of my friends were upset with me, I'd just keep it to myself.
15	.54986	When I confide in my friends, it makes me feel uncomfortable.
20	.49253	I wish my friends were much different.

Note: Accounts for 10.3% of the original variance and 21.5% of the solution variance.

Factor 4

Item #	Loading	Item Content
14	.67657	My friends get good ideas about how to do things and make things from me.
*17	.66034	I think that my friends feel that I'm good at helping them solve problems.

*complex item

Note: Accounts for 7.4% of the original variance, and 15.5% of the solution variance.

TABLE 10
Factors 3 and 4 on the PSS-Fa

Factor 3: Comfort in Family Relationships

Item #	Loading	Item Content
4	.74471	When I confide in the members of my family who are closest to me, I get the idea that it makes them uncomfortable.
16	.54893	When I confide in members of my family, it makes me uncomfortable.
9	.57203	There is a member of my family I could go to if I were just feeling down, without feeling funny about it later.
*20	.50204	I wish my family were much different.
*8	.43794	I rely on my family for emotional support.

*complex item

Note: Accounts for 12.0% of the original variance, and 24.2% of the solution variance.

Factor 4

Item #	Loading	Item Content
3	.69430	Most other people are closer to their family than I am.
19	.65457	I don't have a relationship with a member of my family that is as close as other people's relationships with family members.

Note: Accounts for 9.6% of the original variance and 19.4% of the solution variance.

ISSB

Of the seven factors extracted based on the ISSB, the first four seem interpretable (see Tables 11 to 14). Factor 1 was called "Affection and Esteem" (see Table 11). It appears to tap both the presence of interpersonal warmth and intimacy with network members, and the degree to which network members are physically available in crisis situations. The degree to which respondents perceived network members as expressing non-possessive warmth, respect and approval of them is also reflected in this factor.

The second factor was labeled "Information and Directive Guidance" (see Table 12). It seems to indicate the extent to which respondents received information useful in coping with environmental and personal problems, as well as feedback and advisement about their behavior. Factor three, called "Positive Social Interaction and Approval" (see Table 13) appears to reflect respondents' participation in social interactions involving discussion of interests, joking and distraction from worries, as well as validation of both personal skills and decisions. The fourth, and last interpretable factor refers to network members supplying respondents with sums of money (see Table 13). This factor was thus labeled "Financial Assistance".

Factors 5, 6, and 7 were considered to be uninterpretable because each has only three items loading on it (Gorsuch, 1974; Zwick & Velicer, 1986) (see Table 14). These three factors were excluded from the factor analysis on weighted factor scores.

TABLE 11
ISSB Factor 1: Affection and Esteem

Item #	Loading	Item Content
31	.85601	Told you that (s)he feels very close to you.
30	.73093	Expressed interest in your well-being.
29	.70605	Let you know that (s)he will always be around if you need assistance.
18	.66067	Comforted you by showing you some physical affection.
10	.62433	Told you that you are o.k. just the way you are.
14	.55747	Expressed esteem or respect for a competency or personal quality of yours.
*8	.45564	Let you know that you did something well.
11	.44700	Told you that (s)he would keep the things that you talk about private - just between the two of you.
12	.44310	Assisted you in setting a goal for yourself.
*26	.43087	Agreed that what you wanted to do was right.
2	.41975	Was right there with you (physically) in a stressful situation.
27	.40130	Said things that made your situation easier to understand.

*complex item

Note: Accounts for 14.4% of the original variance and 24.8% of the solution variance.

TABLE 12

ISSB Factor 2: Information and Directive Guidance

Item #	Loading	Item Content
16	.74380	Suggested some action that you should take.
15	.73259	Gave you some information on how to do something.
23	.67964	Helped you understand why you didn't do something well.
13	.63325	Made it clear what was expected of you.
19	.59596	Gave you some information to help you understand a situation you were in.
33	.55651	Told you what to expect in a situation that was about to happen.
27	.52845	Said things that made your situation clearer and easier to understand.
21	.50954	Checked back with you to see if you followed the advice you were given.
*12	.50476	Assisted you in setting a goal for yourself.
5	.44249	Told you what (s)he did in a situation that was similar to yours.
28	.41258	Told you how (s)he felt in a situation that was similar to yours.

*complex item

Note: Accounts for 13.2% of the original variance, and 22.6% of the solution variance.

TABLE 13
Factors 3 and 4 for the ISSB

Factor 3: Positive Social Interaction and Approval

Item #	Loading	Item Content
7	.65998	Talked with you about some interests of yours.
6	.59863	Did some activity with you to help you to get your mind off of things.
*8	.50251	Let you know that you did something well.
*26	.45777	Agreed that what you wanted to do was right.
*28	.42510	Told you how (s)he felt in a situation that was similar to yours.
37	.41441	Joked or kidded to try to cheer you up.

*complex item

Note: Accounts for 7.5% of the original variance and 12.9% of the solution variance.

Factor 4: Financial Assistance

Item #	Loading	Item Content
40	.70873	Loaned you under \$25.
17	.70604	Gave you over \$25.
34	.69893	Loaned you over \$25.
22	.68792	Gave you under \$25.

Note: Accounts for 7.3% of the original variance and 12.6% of the solution variance.

TABLE 14
Factors 5, 6, and 7 for the ISSB

Factor 5

Item #	Loading	Item Content
9	.66589	Went with you to someone who could take action.
32	.59535	Told you who you should see for assistance.
*11	.48289	Told you that (s)he would keep the things that you talk about private - just between the two of you.

*complex item

Note: Accounts for 6.0% of the original variance and 10.3% of the solution variance.

Factor 6

Item #	Loading	Item Content
20	.58231	Provided you with some transportation.
38	.56777	Provided you with a place to stay.
35	.44282	Taught you how to do something.

Note: Accounts for 5.4% of the original variance and 7.6% of the solution variance.

Factor 7

Item #	Loading	Item Content
1	.78229	Looked after a family member while you were away.
3	.52542	Provided you with a place to stay where you could get away for a while.
4	.51532	Watched after your possessions when you were away.

Note: Accounts for 4.4% of the original variance and 7.6% of the solution variance.

All four interpretable factors of the ISSB seem to emphasize different qualitative characteristics of social support within Turner's framework (Category D). Factors 1 and 4 may be best described as tapping love and/or affection, and status and/or esteem. Factors 2 and 3, on the other hand, seem to reflect the more instrumental qualitative characteristics proposed by Turner. The second factor connotes both aid and/or guidance, and information and/or interpretation, while Factor 4 seems to best be described as tapping aid.

SSQ

The factor analysis of the SSQ yielded two interpretable factors. The remaining three factors had either one or two items. They were therefore considered uninterpretable (see Table 15) and excluded from the analysis weighted factor scores.

The first interpretable factor was called "Support Satisfaction" (see Table 16). As the label suggests, it seems to tap satisfaction with social support in general. The majority of the items appear to reflect satisfaction with perceived degree of intimacy, unconditional acceptance, and esteem from others. There are also items which seem to tap satisfaction with the accessibility of social resources that provide feedback and guidance, instrumental assistance and help in alleviating emotional stress. However, items tapping satisfaction with instrumental assistance appear to be less important to this factor than items reflecting other aspects of social support.

TABLE 15
Factors 3, 4 and 5 for the SSQ

Factor 3

Item #	Loading	Item Content
*48	.49526	How satisfied are you with the people you feel truly love you deeply?
*47	.48826	Whom do you feel truly loves you deeply?

*complex item

Note: Accounts for 3.1% of the original variance and 5.4% of the solution variance.

Factor 4

Item #	Loading	Item Content
*4	.42643	How satisfied are you with the people you could really count on to help you if a person whom you thought was a good friend insulted you and told you that (s)he didn't want to see you again?

*complex item

Note: Accounts for 3.1% of the original variance and 5.3% of the solution variance.

Factor 5

Item #	Loading	Item Content
*31	.48123	Whom do you feel would help if a friend of yours had been in a car accident and was hospitalized in serious condition?

*complex item

Note: Accounts for 2.9% of the original variance and 5.1% of the solution variance.

TABLE 16

SSQ Factor 1: Support Satisfaction

Item #	Loading	Item Content
50	.77780	How satisfied are you with the people you can really count on to console you when you are very upset?
46	.75441	How satisfied are you with the people you can really count on to help you feel better when generally down-in-the-dumps?
44	.75150	How satisfied are you with the people you can really count on to tell you, in a thoughtful manner, when you need to improve some way?
28	.74024	How satisfied are you with the people you can count on to listen openly and uncritically to your innermost feelings?
18	.73002	How satisfied are you with the people you can really count on to be dependable when you need help?
38	.72847	How satisfied are you with the people who accept you totally, including both your worst and your best points?
36	.72134	How satisfied are you with the people who you feel would help if a family member very close to you died?
40	.72098	How satisfied are you with the people who you can really count on to care about you regardless of what is happening to you?
34	.72088	How satisfied are you with the people who you can really count on to help you feel more relaxed when you are under pressure or tense?
24	.71258	How satisfied are you with the people who you feel really appreciate you as a person?
26	.71242	How satisfied are you with the people who you can really count on to give you useful suggestions that help you to avoid making mistakes?
52	.70937	How satisfied are you with the people who

- you can really count on to support you in the major decisions that you make?
- 42 .68847 How satisfied are you with the people you can really count on to listen to you when you are angry at someone else?
- 32 .68561 How satisfied are you with the people who you feel would help if a friend of yours had been in a car accident and was hospitalized in serious condition?
- 20 .67709 How satisfied are you with the people you could really count on to help you if you had just been fired from your job or expelled from school?
- 30 .67512 How satisfied are you with the people who will comfort you when you need it by holding you in their arms?
- 16 .67220 How satisfied are you with the people you can really count on to distract you from your worries when you feel under stress?
- 22 .67019 How satisfied are you with the people who you can really be yourself with?
- *48 .66927 How satisfied are you with the people you feel truly love you deeply?
- 12 .66675 How satisfied are you with the people you can talk to frankly, without having to watch what you say?
- 54 .66223 How satisfied are you with the people you can really count on to help you feel better when you are very irritable, ready to get angry or almost anything?
- 10 .62399 How satisfied are you with the people you could really count on to help you out in a crisis situation, even though they would have to go out of their way to do so?
- 14 .61918 How satisfied are you with the people who help you feel that you truly have something positive to contribute to others?
- 8 .59357 How satisfied are you with the people who you feel would help you if you were married and had just separated from your spouse?
- 2 .57715 How satisfied are you with the people who you can really count on to listen to you

when you need to talk?

- | | | |
|----|--------|--|
| *4 | .54505 | How satisfied are you with the people you could really count on to help you if a person you thought was a good friend insulted you and told you that (s)he didn't want to see you again? |
| 6 | .52252 | How satisfied are you with the people whose lives you feel you are an important part of? |

*complex item

Note: Accounts for 24.5% of the original variance and 42.4% of the solution variance.

TABLE 17

SSQ Factor 2: Accessible and Perceived Network Size

Item #	Loading	Item Content
15	.75456	Whom can you really count on to distract you from your worries when you feel under stress?
41	.74636	Whom can you really count on to listen to you when you are angry at someone else?
45	.73701	Whom can you really count on to help you feel better when generally down-in-the dumps?
9	.73312	Whom could you really count on to help you out in a crisis situation even though they would have to go out of their way to do so?
25	.73257	Whom can you really count on to give you useful suggestions that help you to avoid making mistakes?
39	.72212	Whom can you really count on to care about you, regardless of what is happening to you?
17	.71978	Whom can you really count on to be dependable when you need help?
49	.70881	Whom can you count on to console you when you are very upset?
13	.70753	Who helps you feel that you truly have something positive to contribute to others?
37	.70523	Who accepts you totally, including both your worst and your best points?
23	.70239	Whom do you feel really appreciates you as a person?
19	.69540	Whom could you really count on to help if you had just been fired from your job or expelled from school?
27	.69334	Whom can you count on to listen openly and uncritically to your innermost feelings?

7	.69041	Whom do you feel would help you if you were married and had just separated from your spouse?
53	.68703	Whom can you really count on to help you feel better when you are very irritable, ready to get angry at almost anything?
33	.68095	Whom can you really count on to help you feel more relaxed when you are under pressure or tense?
3	.68056	Whom could you really count on to help you if a person whom you thought was a good friend insulted you and told you that (s)he didn't want to see you again?
51	.67757	Whom can you really count on to support you in major decisions that you make?
11	.66192	Whom can you talk with frankly, without having to watch what you say?
35	.65445	Whom do you feel would help if a family member very close to you died?
1	.63028	Whom can you really count on to listen to you when you need to talk?
43	.62863	Whom can you really count on to tell you, in a thoughtful manner, when you need to improve in some way?
21	.62576	With whom can you be totally yourself?
*47	.59715	Whom do you feel truly loves you deeply?
29	.58614	Who will comfort you when you need it by holding you in their arms?
5	.58402	Whose lives do you feel that you are an important part of?
*31	.51977	Whom do you feel would help if a friend of yours had been in a car accident and was hospitalized in serious condition?

*complex item

Note: Accounts for 19.6% of the original variance and 41.8% of the solution variance.

The second factor was called "Accessible and Perceived Network Size" (see Table 17). While it seems to reflect both the size of the social network actually utilized, and the size of the network which is perceived as available, those items reflecting utilized social resources seem to be more important. A variety of types of social support appear to be tapped by the factor. However, similar to Factor 1, items reflecting availability of resources for alleviating emotional stress and those suggesting perceived unconditional acceptance and esteem seem to take precedence over those pertaining to instrumental assistance.

Both of these factors tap all of the qualitative types of social support (Category D) delineated by Turner in his taxonomy. In addition, each seems to reflect both utilized and accessible support (Category E). However, while Factor 1 is subjective (Category A), Factor 2, in emphasizing network size, reflects quantitative network characteristics (Category E).

SS:R

This factor analysis of the SS:R extracted seven interpretable factors. However, analyses evaluating the reliability of this solution (described previously) suggested that its last four factors were unstable; two interpretable factors (Factors 7 & 9) are among these four factors. While all seven interpretable factors are described below, the two which are of questionable reliability were not included in the factor analysis on weighted factor scores. Two factors (6 & 8) which were considered uninterpretable were also excluded.

TABLE 18
SS:R Factor 1: Network Bulk

Item #	Loading	Item Content
1	.76480	Size of social network which provides emotional support.
25	.74543	Size of social network which provides practical assistance.
49	.73110	Size of social network which provides guidance.
35	.72322	Density of social network which provides practical assistance.
59	.69227	Density of social network which provides guidance.
37	.68989	Size of social network which provides financial assistance.
47	.68341	Density of social network which provides financial assistance.
11	.67974	Density of social network which provides emotional support.
13	.65640	Size of social network which provides socializing.
23	.58581	Density of social network which provides socializing.

Note: Accounts for 9.8% of the original variance and 15.5% of the solution variance.

TABLE 19
SS:R Factor 2: Depth of Relationships

Item #	Loading	Item Content
5	.78116	Multiplexity of relationships which provide emotional support.
17	.77965	Multiplexity of relationships which provide socializing.
29	.73939	Multiplexity of relationships which provide practical assistance.
53	.69018	Multiplexity of relationships which provide guidance.
15	.67884	Closeness of relationships with people who provide socializing.
27	.64966	Closeness of relationships with people who provide practical assistance.
51	.61639	Closeness of relationships with people who provide guidance.
3	.60470	Closeness of relationships with people who provide emotional support.
*41	.43091	Multiplexity of relationships with people who provide financial assistance.
*14	.41037	Balance of relationships with people who provide socializing.

*complex item

Note: Accounts for 9.0% of the original variance and 14.2% of the solution variance.

TABLE 20
SS:R Factor 3 Predominance of Colleagues

Item #	Loading	Item Content
32	.83267	Proportion of work/classmates in network which provides practical assistance.
8	.80451	Proportion of work/classmates in network which provides emotional support.
56	.79714	Proportion of work/classmates in network which provides guidance.
20	.84582	Proportion of work/classmates in network which provides socializing.
44	.72935	Proportion of work/classmates in network which provides financial assistance.
30	-.54934	Proportion of family members in network which provides practical assistance.
6	-.52513	Proportion of family members in network which provides emotional support.
54	-.41208	Proportion of family members in network which provides guidance.
*42	-.40232	Proportion of family members in network which provides financial assistance.

*complex item

Note: Accounts for 7.7% of the original variance and 12.1% of the solution variance.

Factors 1, 2, 5, and 9 seem to tap descriptive aspects of social networks. The first factor was called "Network Bulk" (see Table 18). It seems to reflect the scope or mass of respondents' social networks. Scores relating to both the number of individuals listed as supplying different types of social support (i.e., emotional, practical, and financial assistance, guidance and socializing), and the density of each type of social network load on this factor. Factor 2 was labeled "Depth of Relationships" and seems to tap items reflecting the closeness and complexity of relationships with individuals in social networks which provide each type of support (see Table 19). The labels given to the fifth and ninth factors, "Frequency of Contact" and "Support Satisfaction" respectively, are self-explanatory (see Tables 22 and 23).

Factors 3, 4, and 7 reflect aspects of social network composition. Factor 3 was called "Predominance of Colleagues" (see Table 20). The items loading on it seem to tap the balance between peers and family members within respondents' social networks, or the proportion of network members who are work- or classmates as opposed to family members. The fourth factor, entitled "Fellow Organization Members", reflects the proportion of network members who are affiliated with the same religious institution, fraternity, sorority or other organization as the respondent (see Table 21). Factor 7 was labeled "Neighbours" and taps the degree to which social networks are composed of neighbours (see Table 23).

All of the factors described above tap all of the qualitative types of social support included in Turner's framework (Category D). Each also reflects utilized rather than accessible support (Category E). However, while Factors 1, 2, and 5 reflect quantitative network characteristics

TABLE 21

SS:R Factor 4: Fellow Organization Members

Item #	Loading	Item Content
33	.9300	Proportion of fellow organization members in network which provides practical assistance.
57	.90200	Proportion of fellow organization members in network which provides guidance.
21	.87329	Proportion of fellow organization members in network which provides socializing.
9	.87026	Proportion of fellow organization members in network which provides emotional support.
45	.83047	Proportion of fellow organization members in network which provides financial assistance.

Note: Accounts for 7.4% of the original variance and 11.7% of the solution variance.

TABLE 22
Factors 5 and 6 on the SS:R

Factor 5: Frequency of Contact

Item #	Loading	Item Content
26	.81860	Frequency of contact with network members who provide practical assistance.
50	.81548	Frequency of contact with network members who provide guidance.
2	.69758	Frequency of contact with network members who provide emotional support.
38	.66178	Frequency of contact with network members who provide financial assistance.
14	.63036	Frequency of contact with network members who provide socializing.
*52	.46436	Reciprocity of relationships which provide guidance.
*complex item		

Note: Accounts for 6.7% of the original variance and 10.6% of the solution variance.

Factor 6

Item #	Loading	Item Content
40	.81637	Balance of relationships with network members who provide financial assistance.
39	.74482	Closeness of relationships with network members who provide financial assistance.
*41	.67228	Multiplexity of relationships with network members who provide financial assistance.
*42	.65171	Proportion of family members in network who provide financial assistance.
*complex item		

Note: Accounts for 6.0% of the original variance and 9.4% of the solution variance.

TABLE 23
Factor 7, 8 and 9 on the SS:R

Factor 7: Neighbours

Item #	Loading	Item Content
19	.84547	Proportion of neighbours in network which provides socializing.
31	.82648	Proportion of neighbours in network which provides practical assistance.
55	.82622	Proportion of neighbours in network which provides guidance.
7	.78787	Proportion of neighbours in network which provides emotional support.
43	.70697	Proportion of neighbours in network which provides financial assistance.

Note: Accounts for 5.6% of the original variance and 9.2% of the solution variance.

Factor 8

Item #	Loading	Item Content
58	.75332	Proportion of members of the respondent's sex who provide guidance.
34	.73833	Proportion of members of the respondent's sex who provide practical assistance.
22	.70705	Proportion of members of the respondent's sex who provide socializing.
46	.57038	Proportion of members of the respondent's sex who provide financial assistance.
10	.55084	Proportion of members of the respondent's sex who provide emotional support.
28	.47418	Reciprocity of relationships which provide practical assistance.
*16	.45075	Reciprocity of relationships which provide socializing.

*52 .43727 Reciprocity of relationships which provide guidance.

*complex item

Note: Accounts for 5.8% of the solution variance and 9.1% of the solution variance.

Factor 9: Support satisfaction

Item #	Loading	Item Content
36	.76388	Satisfaction with relationships which provide practical assistance.
60	.73669	Satisfaction with relationships which provide guidance.
24	.68905	Satisfaction with relationships which provide socializing.
12	.68305	Satisfaction with relationships which provide emotional support.
48	.65730	Satisfaction with relationships which provide financial assistance.

Note: Accounts for 5.1% of the original variance and 8.1% of the solution variance.

(Category C), Factors 3, 4 and 6 relate to the sources of social support (Category F). Factor 9 is somewhat different, tapping subjective evaluations of support received (Category B).

Summary Scores Used by the Instruments' Authors

Of the six factors in the solution adopted for the summary scores used by the instruments' authors, the last two were uninterpretable (see Table 24). Factor 1, entitled "Measures of Network Bulk", seems to tap those scores which quantify network size and density (see Table 25). The second factor was labeled "Evaluative Measures" (see Table 26). Scores which load on this factor seem to be subjective or evaluative in nature. They reflect satisfaction with support received, as well as with the amount of support which is accessible. This factor seems to tap perception of others' supportiveness and the availability of social support resources should the need arise. Also loading on Factor 2 are scores which reflect subjective evaluations of qualities of relationships such as closeness.

Factors 3 and 4 reflect social network characteristics (see Table 27). Loading positively on Factor 3 are those scores which reflect the proportion of the social network made up of relatives, while items tapping non-kin network members (i.e., close friends and class/workmates) load negatively. Factor 3 was thus labeled "Network Composition - Proportion Kin". The fourth factor, called "Measures of Social Distance", appears to reflect the degree to which social networks are composed of non-intimate members (see Table 27). Scores reflecting closeness of relationships with network members load negatively on this factor.

TABLE 24

Factors 5 and 6 for the Test Scores Used by the Instruments' Authors

<u>Factor 5</u>		
Score	Loading	Content
PRSECT4	.71321	Proportion of network members who the respondent knows from his/her fraternity/sorority (SS:R).
PRSEX	-.56562	Proportion of network members who are of the same sex as the respondent (SS:R).
*PRREL2	.56074	Proportion of network members who are members of the respondent's immediate family (SS:R).

*complex item

Note: Accounts for 5.4% of the original variance and 10.3% of the solution variance.

<u>Factor 6</u>		
Score	Loading	Content
PRSECT3	.81567	Proportion of network members who the respondent knows from his/her church (SS:R).
PRREL7	.47157	Proportion of network members who are not the respondent's spouse, immediate or extended family, intimate sexual partner, close friend, or social acquaintance (SS:R).
PRSECT5	-.41265	Proportion of network members who know the respondent from someplace other than being neighbours, work/classmates, fellow church members, or fellow fraternity/sorority members (SS:R).

Note: Accounts for 5.4% of the original variance and 10.3% of the solution variance.

TABLE 25

Factor 1 for the Test Scores Used by the Instruments' Authors

<u>Measures of Network Bulk</u>		
Score	Loading	Content
PNETWORK	.86503	Size of the social network which provides the respondent with practical assistance (SS:R).
GNETWORK	.83613	Size of the social network which provides the respondent with guidance (SS:R).
PNETWORK	.81129	Size of the social network which provides the respondent with financial assistance (SS:R).
ENETWORK	.77868	Size of the social network which provides the respondent with emotional support (SS:R).
SNETWORK	.77558	Size of the social network which provides the respondent with socializing (SS:R).
TOTNET	.76560	Total network size (SS:R).
TOTKNOW	.41520	Mean network density (SS:R).

Note: Accounts for 15.2% of the original variance, and 28.6% of the solution variance.

TABLE 26

Factor 2 for the Test Scores Used by the Instruments' Authors

<u>Evaluative Measures</u>		
Score	Loading	Content
SSQS	-.72433	Mean support satisfaction across situations (SSQ).
PSSFR	.72073	Perceived support from friends (PSS-Fr).
PSSFA	.69928	Perceived support from family members (PSS-Fa).
TOTSATIS	.67814	Mean support satisfaction across support networks (SS:R).
SSQN	.63116	Mean support network size across situations (SSQ).
*TOTCLOSE	.51512	Mean perceived closeness of relationships with network members (SS:R).
TOTCOMPL	.48191	Mean multiplexity of relationships with network members (SS:R).

*complex item

Note: Accounts for 12.5% of the original variance and 23.6% of the solution variance.

TABLE 27

Factors 3 and 4 for the Test Scores Used by the Instruments' Authors

Factor 3: Network Composition-Proportion

Score	Loading	Content
*PRSECT5	.79604	Proportion of network members who know the respondent from someplace other than being neighbours, class/workmates, fellow church members, or fellow fraternity/sorority members (SS:R).
PRSECT2	-.72365	Proportion of network members who know the respondent from school or work (SS:R).
PRREL5	-.56040	Proportion of network members who are close friends (SS:R).
PRREL3	.48508	Proportion of network members who are extended family members (SS:R).
PRREL2	.43504	Proportion of network members who are members of the respondents immediate family (SS:R).

*complex item

Note: Accounts for 7.8% of the original variance and 14.7% of the solution variance.

Factor 4: Measures of Social Distance

Score	Loading	Content
PRREL6	.81470	Proportion of network members who are social acquaintances (SS:R).
*TOTCLOSE	-.56037	Mean perceived closeness of relationships with network members (SS:R).
*PRREL5	-.56027	Proportion of network members who are close friends (SS:R).

*complex item

Note: Accounts for 6.6% of the original variance and 12.6% of the solution variance.

The factors generated in this factor analysis suggest that the summary scores recommended by the authors of the five social support instruments reflect a number of the categories in Turner's taxonomy. The first and fourth factors delineate quantitative characteristics of support (Category C), network size and closeness of relationships, respectively. The second factor draws on both accessibility and utilization of support (Category E), but seems to most reflect subjective evaluations of it (Category B). Finally, Factor 3 is most descriptive of Turner's Category F, the sources of support.

Weighted Factor Scores

The solution for the analysis of the weighted factor scores yielded four interpretable factors. The fifth factor had only one item and was therefore not interpreted (see Table 29). Loading on the first factor, called "Support Perceived from Friends", are those scores which reflect subjective evaluations of both utilized and accessible social support from friends (see Table 28). However, in this factor support given by friends seems to have greater emphasis than that perceived as accessible. In addition, while many qualitative aspects of social support seem to be tapped by this factor, availability of resources from friends for alleviating emotional stress, and the unconditional acceptance and esteem of friends seem to take precedence over instrumental assistance. Thus, while this factor taps all of the qualitative characteristics of support mentioned by Turner (Category D), as well as both its accessibility and utilization (Category E), the main emphasis seems to be on the subjective evaluation of it (Category B). Factor 1, in addition, seems to reflect a specific source of support (i.e., friends, Category F).

TABLE 28

Factors 1 and 2 for the Weighted Factor Scores

<u>Factor 1: Perceived Support from Friends</u>		
Factor	Loading	Label
PSS-Fr Factor 2	.78273	"Neededness" in Friendships
PSS-Fr Factor 3	.74951	Perceived Closeness and Comfort in Friendships
PSS-Fr Factor 1	.73605	Intimacy and Guidance Received from Friends
SSQ Factor 1	-.53011	Support Satisfaction
SSQ Factor 2	.48428	Accessible and Perceived Network Size

Note: Accounts for 17.1 of the original variance and 26.5% of the solution variance.

<u>Factor 2: Qualitative Aspects of Support</u>		
Factor	Loading	Label
ISSB Factor 2	.86045	Information and Directive Guidance
ISSB Factor 3	.83122	Positive Social Interaction and Approval
ISSB Factor 1	.83011	Affection and Esteem
ISSB Factor 4	.59013	Financial Assistance

Note: Accounts for 16.5% of the original variance and 25.7% of the solution variance.

TABLE 29

Factors 3, 4, and 5 for the Weighted Factor Scores

Factor 3: Perceived Support from Family Members

Factor	Loading	Label
PSS-Fa Factor 1	.75468	Intimacy and Guidance Received from Family
PSS-Fa Factor 3	.75067	Comfort in Family Relationships
SS:R Factor 3	-.66556	Predominance of Colleagues
PSS-Fa Factor 2	.53394	"Neededness" within the Family

Note: Accounts for 13.1% of the original variance, and 20.2% of the solution variance.

Factor 4: Quantitative Network Characteristics

Factor	Loading	Label
SS:R Factor 1	.76403	Network Bulk
SS:R Factor 5	.75472	Frequency of Contact
SS:R Factor 2	.56456	Depth of Relationships

Note: Accounts for 10.6% of the original variance and 16.5% of the solution variance.

Factor 5

Factor	Loading	Label
SS:R Factor 4	.90090	Fellow Organization Members

Note: Accounts for 7.1% of the original variance and 11.1% of the solution variance.

Factor 2 seems to tap the availability of social resources which provide information and guidance to help evaluate stressful situations and solve problems. It also seems to reflect access to relationships which provide distraction from worries, socializing, financial assistance and interpersonal warmth and intimacy (see Table 28). This factor thus appears to emphasize, in Turner's terms, qualitative characteristics of support (Category D).

The third factor, which was labeled "Support Received from Family Members", is similar to Factor 1 in the content areas it taps (see Table 29). Like Factor 1 it seems to emphasize utilized support over accessible support (Turner's Category E). Also similar to Factor 1 it seems to reflect availability of resources for alleviating emotional stress and availability of close, intimate relationships (Turner's Category D). However, this factor appears to place more emphasis on the availability of guidance and reciprocity than Factor 1 and reflects family members rather than friends as the specific source of the above support (Turner's Category F).

Factor 4 seems to largely reflect Turner's Category C, quantitative characteristics of social networks (see Table 29). Loading on this factor are scores which reflect network size and density, frequency of contact with network members and the perceived closeness and complexity of relationships with network members.

DISCUSSION

This study involved assessment of the internal consistency of each of a sample of five social support measures, and corresponding evaluation of the viability of the scoring schemes they utilize. It also involved examination of the structure of social support as tapped across these instruments. The goal was clarification of the relationship between the measurement of social support and the construct.

Results suggest that for the PSS-Fr, the PSS-Fa and the ISSB use of a single score to summarize responses is valid given their psychometric properties. However, factor analysis of the three instruments suggests that use of multiple scores based on their factor structures may provide a greater quantity of useful information than use of a single summary score. Examination of the properties of the SSQ and the SS:R suggest, in general, that the multidimensional scoring systems provided by their authors are appropriate. Internally, each of the five instruments appears to tap a number of aspects of social support which have been differentiated in the literature. As well, the two factor analyses which combine the scores generated from the five instruments suggest that as a group they fall into several discriminable categories of social support. The results thus lend support to the argument that social support may, indeed best be conceptualized as multidimensional.

These conclusions have a number of implications, both theoretical and methodological. However, the validity of these conclusions rests on the

validity of a number of assumptions made in the design of this project. The following sections discuss the implications of this study's findings and evaluate the validity of assumptions made in its design.

Internal Consistency

Results relating to the internal consistency of each instrument will be discussed in light of their consistency with previous research and the subject matter each was designed to measure. In each case, the parsimonious decision would be to combine statistically intercorrelated factors or items to create the fewest possible number of scores. However, for each instrument the factors extracted in the previously described factor analyses are conceptually discriminable and therefore warrant independent examination. The validity of this argument remains to be assessed in future research, examining, for example, the convergent and discriminant validity of empirically derived scoring systems for these instruments. It also remains to establish the stability of the obtained factor solutions across a variety of samples, and to determine viable multidimensional scoring methods for the PSS-Fr, the PSS-Fa and the ISSB. This, perhaps may be accomplished through unitization of the factor loadings (i.e., giving items which load significantly on a factor a weight of one and items with non-significant loadings a weight of zero). An individual's score on a factor would thus be the sum of his/her responses to the items which loaded significantly on that factor. However, in any case, use of factorally based multiple scores will likely provide more detailed information about social support than use of single summary scores.

PSS-Fr and PSS-Fa

These two instruments were designed to measure "the extent to which an individual perceives his/her needs for support, information and feedback are fulfilled by friends (PSS-Fr) and by family (PSS-Fa)" (p. 2, Procidano & Heller, 1983). Cronbach's alpha obtained for each (see Table 3) suggest high internal consistency reliability and are in accordance with figures, discussed earlier, which were obtained in previous validation research (i.e., Procidano & Heller, 1983). Item-total correlations were moderate (see Table 3). Together these results suggest that calculation of a single summary score is valid for both the PSS-Fr and the PSS-Fa.

Contrary to the authors, who reported single-factor solutions (Procidano & Heller, 1983), factor analyses of the PSS-Fr and the PSS-Fa each yielded three theoretically meaningful and discriminable factors with moderately high loadings. Factor 1 on both instruments seems to tap qualitative aspects of social support, in particular perceived affection, and guidance (cf. Turner, 1983). This factor appears to be most representative of what the authors intended these instruments to measure.

Factor 2 seems to best reflect the degree to which respondents also perceive themselves as being a source of support to others. However, as mentioned earlier, it does not neatly fit into any of Turner's categories of social support and in addition, seems to stray from what the authors intended to measure. It is not clear whether provision of support should theoretically be included as part of or separate from the construct of social support. However, on the positive side, Gottlieb (1983) and others (e.g., Coyne & DeLongis, 1986) caution against adoption of a romanticized

view of social support, and stress the need to examine both the costs and benefits of receiving and giving social support.

The third factor, although different across these two instruments reflects the quantitative network characteristic of closeness and degree of integration. In the PSS-Fa the emphasis seems to be on feelings of inclusion; while for the PSS-Fa this factor seems to tap degree of comfort in being vulnerable with family members. In both cases, Factor 3 is reminiscent of Cobb's (1976) definition of social support which includes as part of support the perception of being part of a network of communication and mutual obligation.

Oblique rotation for both instruments suggested that there is correlation between the three factors indicative of approximately 7 to 16 percent overlap in variance. Since a number of writers suggest the interdependence of different facets of social support (e.g., Barrera & Ainlay, 1983; Turner, 1983) this finding is not surprising. However, these three factors also differ conceptually. For this reason, derivation of three scores would likely yield more information than use of a single summary score.

ISSB

This study is in agreement with other research on the ISSB finding that it has high internal consistency reliability (i.e., Barrera, 1981; Barrera et al., 1981) (see Table 3). Based on this information it has been previously suggested that use of one summary score is valid (Barrera, 1981; Stokes & Wilson, 1984). Results of this study do not contraindicate its use.

However, this study and two others, described previously, produced very similar four factor solutions based on different populations and using different methods of factor extraction. This suggests a degree of stability in what the ISSB assesses across samples and that what it assesses is reliably multidimensional.

The authors designed this instrument to assess "social support provisions (which) were thought to include activities directed at assisting others in mastering emotional distress, sharing tasks, giving advice, teaching skills, and providing material aid" (p. 73, Barrera, 1981). The four interpretable factors extracted in this study (Affection and Esteem, Information and Directive Guidance, Positive Social Interaction and Approval, and Financial Assistance) reflect this goal, and parallel different types of social support delineated by Turner (1983). Others (e.g., Barrera & Ainlay, 1983; Cohen & Wills, 1985; Hirsch, 1980) have also identified similar dimensions of social support. It has been hypothesized that these different specific types of support provisions may be differentially related to psychological well-being (e.g., Barrera, 1981; Barrera & Ainlay, 1983). For example, availability of unconditional affection and esteem from others may be a critical factor in development of self-esteem (e.g., Rogers, 1961), while availability of individuals who provide information and directive guidance may serve to buffer the effects of stress (e.g., Cohen & Wills, 1985).

The four factors extracted in this study are intercorrelated to varying degrees, sharing from 4 to 21 percent variance. However, because investigation of the differential effects of specific types of support is desirable (Barrera & Ainlay, 1983) multidimensional scoring of this

instrument may shed light on information that is obscured when a single summary score is used.

SSQ

The SSQ was designed to assess both the perception that there are people available who can be turned to in times of need, and the degree of satisfaction with this support (Sarason et al., 1983). On this basis, two scores are calculated. This study was consistent with other research on the SSQ (i.e., Sarason et al., 1983) in finding very high internal consistency reliability for each score, along with high item-total correlations (see Table 3). This suggests the viability of the two score system proposed by the authors. Its use is further corroborated by the emergence of two strong and clear factors with good, high loadings in the factor analysis of the items of the SSQ. While the two factors showed some overlap in variance (13.4%), they clearly paralleled the SSQ-S and SSQ-N scores, respectively. The above results thus suggest that the SSQ does not lend itself to an alternate scoring system which would allow extraction of more information. In addition, the two factors (and the two scores) seem to reflect two aspects of social support which are frequently mentioned as being important in the literature (i.e., perceived network size (e.g., Gottlieb, 1983; Mitchell & Trickett, 1980) and satisfaction with support (e.g., Barrera, 1981; Cohen & Wills, 1985; Gottlieb, 1983; Turner, 1983)).

SS:R

Results regarding the internal consistency of the SS:R are more difficult to evaluate than those for the other four instruments. Cronbach's alpha calculated for each sub-scale of the SS:R suggest high or moderate internal consistency reliability for most sub-scales (see Table 3). This implies that the multidimensional scoring scheme proposed by the authors is viable.

However, of note are the low Cronbach's alphas for the proportion of network allocated to spouse, immediate family members and intimate sexual partners (see Table 3). The endorsement rate for these items was particularly low, most likely due to the relatively young age of the sample. These scales thus had low internal consistency in this sample, but would likely show higher reliability in older age groups. Also of note are the generally low item-total correlations for all of the scores for the SS:R. However, these are likely an artifact of the generally high frequency of responses which are scored as zero (and not included in the calculation of scores) rather than item inappropriateness.

The authors' aim was development of a comprehensive assessment of social network characteristics (Vaux & Harrison, 1985). Factor analysis of the SS:R suggests the possibility of use of a simplified scoring strategy which combines items into broader descriptive categories than those utilized in the instruments' design. The first factor combines network size and density measures and seems to reflect network scope, or bulk. While this combination represents what Mitchell & Trickett (1980) term structural network characteristics, it does not otherwise seem to appear in the

literature. Factors 2 and 3, on the other hand, do. Factor 2, combining items on relationship closeness and multiplexity seems to mirror the network analytic concept of relationship intensity, or the strength of ties (Mitchell & Trickett, 1980; Walker et al., 1977), while Factor 3 seems similar to the network analytic variable proportion of kin and non-kin (Mueller, 1980). This factor also bears some similarity to the seldom-used network characteristic of homogeneity, or the extent to which members share common social attributes (Mitchell & Trickett, 1980). Factors 4 and 5 do not combine items, tapping solely network composition, proportion of fellow organization members and frequency of contact, respectively.

These five factors are relatively independent, sharing 0.5 to 4.4 percent of variance. This is not surprising as they seem to reflect a rather disparate collection of network characteristics. However, despite the utility of largely uncorrelated factors, use of this factor solution as a basis for an alternative method of scoring the SS:R may not be desirable. There were a number of problems with this analysis, discussed in more detail later, which make its stability suspect. More importantly, this factor solution does not utilize a great deal of the information which respondents supply. Use of the factor solution of the SS:R obtained in this study as a basis for scoring the instrument may thus result in extraction of less potentially useful information than use of the scoring system used by its authors.

Dimensionality of Social Support

Both factor analyses combining summary scores for all five instruments yielded multi-factor solutions with significant interrelations between most factors. This suggests, although tentatively, that social support may be characterized as comprising a number of interrelated dimensions across instruments rather than either a singular construct, or a group of unrelated dimensions. It also suggests that future research might benefit both from using greater specificity as to the dimensions of social support instruments assess and from using a number of measures in order to enable comparisons. However, although these two factor analyses both suggest multiple dimensions of social support, they are not consistent with one another, and both must be taken as speculative. The validity of the above conclusions remains to be assessed and rests ultimately on the utility of research conceptualizing and measuring social support in a multidimensional manner.

The factor analysis on the test scores used by the instruments' authors yielded four interpretable factors as previously discussed. As would be expected due to the predominance of network structure related items in this analysis (21 of 30 scores), interpretation rests largely on structural concepts. That the majority of items in this analysis are from the SS:R (25 of 30) also results in overlap between the two solutions. The under-representation of scores pertaining to other aspects of social support (e.g., subjective and qualitative) means that there were perhaps insufficient representatives to enable emergence of factors directly and specifically tapping them. In addition, the inclusion of the summary scores for the PSS-Fr, the PSS-Fa and the ISSB may have biased this solution toward unidimensional treatment of these instruments.

The factor analyses on the weighted factor scores, described earlier, also yielded four interpretable factors. Based on the criticisms of the analysis of the summary scores used by the instruments' authors above this solution may be a more viable summary of the structure underlying the five instruments. It contains a relatively even representation of scores pertaining to structural, subjective and qualitative aspects of social support. The weighted factor scores may also more adequately represent the scope of dimensions of social support tapped by each individual instrument.

This analysis yielded two factors ("Perceived Support from Friends" and "Perceived Support from Family Members") which seem to tap subjective or evaluative aspects of social support (Turner's Category B). The second and fourth factors seem to reflect qualitative (Turner's Category D) and quantitative (Turner's Category C) aspects of support, respectively. The emergence of the above four factors suggests, although speculatively, that the differentiation between evaluative, qualitative and quantitative aspects of social support in the literature (e.g., Barrera, 1981; Barrera et al., 1981; Leavy, 1983) may be warranted. It also suggests that the source of support (Turner's Category F) may be a dimension of relevance since this seems to differentiate the first and third factors.

A number of authors, as discussed previously (e.g, Gottlieb, 1983; Hammer, 1979; Kessler, 1982; Leavy, 1983), have suggested that structural indices of social support should be viewed as measuring something different and perhaps broader than social support. Whether this analysis supports the above contention is unclear. The intercorrelations between all four of the above factors are statistically significant suggesting shared variance between the measurement types. However, the correlations between Factor 4

and other factors appear lower than the correlations between other factors (see Appendix P).

As a final caveat to this section, it is important to note that the adequacy of the above solution rests on the stability of the factors extracted in the analyses used as the basis for computing the weighted factor scores, as well as on the validity of their interpretation.

A Return to Turner's Framework

Examination of the factors extracted in the analysis of each instrument individually suggests both that more than one domain attributed to social support in the literature is represented in each measure and that the content varies across instruments.

However, none of the included instruments assesses all of the subject areas listed by Turner. While it is debatable whether measurement of all aspects of social support in one instrument is desirable, these gaps substantiate the lag between how social support is conceptualized and how it is measured. There are a number of aspects of social support detailed as important in the literature which are not addressed in any of the included measures. There are also dimensions which, given the goals of the instruments' authors, and/or the emphasis placed on the dimensions in the literature, seem to have been given little attention.

Summary of the Factor Content of the Five Social Support Instruments

Domain Tapped ¹	Instrument	PSS-Fr			PSS-Fa			SSQ	
	Factor Label	1. Intimacy & Guidance Received From Friends	2. "Neededness" in Friendships	3. Perceived Comfort in Friendships	1. Intimacy & Guidance Received From Family	2. "Neededness" Within Relationships	3. Support in Family	1. Accessible & Perceived Network Size	2. Satisfaction
Objectivity of the Data	Objective								X
	Subjective	X	X	X	X	X	X	X	X
Quantitative Characteristics	Intensity								
	Frequency								
	Durability								
	Reciprocity ²		X			X			
	Closeness ²			X			X		
	Integration ²			X			X		
	Network Size ²								
	Density ²								
	Multiplexity ²								
Qualitative Characteristics	Love/Affection	X	X		X	X		X	X
	Status/Esteem							X	X
	Information/ Interpretation							X	X
	Aid/Guidance	X	X		X	X		X	X
Tangibility	Accessible			X			X	X	X
	Utilized	X	X		X	X		X	X
Sources	Spouse								
	Intimates								
	Confidants								
	Parents								
	Children								
	Friends	X	X	X					
	Acquaintances								
	Neighbours								
	Co-workers								
	Associates								
	Professionals								
	Significant Others								
	Family ²				X	X	X		
Specificity	General	X	X	X	X	X	X	X	X
	For Specific Problem								

¹ From Turner (1983), see Table 1, categories B to G.

² Added to Turner's framework.

* Not considered to be reliable enough to be included in the factor analysis of the weighted factor scores.

Table 30 continued

Domain Tapped ¹	Instrument	Factor Label	ISSB							SS:R		
			1. Affection & Esteem	2. Information & Guidance	3. Positive Social Interaction & Directive	4. Financial Social	5. Network Bulk	6. Depth of Relationships	7. Predominance of Colleagues of Members	8. Frequency of Contact	9. Neighbours	10. Support Satisfaction
Objectivity of the Data	Objective		X	X	X	X	X	X	X	X	X	X
	Subjective						X					
Quantitative Characteristics	Intensity											
	Frequency		X	X	X	X				X		
	Durability											
	Reciprocity ²											
	Closeness ²						X					
	Integration ²											
	Network Size ²						X					
	Density ²						X					
	Multiplexity ²						X					
Qualitative Characteristics	Love/Affection		X		X		X	X	X	X	X	X
	Status/Esteem		X		X		X	X	X	X	X	X
	Information/ Interpretation			X			X	X	X	X	X	X
	Aid/Guidance			X		X	X	X	X	X	X	X
Tangibility	Accessible											
	Utilized		X	X	X	X	X	X	X	X	X	X
Sources	Spouse											
	Intimates											
	Confidants											
	Parents											
	Children											
	Friends											
	Acquaintances											
	Neighbours											
	Co-workers										X	
	Associates							X				
	Professionals								X			
	Significant Others											
Specificity	Family ²						X					
	General		X	X	X	X	X	X	X	X	X	X
	For Specific Problem											

¹ From Turner (1983), see Table 1, categories B to G.

² Added to Turner's framework.

* Not considered to be reliable enough to be included in the factor analysis of the weighted factor scores.

Measures representative of both objective and subjective descriptions of social support (Turner's Category B) are present in this sample of instruments (see Table 30). Also sampled are a wide variety of both the quantitative and qualitative characteristics in Turner's Categories C and D, respectively (see Table 30). However, items relating to what Barrera and Ainlay (1983) call positive social interaction, also deemed important by Caplan (1976), Hirsch (1980), Kaplan et al. (1977) and Weiss (1973), seem to have been given short shrift. This is particularly the case for the ISSB, which was explicitly designed to measure this, among other types of support (Barrera, 1981; Barrera et al., 1981). Also under-represented in the ISSB are items which tap instrumental assistance (Turner's "aid"). This type of support has been almost universally differentiated by social support theorists (e.g., Barrera & Ainlay, 1983; Caplan, 1976; Gottlieb, 1978, 1983; Kaplan et al., 1977; Hirsch, 1980). However, in this sample it did not emerge as a discriminable factor for the ISSB.

The instruments included in this study generally emphasize utilization, rather than accessibility of support (Turner's Category D) (see Table 30). While the network size items of the SSQ ask both from whom respondents do receive support, and from whom they would receive support if a given event occurred, the instrument does not seem to differentiate between these two types of questions. A number of writers have suggested that the difference between support actually accessed and support perceived as available is important (e.g., Barrera, 1981; Cohen & Wills, 1985; Gottlieb, 1983). The apparent absence of the consideration of this issue and of accessibility of support on its own in this sample of instruments thus represents a significant gap.

Turner (1983) and a number of others have suggested that both the source (Category D) (e.g., Procidano & Heller, 1983; Tardy, 1985) and the degree of specificity of support (Category E) (e.g., Cohen & Wills, 1985) are influential dimensions. Neither of these issues, however, seem to have been given a great deal of attention in the included sample of instruments.

Evaluation of Assumptions

The applicability of the findings of this study to measurement of social support in general rests on a number of decisions involved in its design. For example, the instruments used in this study were chosen to include representatives of the three types of measures of social support outlined earlier (i.e., structural, evaluative, and functional). This system for classifying measures of social support was chosen because it was used in the literature more frequently than any other classification method. However, a number of other means of classifying measures of social support could have been adopted (e.g., Veiel, 1985; Cohen & Wills, 1985). This might have resulted in choice of different instruments and, perhaps, emergence of a different set of dimensions in the two analyses combining scores across instruments.

Turner's mapping-sentence definition of social support (Turner, 1983) was central in both the interpretation of the factor analyses and the evaluation of the included instruments. This particular integration of conceptualizations of social support differs from others presented in the literature (e.g., Tardy, 1985; Veiel, 1985). Adoption of these other frameworks may have led to highlighting of different issues, and to somewhat different conclusions regarding gaps in this sample of

instruments. For example, Tardy (1985) includes whether support is received or provided as a major dimension of social support. Adoption of his framework would have enabled easy integration of the second factors of the PSS-Fr and the PSS-Fa, which seem to tap precisely this. In addition, based on Tardy's (1985) framework, consideration of the provision of social support is a gap in the sample of instruments included in this study.

Methodological Considerations

The data collected in this study present several noteworthy methodological issues. It will be recalled that a number of items on the ISSB (numbers 1, 4, 20, 22, and 40) showed item-total correlations below .40. All five items relate to provision of instrumental support, or aid. That this dimension did not come out strongly in the factor analysis of the ISSB, suggests that these items may not be very good indicators of this type of support. A number of these items have very similar wording and subject matter. It has been suggested that situations such as this may result in low level factors which simply suggest commonality of wording (Comrey, 1973). Combination of a number of these items which have very similar wording and/or content (e.g., 1 and 44, 22 and 40) may thus result in increased utility of these items.

Skewness of item and test score distributions was present to some extent for all of the included instruments. The distribution of the total test scores for the PSS-Fr and the PSS-Fa were both negatively skewed (see Appendix H). This suggests the possibility that the instruments' items are not able to discriminate between individuals with higher levels of perceived social support. Addition of more (reliable and valid) items might

remedy this situation. Positive skewness for some of the "Relationship" and "Context" items of the SS:R may have been the result of a low overall frequency of endorsement of these item choices. As discussed earlier, the low endorsement frequencies for certain relationship types (i.e., spouse, intimate sexual partner, and immediate family) may be the result of the young average age in this sample. Skewness of these items may thus not be present in other (older) samples. However, in the case of the "Sector" item the majority of responses fell into the "other" category. Perhaps inclusion of a different set of more widely applicable choices may be advisable. Both positively and negatively skewed items were present in the SS:R. As discussed previously, this made transformation to correct for skewness difficult. Any attenuating effects these skewed items may have had on correlations with other items were thus difficult to assess. However, because removal of skewed items resulted in substantial changes in the factor solution for the SS:R, it is likely that they did result in some distortion. In any case, for all of the skewed items and test scores it is not known if these skewed distributions are representative of general population attitudes and/or experiences. The ultimate test will remain their utility, for example, as predictors of psychopathology.

Missing data, as discussed earlier, was problematic for the SSQ and the SS:R in particular. Informal and spontaneous feedback from participants suggested that they found these two instruments particularly tedious to complete. This may account for the relatively high frequency of missing data for these instruments. Perhaps collection of the data for this study in two sittings might have improved the quality of the data collected, particularly for the SSQ and the SS:R.

Future Research

The findings of this study lend support to the argument that social support may best be conceptualized and measured multidimensionally, and suggest several possible directions for future research. This study represents an initial exploration of the issue. Replication with populations broader and more diverse than undergraduate university students is necessary, as is examination of other samples of well-designed instruments. Examination of the stability of these solutions across demographic groups (e.g., age, sex, social class, ethnicity) is also necessary and may provide insight into how social support functions. However, sample sizes larger than the one utilized in this study would be required.

This study did not address the issue of creating easily-used and meaningful multidimensional scoring systems for the PSS-Fr, the PSS-Fa, and the ISSB. As described earlier, unitization of factor loadings may be a fruitful avenue to explore. Expansion of these instruments to increase the breadth of subject matter they cover might also be productive. The analyses in this study may also serve as a stepping-stone toward creation of a more comprehensive multi-score measure of social support. It might assess, for example, the frequency of receipt of a variety of types of support, satisfaction with support received, and perceived accessibility of a variety of types of support.

It also remains to establish that multidimensional scoring of these instruments will, indeed provide more and more useful information than single summary scores. With this goal in mind it seems reasonable to

suggest use of both summary and multidimensional scoring of instruments, as well as using instruments focusing on differing aspects of social support in future research. The ultimate utility of research based on a multidimensional model of social support will be established by its ability to provide insight into the process through which social support is effective.

A final caveat in this study is that attention to the concurrent and predictive validity of measures of social support is also necessary. How exactly this should be assessed is contingent on how social support is conceptualized. Where social support is assumed to be an objective characteristic of relationships and/or social interactions, as for example is implicitly the case with the ISSB and the SS:R, it will be necessary to establish the accuracy of the data they collect (e.g., Antonucci & Israel, 1986; Cutrona, 1986; Milardo, 1983). Research based on this premise most likely would ultimately lead to applications involving, for example, implementation of actual structural changes in individuals' social networks or changes in the types of support individuals seek.

However, if social support is assumed to be purely a question of cognitive appraisal of relationships and/or social interactions then factors which influence individuals' test responses become not so much questions of reliability and validity as descriptive of the process through which individuals cognitively process this type of information. In this case social support becomes a personality-like variable (e.g., Sarason, Sarason & Shearin, 1986) and social desirability becomes more of an issue in test validation. Research geared toward this conceptualization of social support would more likely lead to applications geared toward

modification of how individuals evaluate their social interactions (e.g., as in cognitive behavior modification).

The above may be a somewhat over-simplified view of how social support is conceptualized and of the directions in which research on social support may go. In any case, both of these types of conceptualizations are included under the umbrella of social support (e.g., Turner, 1983). However, calling instruments reflecting these different conceptualizations "just" measures of social support leads to a great deal of confusion and misapplication of research, as can be seen from the present chaos in the area of social support research. Acceptance of social support as multidimensional and adoption of greater terminological precision would decrease a great deal of this confusion and hopefully result in greater ease and effectiveness of research applications.

REFERENCES

- Aneshensel, C. S., & Stone, J. D. (1982). Stress and depression. Archives of General Psychiatry, 39, 1392-1396.
- Antonovsky, A. (1974). Conceptual and methodological problems in the study of resistance resources and stressful life events. In B. S. Dohrenwend and B. P. Dohrenwend (eds.). Stressful Life Events: Their Nature and Effects. New York: Wiley.
- Antonucci, T. C., & Israel, B. A. (1986). Veridicality of social support: A comparison of principal and network members' responses. Journal of Consulting and Clinical Psychology, 54, 432-437.
- Barrera, M., Jr. (1980). A method for the assessment of social support networks in community survey research. Connections, 3, 8-13.
- Barrera, M. Jr. (1981). Social support in the adjustment of pregnant adolescents. In Gottlieb, B. H. (ed.). Social Networks and Social Support (Sage Studies in Community Mental Health, Vol. 4). Beverly Hills: Sage Publications.
- Barrera, M. Jr., & Ainlay, S. L. (1983). The structure of social support: A conceptual and empirical analysis. Journal of Community Psychology, 11, 133-143.
- Barrera, M. Jr., Sandler, I. N., & Ramsay, T. B. (1981). Preliminary development of a scale of social support: Studies on college students. American Journal of Community Psychology, 9, 435-447.

- Bernard, H. R. & Killworth, P. D. (1977). Informational accuracy in social network data. II. Human Communication Research, 4, 3-18.
- Bartlett, M. S. (1950). Tests of significance in factor analysis. British Journal of Psychology, 3, 77-85.
- Blishen, B. R., & McRoberts, H. A. (1976). A revised socio-economic index for occupations in Canada. Canadian Review of Sociology and Anthropology, 13, 71-79.
- Brown, G. W., Bhrolchain, M. N., & Harris, T. (1975). Social class and psychiatric disturbance among women in an urban population. Sociology, 9, 225-254.
- Brown, G. W., & Harris, T. (1978). Social Origins of Depression. London: Tavistock Publications.
- Brown, G. W., & Prudo, R. (1981). Psychiatric disorder in a rural and an urban population: 1. Aetiology of depression. Psychological Medicine, 11, 581-599.
- Brugha, T. S. (1984). Personal losses and deficiencies in social networks. Social Psychiatry, 19, 69-74.
- Caplan, G. (1974). Support systems and community mental health. New York: Behavioral Publications.
- Caplan, G. (1981). Mastery of stress: Psychosocial aspects. American Journal of Psychhiatry, 138, 413-420.

- Caplan, R. D. (1979). Social support, person-environment fit, and coping. In L. F. Furman & J. Gordis (eds.), Mental Health and the Economy. Kalamazoo, MI: UpJohn Institute for Employment Research.
- Cassel, J. (1974). Psychosocial processes and "stress": Theoretical formulation. International Journal of Health Services, 4, 471-482.
- Cassel, J. (1976). The contribution of the social environment to host resistance. American Journal of Epidemiology, 104, 107-123.
- Cattell, R. B. (1966). The Scree test for the number of factors. Multivariate Behavioral Research, 1, 245.
- Chan, K. B. (1977). Individual differences in reaction to stress and their personality and structural determinants: Some implications for community mental health. Social Science and Medicine, 11, 89-103.
- Cobb, S. (1976). Social support as a moderator of life stress. Psychosomatic Medicine, 38, 300-314.
- Cobb, S. (1979). Social support and health through the life course. In M. W. Riley (ed.). Aging from Birth to Death: Interdisciplinary Perspectives. Boulder, Colorado: Westview.
- Cohen, S., & Wills, T. A. (1985). Stress, social support and the buffering hypothesis. Psychological Bulletin, 98, 310-357.
- Comrey, A. L. (1978). Common methodological problems in factor analytic studies. Journal of Consulting and Clinical Psychology, 46, 648-659.
- Comrey, A. L. (1973). A first course on factor analysis. New York: Academic Press.

- Cooley, C. H. (1909). Social Organization. New York: Scribner's.
- Costello, C. G. (1982). Social factors associated with depression: A retrospective community study. Psychological Medicine, 12, 329-339.
- Coyne, J. C., & DeLongis, A. (1986). Going beyond social support: The role of social relationships in adaption. Journal of Consulting and Clinical Psychology, 54, 454-460.
- Cutrona, C. E. (1986). Behavioral manifestations of social support: A microanalytic investigation. Journal of Personality and Social Psychology, 51, 201-208.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16, 297-334.
- D'Arcy, C. (1980). Variations in stress, coping and social support in different age/sex cohorts. Paper presented at Social Sciences Division Program at the Canadian Association on Gerontology. Ninth Scientific and Educational Meeting, Saskatoon, October.
- Dean, A., & Ensel, W. M. (1982). Modelling social support, life events, competence and depression in the context of age and sex. Journal of Community Psychology, 10, 392-408.
- Dean, A., & Ensel, W. M. (1983). Socially structured depression in men and women. In Greenley, J. R. (ed.), Research in Community and Mental Health, Vol. 3, Greenwich, CT: JAI Press.
- Dean, A., & Lin, N. (1977). The stress-buffering role of social support. Journal of Nervous and Mental Disease, 165, 403-417.

- Dean, A., Lin, N., & Ensel, W. M. (1981). The epidemiological significance of social support systems in depression. In R. G. Simmons (Ed.), Research in Community and Mental Health. Greenwich: JAI Press.
- Degler, C. (1980). At Odds. New York: Oxford University Press.
- Dickens, W. J. & Perlman, D. (1982). Friendship over the life-cycle. In S. Duck & R. Gillmour (eds.) Personal Relationships 2: Developing Personal Relationships. New York: Academic Press.
- Dohrenwend, B. S., Dohrenwend, B. P., Dodson, M., & Shrout, P. E. (1984). Symptoms, hassles, social supports, and life events: Problem of confounding measures. Journal of Abnormal Psychology, 93, 222-230.
- Eaton, W. (1978). Life events, social supports and psychiatric symptoms: A reanalysis of the New Haven data. Journal of Health and Social Behavior, 19, 230-234.
- Eckenrode, J. (1983). The mobilization of social supports: Some individual constraints. American Journal of Community Psychology, 11, 509-528.
- Fiore, J., Becker, J., & Coppel, D. (1983). Social network interactions: A buffer or a stress. American Journal of Community Psychology, 11, 423-439.
- Flaherty, J. A., Gaviria, F. M., Black, E. M., Altman, E., & Mitchell, T. (1983). The role of social support in the functioning of patients with unipolar depression. American Journal of Psychiatry, 140, 473-476.
- Freud, S. (1930). Civilization and Its Discontents. New York: Cape and Smith.

- Gadlin, H. (1977). Private lives and the public order: A critical view of the history of intimate relationships in the United States. In G. Levinger & H. L. Raush (eds.) Close Relationships. Amherst: University of Massachusetts Press.
- Gorsuch, R. L. (1974). Factor Analysis. Toronto: W. B. Saunders Company.
- Gottlieb, B. H. (1983). Social Support Strategies: Guidelines for Mental Health Practice. (Sage Studies in Community Mental Health, Vol. 7). Beverly Hills: Sage Publications.
- Greenblatt, M., Becerra, R. M., & Serafetinides, E. A. (1982). Social networks and mental health: An overview. American Journal of Psychiatry, 139, 977-984.
- Guilford, J. P. (1956). Fundamental Statistics in Psychology and Education. New York: McGraw Hill Book Company.
- Hammer, M. (1979). Social supports, social networks and schizophrenia. Paper presented at National Institute of Mental Health Conference on Stress, Social Support and Schizophrenia, Burlington, Vermont.
- Hammer, M. (1981). Social supports, social networks and schizophrenia. Schizophrenia Bulletin, 7, 45-57.
- Heller, K., Swindle, R. W., Jr., & Dusenburg, L. (1986). Component social support processes: Comments and integration. Journal of Consulting and Clinical Psychology, 54, 466-470.
- Henderson, S. (1977). The social network, social support and neurosis: The function of attachment in adult life. British Journal of Psychiatry, 131, 185-191.

- Henderson, A. S. (1981). Social relationships, adversity and neurosis: An analysis of prospective observations. British Journal of Psychiatry, 138, 391-398.
- Henderson, A. S. (1984). Interpreting the evidence on social support. Social Psychiatry, 19, 49-52.
- Henderson, S., Byrne, D. G. Duncan-Jones, P., Scott, R., & Adcock, S. (1980). Social relationships, adversity and neuroses: A study of associations in a general population sample. British Journal of Psychiatry, 136, 574-583.
- Henderson, S., Duncan-Jones, P., McAuley, H., & Ritchie, K. (1978). The patient's primary group. British Journal of Psychiatry, 132, 74-86.
- Hirsch, B. J. (1979). Psychological dimensions of social networks: A multimethod analysis. American Journal of Community Psychology, 7, 263-277.
- Hirsch, B. J. (1980). Natural support systems and coping with major life change. American Journal of Community Psychology, 8, 159-172.
- Hirsch, B. J., & Reischl, T. M. (1985). Social networks and developmental psychopathology: A comparison of adolescent children of a depressed, arthritic or normal parent. Journal of Abnormal Psychology, 94, 272-281.
- Hirschfeld, R. M. A., & Cross, C. K. (1982). Epidemiology of affective disorders. Archives of General Psychiatry, 39, 35-46.
- House, J. S. (1981). Work Stress and Social Support. Reading, Massachusetts: Addison-Wesley.

- Husaini, B. A., Neff, J. A., Newbrough, J. R., & Moore, M. C. (1982). The stress-buffering role of social support and personal confidence among the rural married. Journal of Community Psychology, 10, 409-426.
- Johnson, C. L. (1977). Interdependence, reciprocity and indebtedness: An analysis of Japanese-American kinship relations. Journal of Marriage and the Family, 39, 351-363.
- Johnson, C. L. (1982). Sibling solidarity: Its origins and functioning in Italian-American families. Journal of Marriage and the Family, 44, 155-167.
- Jones, L. M., & Fischer, C. S. (1978). Studying egocentric networks by mass survey. Working Paper #284, Institute of Urban and Regional Development, University of California, Berkeley.
- Kaplan, B., Cassel, J., & Gore, S. (1977). Social support and health. Medical Care, 15, 47-58.
- Kessler, R. C. (1982). Life events, social support and mental illness. In W. R. Gove (ed.). Deviance and Mental Illness. Beverly Hills, California: Sage.
- Kessler, R. C., & Essex, M. (1982). Marital status and depression: The role of coping resources. Social Forces, 61, 484-507.
- Kessler, R. C., Price, R. H., & Wortman, C. B. (1985). Social factors in psychopathology: Stress and social support and coping processes. Annual Review of Psychology, 36, 531-572.

- Killilea, M. (1982). Interaction of crisis theory, coping strategies and social support systems. In H. C. Schulberg, & M. Killilea, (eds.). The Modern Practice of Community Mental Health. San Francisco: Jossey-Bass Inc. Publishers.
- Killworth, P. D. & Bernard, H. R. (1977). Information accuracy in social network data. III: A comparison of triadic structure in behavioral and cognitive data. Social Networks, 2, 19-46.
- LaRocco, J. M., House, J. S., & French, J. R. P. Jr. (1980). Social support, occupational stress and health. Journal of Health and Social Behavior, 21, 202-218.
- Leavy, R. L. (1983). Social support and psychological disorder: A review. Journal of Community Psychology, 11, 3-21.
- Lieberman, M. A. (1986). Social supports - The consequences of psychologizing: A commentary. Journal of Consulting and Clinical Psychology, 54, 461-465.
- Liem, R., & Liem, J. (1978). Social class and mental illness reconsidered: The role of economic stress and social support. Journal of Health and Social Behavior, 19, 139-156.
- Lin, N., & Dean, A. (1984). Social support and depression: A panel study. Social Psychiatry, 19, 83-91.
- Lin, N., Dean, A., & Ensel, W. M. (1981a). Support methodology from the sociological perspective. Schizophrenia Bulletin, 7, 73-90.
- Lin, N., & Ensel, W. M. (1981b). Causal interpretation of interaction effects. Journal of Health and Social Behavior, 22, 195-196.

- Lin, N., & Ensel, W. M. (1984). Depression-mobility and its etiology: The role of life events and social support. Journal of Health and Social Behavior, 25, 176-188.
- Lin, N., Ensel, W. M., Simeone, R. S., & Kuo, W. (1979). Social support, stressful life events and illness: A model and an empirical test. Journal of Health and Social Behavior, 20, 108-119.
- Lin, N., Woelfel, M. W., & Light, S. C. (1985). The buffering effect of social support subsequent to an important life event. Journal of Health and Social Behavior, 26, 247-263.
- Lowenthal, M. F. (1975). Four Stages of Life.
San Francisco: Jossey-Bass.
- Lowenthal, M. F., & Haven, C. (1968). Interaction and adaption: Intimacy as a critical variable. American Sociological Review, 33, 20-30.
- McCannell Saulnier, K. & Rowland, C. (1985). Missing links: An empirical investigation of network variables in high-risk families. Family Relations, 34, 557-560.
- McFarlane, A. H., Neale, K. A., Norman, G. R., Roy, R. G., & Streiner, D. L. (1981). Methodological issues in developing a scale to measure social support. Schizophrenia Bulletin, 7, 90-100.
- McFarlane, A. H., Norman, G. R., Streiner, D. L., & Roy, R. G. (1984). Characteristics and correlates of effective and ineffective social supports. Journal of Psychosomatic Research, 28, 501-510.

- Milardo, R. M. (1983). Social networks and pair relationships: A review of substantive and measurement issues. Sociology and Social Research, 68, 1-18.
- Miller, P., & Ingham, J. G. (1976). Friends, confidants and symptoms. Social Psychiatry, 11, 51-58.
- Mitchell, R. E., & Trickett, E. J. (1980). Task force report: Social networks as mediators of social support (an analysis of the effects and determinants of social networks). Community Mental Health Journal, 16, 27-44.
- Mueller, D. P. (1980). Social networks: A promising direction for research on the relationship of the social environment to psychiatric disorder. Social Science and Medicine, 14A, 147-161.
- Myers, J. (1975). Life events, social integration and psychiatric symptomatology. Journal of Health and Social Behavior, 16, 421-427.
- Oritt, E. J., Behrman, J., & Paul, S. C. (1982). Social support: Conditions related to satisfaction with perceived support. Paper presented at the meeting of the American Psychological Association, Washington, D C.
- Porritt, D. (1979). Social support in crisis: Quality or quantity? Social Science and Medicine, 13A, 715-721.
- Procidano, M. E., & Heller, K. (1983). Measures of perceived social support from friends and from family: Three validation studies. American Journal of Community Psychology, 11, 1-24.

- Rabkin, J. G., & Struening, E. L. (1976). Life events, stress and illness. Science, 194, 1013-1020.
- Rogers, C. R. (1961). On Becoming a Person. Boston: Houghton Mifflin.
- Sandler, I. N. (1980). Social support resources, stress and maladjustment of poor children. American Journal of Community Psychology, 8, 41-52.
- Sandler, I. N., & Barrera, M. Jr. (1980). Social support as a stress buffer: A multidimensional investigation. Paper presented at the meeting of the American Psychological Association, Montreal.
- Sarason, I. G., Levine, H. M., Basham, R. B., & Sarason, B. R. (1983). Assessing social support: The social support questionnaire. Journal of Personality and Social Psychology, 44, 127-139.
- Sarason, I. G., Sarason, B. R., & Shearin, E. N. (1986). Social support as an individual difference variable: Its stability, origins, and relational aspects. Journal of Personality and Social Psychology, 50, 845-855.
- Saulnier, K. (1982). Networks, change and crisis: The web of support. Canadian Journal of Community Mental Health, 1, 5-22.
- Scanzoni, J. (1979). An historical perspective on husband-wife bargaining. In G. Levinger & O. Moles (eds.) Divorce and Separation. New York: Basic.
- Shavelson, R. J. (1981). Statistical Reasoning for the Behavioral Sciences. Boston: Allyn and Bacon Inc.

- Stokes, J. P. (1983). Predicting satisfaction with social support from network structure. American Journal of Community Psychology, 11, 141-152.
- Stokes, J. P., & Wilson, D. G. (1984). The Inventory of Socially Supportive Behaviors: Dimensionality, prediction and gender differences. American Journal of Community Psychology, 12, 53-69.
- Syrotuik, J., & D'Arcy, C. (1984). Social support and mental health: Direct, protective and compensatory effects. Social Science and Medicine, 18, 229-236.
- Tabachnick, B. G., & Fidell, L. S. (1983). Using Multivariate Statistics. New York, New York: Harper and Row, Publishers, Inc.
- Tardy, C. H. (1985). Social support measurement. American Journal of Community Psychology, 13, 187-202.
- Thoits, P. A. (1982). Conceptual, methodological and theoretical problems in studying social support as a buffer against life stress. Journal of Health and Social Behavior, 23, 145-159.
- Thoits, P. A. (1982b). Life stress, social support and psychological vulnerability: Epidemiological considerations. Journal of Community Psychology, 10, 341-362.
- Thoits, P. A. (1986). Social support as coping assistance. Journal of Consulting and Clinical Psychology, 54, 416-423.
- Turner, R. J. (1981). Social support as a contingency of psychological well being. Journal of Health and Social Behavior, 22, 357-367.

- Turner, R. J. (1983). Direct, indirect and moderating effects of social support upon psychological distress and associated conditions. In H. B. Kaplan (ed.), Psychosocial Stress: Trends in Theory and Research. New York: Academic Press.
- Turner, R. J., & Noh, S. (1983). Class and psychological vulnerability among women: The significance of social support and personal control. Journal of Health and Social Behavior, 24, 2-15.
- Vaux, A., & Harrison, D. (1985). Support network characteristics associated with support satisfaction and perceived support. American Journal of Community Psychology, 13, 245-268.
- Veiel, H. O. F. (1985). Dimensions of social support: A conceptual framework for research. Social Psychiatry, 20 156-162.
- Walker, K. N., MacBride, A., & Vachon, M. L. S. (1977). Social support and the crisis of bereavement. Social Science and Medicine, 11, 35-41.
- Wallston, B. S., Devillis, B. M., & DeVillis, R. F. (1983). Social support and physical health. Health Psychology, 2, 367-391.
- Warheit, G. J. (1979). Life events, coping, stress and depressive symptomatology. American Journal of Psychiatry, 136, 502-507.
- Weiss, R. S. (1969). The fund of sociability. Transactions, 6, 36-43.
- Weiss, R. S. (1974). The provisions of social relations. In Z. Rubin (ed.), Doing unto Others. Englewood Cliffs, New Jersey: Prentice-Hall.

- Weiss, R. S. (1982). Relationship of social support and psychological well being. In H. C. Schulberg, & M. Killilea (eds.). The Modern Practice of Community Mental Health, San Francisco: Jossey-Bass Inc. Publishers.
- Wells, J. (1980). Working conditions and subjective stress: Buffering effects of social support. Journal of Occupational Behavior.
- Wheaton, B. (1985). Models for the stress-buffering functions of coping resources. Journal of Health and Social Behavior, 26, 352-364.
- Wolfe, A. W. (1981). Stress, social support and schizophrenia: Discussion. Schizophrenia Bulletin, 7, 173-177.
- Zwick, W. R., & Velicer, W. F. (1986). Comparison of five rules for determining the number of components to retain. Psychological Bulletin, 99, 432-442.

APPENDIX A

Questionnaire Battery

General Instructions

It is common knowledge that social interactions can have a profound impact on how people feel. However, little is known about which aspects of relationships with others are most influential. The purpose of this study is thus to gather information on the relationship between different aspects of social interactions.

Your participation in this research project will involve filling out the attached series of questionnaires. They will take approximately one hour to complete. If you are an Introductory Psychology student, your participation will be worth one experimental credit. You will be asked demographic questions (e.g., your age, sex, year in university, etc.) about yourself and your family. You will also be asked questions about your relationships with other people. It is important to note that there are no right or wrong answers to any of the items on the following questionnaires. I am interested in your opinions and in what your experiences in social relationships have been.

Your participation in this research project is entirely voluntary. If you change your mind about taking part now or at any time during the next hour you are free to leave. If you are an Introductory Psychology student, you will not lose your experimental credit if you do choose to leave. In addition, if there are any questions you find objectionable, please leave them out.

In order to protect the privacy of your responses in this study your answers will be completely anonymous and will be available only to the investigator. Please do not put your name or student number anywhere on the questionnaires.

If you have any questions regarding your participation in this study, please ask the investigator before you begin. Also, please feel free to ask the investigator to explain any instructions or items on any of the questionnaires which you do not understand.

Demographics Questions

Instructions: The questions in this part of the questionnaire ask you to describe yourself, not by giving your name, but by your age, year in university, family background, etc.. Please circle the number beside the best answer for each question, or part of each question, or write the answer in the space provided.

1. Age (Please write your age in the blank provided.) _____
2. Sex (circle one) 1 Male 2 Female
3. What year are you in at university? (Circle one.)
1 first year 2 second year
3 third year 4 fourth year
5 other, please explain _____
4. Are you a full- or part-time student? (Circle one.)
1 Full-time 2 Part-time
5. What is your marital status? (Circle one.)
1 never married
2 married or living as married
3 separated or divorced
4 widowed
6. If you are single, are you involved with anyone? (Circle the best answer.)
1 No
2 Dating a number of people
3 Involved in one casual relationship
4 Involved in one serious relationship
5 Other, please explain _____
7. What are your present living arrangements? (Circle one.)
1 living with parents
2 living in residence on campus
3 living with spouse or equivalent
4 living with roommate(s)
5 living alone
6 other, please explain _____
8. How do you describe yourself? (Circle the one best answer.)
1 White 2 Black or Afro-American
3 North American Indian 4 Oriental or Asian American
5 Other, please explain

9. How much education do your parents have? (Circle one choice for each parent.)

Father	Mother	
1	1	Less than 6th grade
2	2	Between 7th and 9th grades
3	3	Some high school
4	4	Completed high school
5	5	Some college
6	6	Graduated from college
7	7	Some education after college
8	8	Do not know

10. What do you and your parents do for a living? (Circle one choice for each parent and for yourself.)

Father	Mother	Self	
1	1	1	employed full-time
2	2	2	employed part-time
3	3	3	housewife/husband
4	4	4	retired
5	5	5	student
6	6	6	student and employed full- or part-time
7	7	7	unemployed
8	8	8	do not know

11. If you and your parents work, what are your jobs?

father _____

mother _____

self _____

12. How much money do you and your parents make each year? (Circle one choice for each parent and for yourself.)

Father	Mother	Self	
1	1	1	no income
2	2	2	less than \$5,000
3	3	3	\$5,000 to \$14,000
4	4	4	\$15,000 to \$24,000
5	5	5	\$25,000 to \$34,000
6	6	6	\$35,000 to \$44,000
7	7	7	more than \$45,000
8	8	8	do not know

13. Is English your first language? (Circle one choice.)

1 Yes 2 No

ISSB

Instructions: We are interested in learning about some of the ways that people have helped you or tried to make life more pleasant for you over the PAST FOUR WEEKS. Below you will find a list of activities that other people might have done for you, to you, or with you in recent weeks. Please read each item carefully and indicate how often these activities happened to you during the PAST FOUR WEEKS.

Use the following scale to make your ratings:

- 0. Not at all
- 1. Once or twice
- 2. About once a week
- 3. Several times a week
- 4. About every day

Please read each item carefully and select the rating that you think is the most accurate.

	Not at all	Once or twice	About once a week	Several times a week	About every day
1. Looked after a family member while you were away.	0	1	2	3	4
2. Was right there with you (physically) in a stressful situation.	0	1	2	3	4
3. Provided you with a place where you could get away for a while.	0	1	2	3	4
4. Watched after your possessions when you were away (pets, plants, home, apartment, etc.).	0	1	2	3	4
5. Told you what she/he did in a situation that was similar to yours.	0	1	2	3	4
6. Did some activity with you to help you to get your mind off of things.	0	1	2	3	4
7. Talked with you about some interests of yours.	0	1	2	3	4

	Not at all	Once or twice	About once a week	Several times a week	About every day
8. Let you know that you did something well.	0	1	2	3	4
9. Went with you to someone who could take action.	0	1	2	3	4
10. Told you that you are OK just the way you are.	0	1	2	3	4
11. Told you that she/he would keep the things that you talk about private - just between the two of you.	0	1	2	3	4
12. Assisted you in setting a goal for yourself.	0	1	2	3	4
13. Made it clear what was expected of you.	0	1	2	3	4
14. Expressed esteem or respect for a competency or personal quality of yours.	0	1	2	3	4
15. Gave you some information on how to do something.	0	1	2	3	4
16. Suggested some action that you should take.	0	1	2	3	4
17. Gave you over \$25.	0	1	2	3	4
18. Comforted you by showing you some physical affection.	0	1	2	3	4
19. Gave you some information to help you understand a situation you were in.	0	1	2	3	4
20. Provided you with some transportation.	0	1	2	3	4

	Not at all	Once or twice	About once a week	Several times a week	About every day
21. Checked back with you to see if you followed the advice you were given.	0	1	2	3	4
22. Gave you under \$25.	0	1	2	3	4
23. Helped you understand why you didn't do something well.	0	1	2	3	4
24. Listened to you talk about your private feelings.	0	1	2	3	4
25. Loaned or gave you something (a physical object other than money) that you needed.	0	1	2	3	4
26. Agreed that what you wanted to do was right.	0	1	2	3	4
27. Said things that made your situation clearer and easier to understand.	0	1	2	3	4
28. Told you how he/she felt in a situation that was similar to yours.	0	1	2	3	4
29. Let you know that he/she will always be around if you need assistance.	0	1	2	3	4
30. Expressed interest and concern in your well-being.	0	1	2	3	4
31. Told you that she/he feels very close to you.	0	1	2	3	4
32. Told you who you should see for assistance.	0	1	2	3	4

	Not at all	Once or twice	About once a week	Several times a week	About every day
33. Told you what to expect in a situation that was about to happen.	0	1	2	3	4
34. Loaned you over \$25.	0	1	2	3	4
35. Taught you how to do something.	0	1	2	3	4
36. Gave you feedback on how you were doing without saying it was good or bad.	0	1	2	3	4
37. Joked or kidded to try to cheer you up.	0	1	2	3	4
38. Provided you with a place to stay	0	1	2	3	4
39. Pitched in to help you to do something that needed to get done.	0	1	2	3	4
40. Loaned you under \$25.	0	1	2	3	4

PSS-Fr

Directions: The statements which follow refer to feelings and experiences which occur to most people at one time or another in their relationships with friends. For each statement there are three possible answers: Yes, No, Don't know. Please circle the number above the answer you choose for each item.

1 2 3
Yes No Don't know

1. My friends give me the moral support I need.

1 2 3
Yes No Don't know

2. Most other people are closer to their friends than I am.

1 2 3
Yes No Don't know

3. My friends enjoy hearing about what I think.

1 2 3
Yes No Don't know

4. Certain friends come to me when they have problems or need advice.

1 2 3
Yes No Don't know

5. I rely on my friends for emotional support.

1 2 3
Yes No Don't know

6. If I felt that one or more of my friends were upset with me, I'd just keep it to myself.

1 2 3
Yes No Don't know

7. I feel that I'm on the fringe in my circle of friends.

1 2 3
Yes No Don't know

8. There is a friend I could go to if I were just feeling down, without feeling funny about it later.

1 2 3
Yes No Don't know

9. My friends and I are very open about what we think about things.

1 2 3
Yes No Don't know

10. My friends are sensitive to my personal needs.

1 2 3
Yes No Don't know

11. My friends come to me for emotional support.

1 2 3
Yes No Don't know

12. My friends are good at helping me to solve problems

1 2 3
Yes No Don't know

13. I have a deep sharing relationship with a number of friends.

1 2 3
Yes No Don't know

14. My friends get good ideas about how to do things or make things from me.

1 2 3
Yes No Don't know

15. When I confide in friends, it makes me feel uncomfortable.

1 2 3
Yes No Don't know

16. My friends seek me out for companionship.

1 2 3
Yes No Don't know

17. I think that my friends feel that I'm good at helping them solve problems.

1 2 3
Yes No Don't know

18. I don't have a relationship with a friend that is as intimate as other people's relationships with friends.

1 2 3
Yes No Don't know

19. I've recently gotten a good idea about how to do something from a friend

1 2 3
Yes No Don't know

20. I wish my friends were much different.

SS:R

Directions Please read through ALL of the instructions BEFORE you complete this questionnaire. If you do not understand what to do PLEASE ask for assistance.

I would like to ask you some questions about your friends and family, your social relationships in general. First, I would like to know about the people who are important to you in a number of ways:

1. people who give you emotional support,
2. people who you socialize with,
3. people who help you out with practical problems,
4. people who help you out financially,
5. people who give you advice and guidance

NOTE: I do not need to know exactly who these people are, although I will want you to list them (by first name and last initial) so that you can answer questions about specific individuals.

The questions are contained in this booklet. I would like you to indicate your answers on the pages provided beginning on page ____.

In general, I will ask you to list up to ten people who are important to you in each of the areas above. Some of the same people may, of course, be important in several ways (e.g., as providers of emotional support and as people you socialize with). If so, please list them under each relevant category. After you have listed relevant people in your social network, I would like to ask you a series of questions about them. (When the same person is listed under several categories, answer these questions only once.)

QUESTIONS:

1. Emotional support. First I would like you to list (first name and last initial) up to 10 people who provide you with emotional support on pages ____ and _____. To help you think of people, ask yourself the following questions:

Who comforts you, or calms you down, when you are upset?

Who do you feel close to?

Who do you confide in and discuss personal feelings with?

(These questions are just to help you. People may provide emotional support in other ways too.)

2. Socializing. Next, on pages ___ and ___ list up to 10 people with whom you socialize.

To help you think of them, ask yourself these questions:

Who do you visit, or invite to your home/apartment/dorm?

Who do you do things for fun with, i.e., lunch, movies, drinks?

3. Practical Assistance. Next, on pages ___ and ___ list up to 10 people who help you out with practical problems. Ask yourself these questions:

Who would you ask to help you more, or do some other tasks that required extra hands?

Who would you ask to look after your house, children, pets, or plants for a while?

Who do you borrow things from, such as tools, a car, specialized equipment or appliances or other miscellaneous items?

4. Financial Assistance. Next, on pages ___ and ___ list up to 10 people who help you out with financial problems (or would if you needed help). Ask yourself these questions:

Who would you borrow money from, say the equivalent of a month's rent, or mortgage payment?

Who buys you things (meals, clothes, supplies) when you don't have enough money?

5. Advice/Guidance. Next, on pages ___ and ___ list up to 10 people who you turn to for advice and guidance. Ask yourself these questions:

Who do you talk to when you are not sure what to do?

Who do you talk to when you are confused?

Who often provides you with useful and important information?

After you have listed many of the important people in your social network, I would like to ask you some questions about each of these people. The questions and answer choices are listed below. The choices are repeated throughout the questionnaire so that you can see them as you answer the questions. You should answer by circling the number in the appropriate column, which corresponds to the written answer you choose below.

I would like to ask you 8 questions about each person on your list. (If you have listed someone several times, just answer the questions about them the first time).

A. Frequency. How frequently do you talk with this person, either in person or on the telephone?

1. About every day
2. About twice a week
3. Once a week
4. About twice a month
5. About once a month or less

B. Closeness. How close (trusting, intimate) do you feel to this person?

1. Not at all, or a little close
2. Quite close
3. Very close
4. Extremely close

C. Balance. Do you feel that there is equal "give and take" in this relationship, or does one person give more than the other?

1. I give much more than I get
2. I give more than I get
3. We give and take equally
4. I get more than I give
5. I get much more than I give

D. Complexity. Some relationships are simple in the sense that we do just one or a few things with that person, or see them mostly in one setting (e.g., just have lunch with a work-mate, or play sports with someone, but never do anything else). Other relationships are very complex in that we see the person in many capacities and settings, and do a lot of different things with them. How complex is your relationship with each of the people listed?

- 1 simple, we do only a few things together
- 2 fairly complex, we see each other in several different roles and settings
- 3 very complex, we see each other in many different capacities, in different settings, and do many different things together.

E. Relationship. What is the nature of your relationship with this person; is he/she family, friends, etc?

- 1 husband/wife or marital-like partner
- 2 immediate family
- 3 extended family (cousins, uncles, aunts, in-laws, etc.)
- 4 intimate sexual
- 5 close friend
- 6 social acquaintance
- 7 other

F. Sector. Is this person a neighbor, work-mate/classmate, etc.?

- 1 neighbor
- 2 workmate/classmate
- 3 fellow member of church/synagogue or other organization
- 4 sorority sister/fraternity brother
- 5 other

G. Sex. Is this person of the same sex as you?

- 1 Yes
- 2 No

H. Who Knows Who.

I would like to know how many people in your list each person knows. By "knows" I mean more than just knows the name of; I mean has some sort of acquaintance or relationship. Starting with the first person listed, how many people in the entire list does he/she know? Write this number in column H, then go to the second person, etc..

Please use the description of questions A to H on page ___ as a guide for answering them on the page below.

1. Emotional Support

	A	B	C	D	E	F	G	H
person one name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person two name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person three name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person four name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person five name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	

Please use the description of questions A to H on page __ as a guide for answering them on the page below.

	A	B	C	D	E	F	G	H
person six name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person seven name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person eight name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person nine name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person ten name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	

PLEASE USE THIS PAGE AS A GUIDE FOR ANSWERING THE EIGHT QUESTIONS (A THROUGH H) ABOUT EACH PERSON YOU LIST ON PAGE 19. REMEMBER, YOU ARE TO ANSWER ALL OF THE EIGHT QUESTIONS BELOW FOR EACH NEW PERSON YOU LIST. CIRCLE THE APPROPRIATE ANSWER IN THE APPROPRIATE COLUMN FOR EACH QUESTION.

Column A. Frequency. How frequently do you talk with this person, either in person or on the telephone?

Please use the description of questions A to H on page ___ as a guide for answering them on the page below.

2. Socializing

	A	B	C	D	E	F	G	H
person one	1	1	1	1	1	1	1	
name:	2	2	2	2	2	2	2	
	3	3	3	3	3	3		
	4	4	4		4	4		
	5		5		5	5		
					6			
					7			

person two	1	1	1	1	1	1	1	
name:	2	2	2	2	2	2	2	
	3	3	3	3	3	3		
	4	4	4		4	4		
	5		5		5	5		
					6			
					7			

person three	1	1	1	1	1	1	1	
name:	2	2	2	2	2	2	2	
	3	3	3	3	3	3		
	4	4	4		4	4		
	5		5		5	5		
					6			
					7			

person four	1	1	1	1	1	1	1	
name:	2	2	2	2	2	2	2	
	3	3	3	3	3	3		
	4	4	4		4	4		
	5		5		5	5		
					6			
					7			

person five	1	1	1	1	1	1	1	
name:	2	2	2	2	2	2	2	
	3	3	3	3	3	3		
	4	4	4		4	4		
	5		5		5	5		
					6			
					7			

Please use the description of questions A to H on page ___ as a guide for answering them on the page below.

	A	B	C	D	E	F	G	H
person six name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person seven name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person eight name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person nine name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person ten name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	

Please use the description of questions A to H on page __ as a guide for answering them on the page below.

3. Practical Assistance

	A	B	C	D	E	F	G	H
person one name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person two name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person three name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person four name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person five name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	

Please use the description of questions A to H on page ___ as a guide for answering them on the page below.

	A	B	C	D	E	F	G	H
person six name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person seven name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person eight name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person nine name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person ten name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	

Please use the description of questions A to H on page ___ as a guide for answering them on the page below.

4. Financial Assistance

	A	B	C	D	E	F	G	H
person one name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person two name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person three name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person four name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person five name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	

Please use the description of questions A to H on page ___ as a guide for answering them on the page below.

	A	B	C	D	E	F	G	H
person six name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person seven name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person eight name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person nine name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person ten name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	

Please use the description of questions A to H on page __ as a guide for answering them on the page below.

5. Guidance/Advice

	A	B	C	D	E	F	G	H
person one name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person two name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person three name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person four name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person five name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	

Please use the description of questions A to H on page ___ as a guide for answering them on the page below.

	A	B	C	D	E	F	G	H
person six name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person seven name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person eight name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person nine name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	
person ten name:	1 2 3 4 5	1 2 3 4	1 2 3 4 5	1 2 3	1 2 3 4 5 6 7	1 2 3 4 5	1 2	

1. Satisfaction. Finally, I would like to ask you how satisfied you are with each of the areas of support you get. Consider, for instance, the emotional support you get from all the people you listed in that category, how satisfied are you with that support? Using the scale below, circle your answer in the appropriate row below. How about socializing and the other kinds of support/assistance? (Circle one number in each row below.)

	Not at all satisfied	A little satisfied	Moderately satisfied	Very satisfied	Extremely satisfied
1. Emotional Support	1	2	3	4	5
2. Socializing	1	2	3	4	5
3. Practical Assistance	1	2	3	4	5
4. Financial Assistance	1	2	3	4	5
5. Advice/Guidance	1	2	3	4	5

PSS-Fa

Directions: The statements which follow refer to feelings and experiences which occur to most people at one time or another in their relationships with their families. For each statement there are three possible answers: Yes, No, Don't know. Please circle the number above the answer you choose for each item.

1 2 3
Yes No Don't know

1. My family gives me the moral support I need.

1 2 3
Yes No Don't know

2. I get good ideas about how to do things or make things from my family.

1 2 3
Yes No Don't know

3. Most other people are closer to their family than I am.

1 2 3
Yes No Don't know

4. When I confide in the members of my family who are closest to me, I get the idea that it makes them uncomfortable.

1 2 3
Yes No Don't know

5. My family enjoys hearing about what I think.

1 2 3
Yes No Don't know

6. Members of my family share many of my interests.

1 2 3
Yes No Don't know

7. Certain members of my family come to me when they have problems or need advice.

1 2 3
Yes No Don't know

8. I rely on my family for emotional support.

1 2 3
Yes No Don't know

9. There is a member of my family I could go to if I were just feeling down, without feeling funny about it later.

1 2 3
Yes No Don't know

10. My family and I are very open about what we think about things.

1 2 3
Yes No Don't know

11. My family is sensitive to my personal needs.

1 2 3
Yes No Don't know

12. Members of my family come to me for emotional support.

1 2 3
Yes No Don't know

13. Members of my family are good at helping me solve problems.

1 2 3
Yes No Don't know

14. I have a deep sharing relationship with a number of members of my family.

1 2 3
Yes No Don't know

15. Members of my family get good ideas about how to do things or make things from me.

1 2 3
Yes No Don't know

16. When I confide in members of my family, it makes me uncomfortable.

1 2 3
Yes No Don't know

17. Members of my family seek me out for companionship.

1 2 3
Yes No Don't know

18. I think that my family feels that I'm good at helping them solve problems.

1 2 3
Yes No Don't know

19. I don't have a relationship with a member of my family that is as close as other people's relationships with family members.

1 2 3
Yes No Don't know

20. I wish my family were much different.

SSQ

Instructions: The following questions ask about people in your environment who provide you with help or support. Each question has two parts. For the first part, list all the people you know, excluding yourself, whom you can count on for help or support in the manner described. Give the person's initials and their relationship to you (see example). DO NOT LIST MORE THAN ONE PERSON NEXT TO EACH OF THE LETTERS BENEATH THE QUESTION.

For the second part, circle how SATISFIED you are with the overall support you have.

If you have no support for a question, check the words "no one", but still rate your level of satisfaction. Do not list more than nine persons per question.

Please answer all questions as best as you can. All your responses will be kept confidential.

Example:

Ex: Who do you know whom you can trust with information that could get you into trouble?

- | | | |
|-------------|----------------------|-----------------------|
| 0) No one__ | 1) R.N.
(brother) | 2) T.N.
(father) |
| | 3) L.M.
(friend) | 4) B.D.
(employer) |
| | 5) R.S.
(friend) | 6) |
| | 7) | 8) |
| | 9) | |

How Satisfied?

very	fairly	a little	a little	fairly	very
satisfied	satisfied	satisfied	dis-	dis-	dis-
			satisfied	satisfied	satisfied
1	2	3	4	5	6

1. Whom can you really count on to listen to you when you need to talk?

- 0) No one__ 1) 2)
3) 4)
5) 6)
7) 8)
9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

2. Whom could you really count on to help you if a person whom you thought was a good friend insulted you and told you that he/she didn't want to see you again?

- 0) No one__ 1) 2)
3) 4)
5) 6)
7) 8)
9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

3. Whose lives do you feel that you are an important part of?

- 0) No one__ 1) 2)
3) 4)
5) 6)
7) 8)
9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

4. Whom do you feel would help you if you were married and had just separated from your spouse?

- 0) No one__ 1) 2)
- 3) 4)
- 5) 6)
- 7) 8)
- 9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

5. Whom could you really count on to help you out in a crisis situation, even though they would have to go out of their way to do so?

- 0) No one__ 1) 2)
- 3) 4)
- 5) 6)
- 7) 8)
- 9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

6. Whom can you talk with frankly, without having to watch what you say?

- 0) No one__ 1) 2)
- 3) 4)
- 5) 6)
- 7) 8)
- 9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

7. Who helps you feel that you truly have something positive to contribute to others?

- 0) No one__ 1) 2)
3) 4)
5) 6)
7) 8)
9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

8. Whom can you really count on to distract you from your worries when you feel under stress?

- 0) No one__ 1) 2)
3) 4)
5) 6)
7) 8)
9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

9. Whom can you really count on to be dependable when you need help?

- 0) No one__ 1) 2)
3) 4)
5) 6)
7) 8)
9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

10. Whom could you really count on to help you if you had just been fired from your job or expelled from school?

- 0) No one__ 1) 2)
3) 4)
5) 6)
7) 8)
9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

11. With whom can you be totally yourself?

- 0) No one__ 1) 2)
3) 4)
5) 6)
7) 8)
9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

12. Whom do you feel really appreciates you as a person?

- 0) No one__ 1) 2)
3) 4)
5) 6)
7) 8)
9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

13. Whom can you really count on to give you useful suggestions that help you to avoid making mistakes?

- 0) No one__ 1) 2)
 3) 4)
 5) 6)
 7) 8)
 9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

14. Whom can you count on to listen openly and uncritically to your innermost feelings?

- 0) No one__ 1) 2)
 3) 4)
 5) 6)
 7) 8)
 9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

15. Who will comfort you when you need it by holding you in their arms?

- 0) No one__ 1) 2)
 3) 4)
 5) 6)
 7) 8)
 9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

16. Whom do you feel would help if a friend of yours had been in a car accident and was hospitalized in serious condition?

- 0) No one__ 1) 2)
3) 4)
5) 6)
7) 8)
9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

17. Whom can you really count on to help you feel more relaxed when you are under pressure or tense?

- 0) No one__ 1) 2)
3) 4)
5) 6)
7) 8)
9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

18. Whom do you feel would help if a family member very close to you died?

- 0) No one__ 1) 2)
3) 4)
5) 6)
7) 8)
9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

19. Who accepts you totally, including both your worst and your best points?

- 0) No one__ 1) 2)
 3) 4)
 5) 6)
 7) 8)
 9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

20. Whom can you really count on to care about you, regardless of what is happening to you?

- 0) No one__ 1) 2)
 3) 4)
 5) 6)
 7) 8)
 9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

21. Whom can you really count on to listen to you when you are angry at someone else?

- 0) No one__ 1) 2)
 3) 4)
 5) 6)
 7) 8)
 9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

22. Whom can you really count on to tell you, in a thoughtful manner, when you need to improve in some way?

- 0) No one__ 1) 2)
 3) 4)
 5) 6)
 7) 8)
 9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

23. Whom can you really count on to help you feel better when generally down-in-the-dumps?

- 0) No one__ 1) 2)
 3) 4)
 5) 6)
 7) 8)
 9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

24. Whom do you feel truly loves you deeply?

- 0) No one__ 1) 2)
 3) 4)
 5) 6)
 7) 8)
 9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

25. Whom can you count on to console you when you are very upset?

- 0) No one__ 1) 2)
- 3) 4)
- 5) 6)
- 7) 8)
- 9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

26. Whom can you really count on to support you in major decisions that you make?

- 0) No one__ 1) 2)
- 3) 4)
- 5) 6)
- 7) 8)
- 9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

27. Whom can you really count on to help you feel better when you are very irritable, ready to get angry at almost anything?

- 0) No one__ 1) 2)
- 3) 4)
- 5) 6)
- 7) 8)
- 9)

How Satisfied?

very satisfied	fairly satisfied	a little satisfied	a little dissatisfied	fairly dissatisfied	very dissatisfied
1	2	3	4	5	6

APPENDIX B

Debriefing

Dear Participant,

I would like to take this opportunity to thank you for taking part in my research project. I would also like to explain the purpose of this study in a little more detail than I did before.

Social support, or the sense of being cared for, helped and/or guided which is provided by our interactions with other people, has long been thought to have great impact on whether or not people develop physical and psychological disorders. While there has been a great deal of research done on the subject, it has been inconclusive largely due to inconsistencies and inadequacies in the ways social support was measured. The goal of this study was thus to compare a number of the better designed measures of social support to determine how they relate to one another.

It was important that I not tell you the specifics of what this study was about so that your ideas of how social relationships influence your well-being would not bias your answers in this study. I would thus appreciate it if you would refrain from discussing this study with any fellow students who may participate in it in the future.

If you have any questions about this study you would like to discuss I can be found in my office (P201 Duff Roblin). In addition, a summary of the results of this study will be posted outside my office once they have been tabulated (most likely in September).

Again, thank you for your cooperation.

Sincerely,

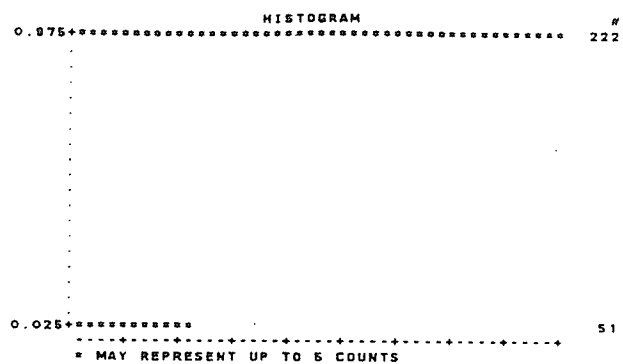
Rebecca Broder

APPENDIX C

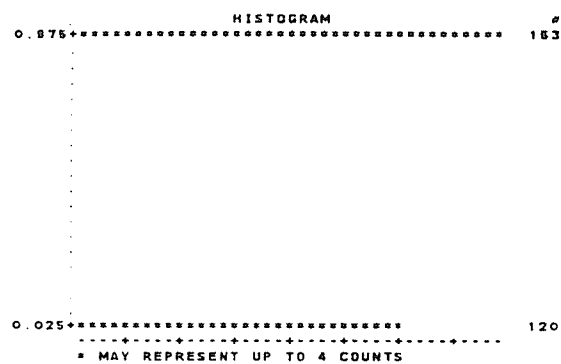
Frequency Histograms for the Items of the PSS-Fr

Frequency Histograms for the Items of the PSS-Fr

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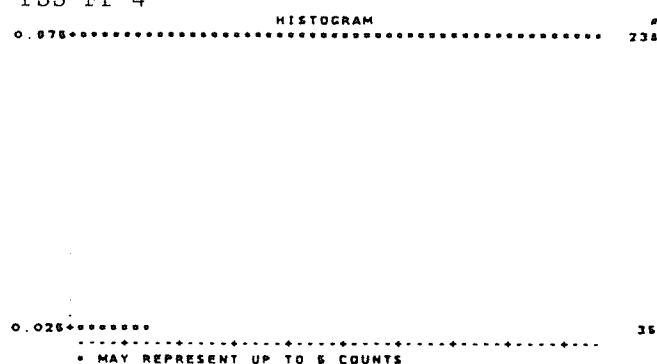
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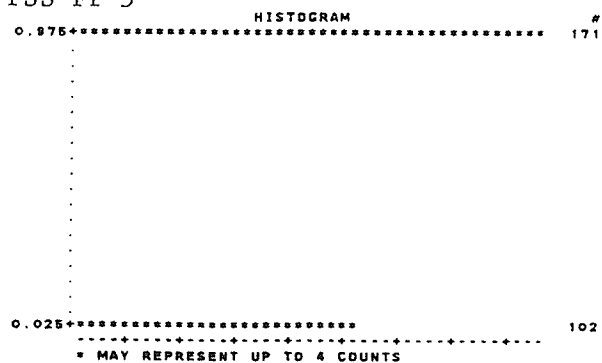
PSS-Fr 3



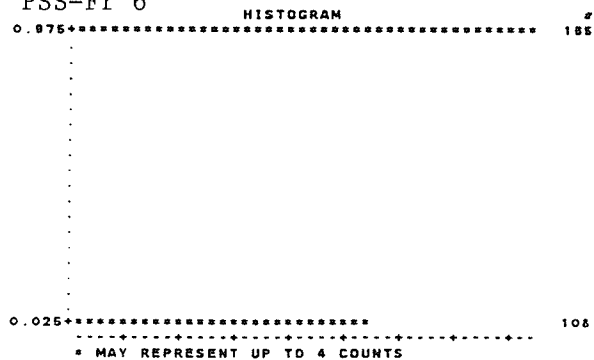
PSS-Fr 4



PSS-Fr 5



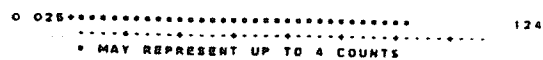
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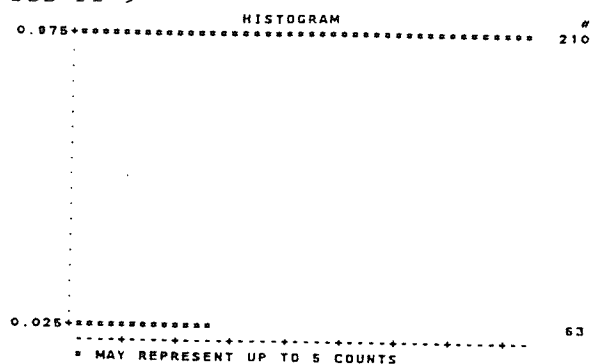
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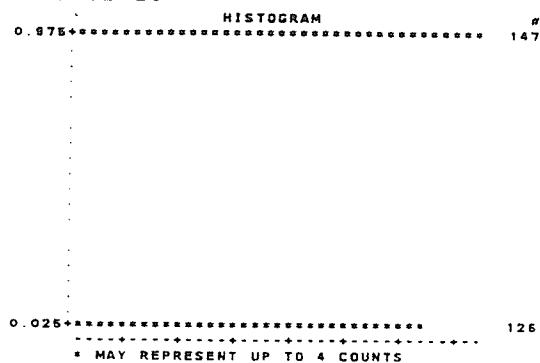
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PSS-Fr 9



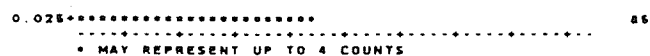
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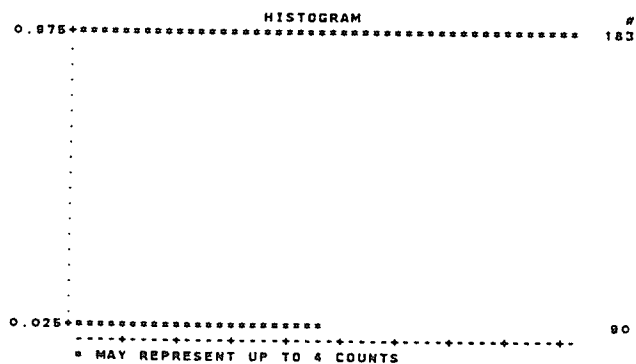
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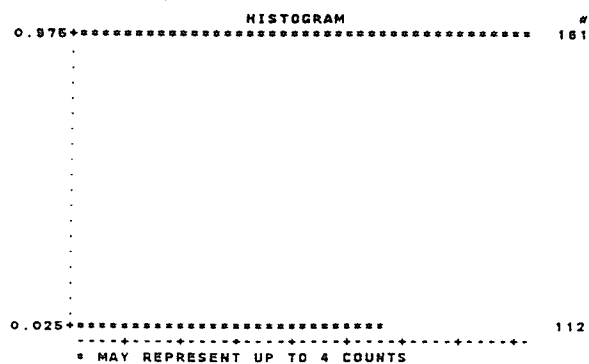
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PSS-Fr 13



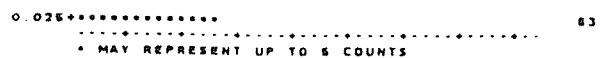
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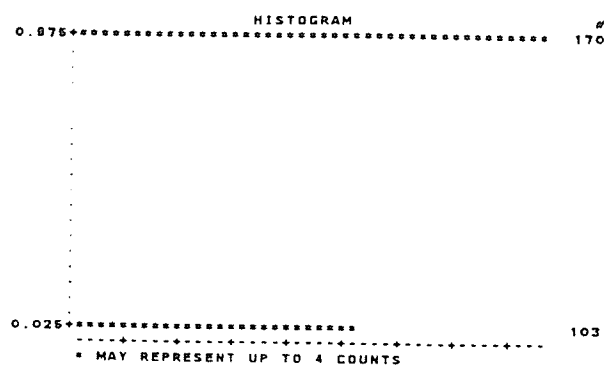
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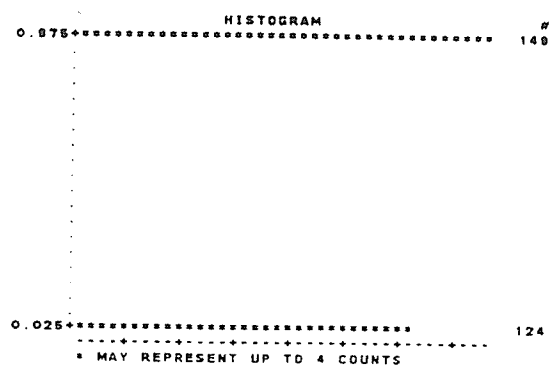
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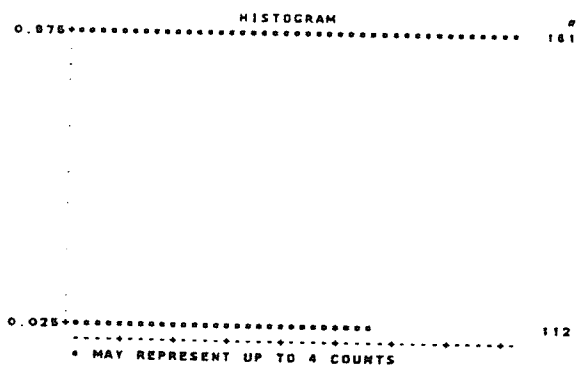
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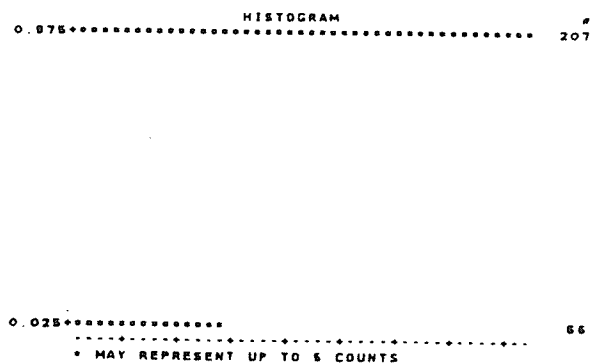
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PSS-Fr 19



PSS-Fr 20

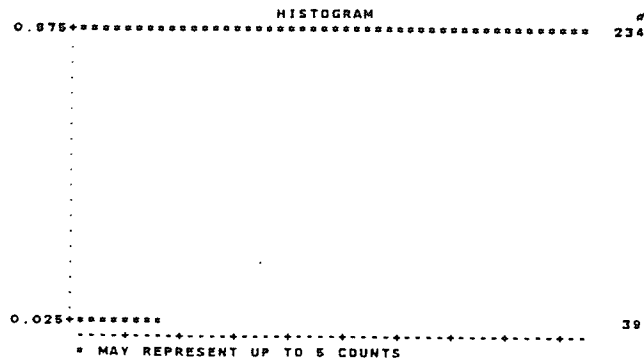


APPENDIX D

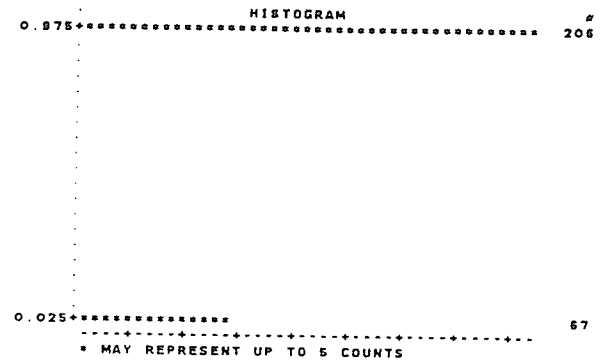
Frequency Histograms for the Items of the PSS-Fa

Frequency Histograms for the Items on the PSS-Fa

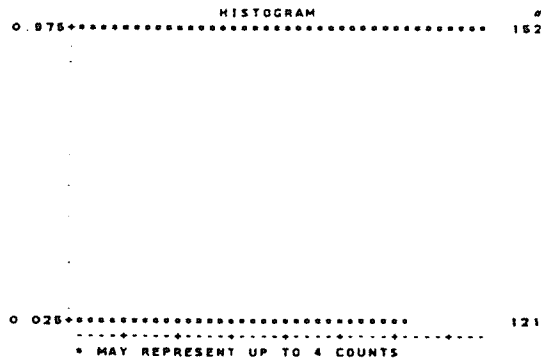
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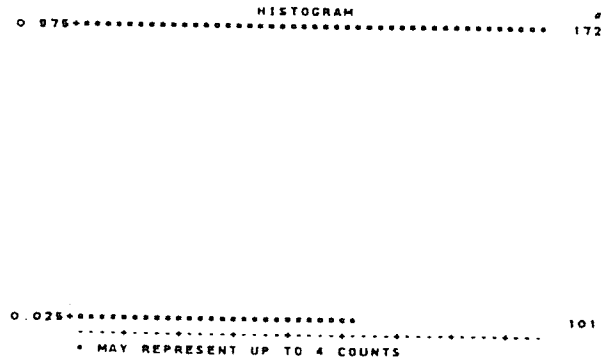
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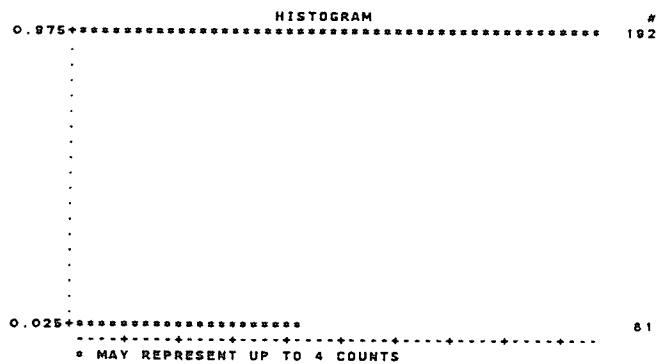
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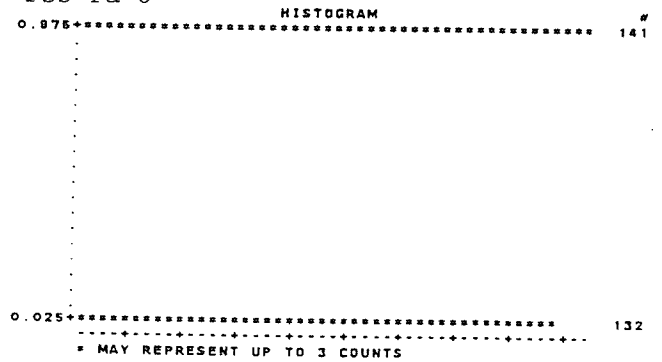
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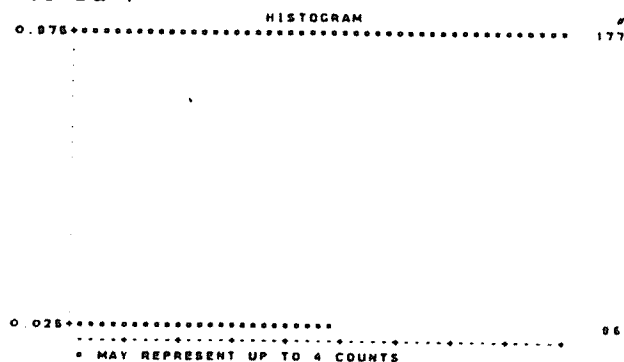
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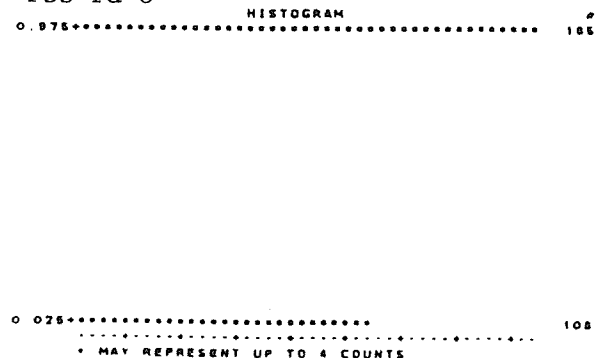
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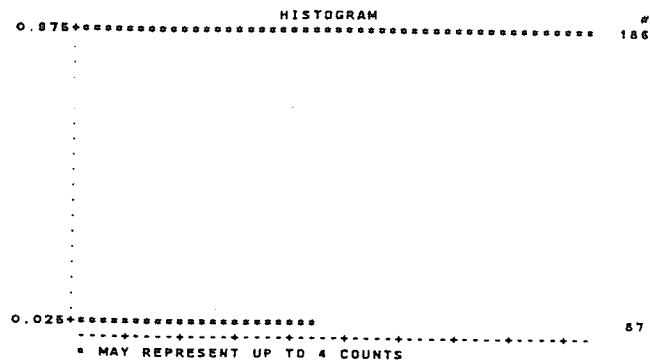
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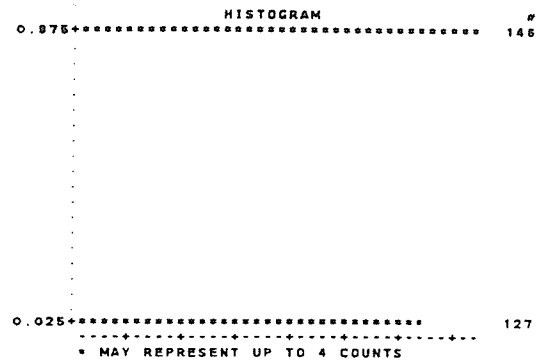
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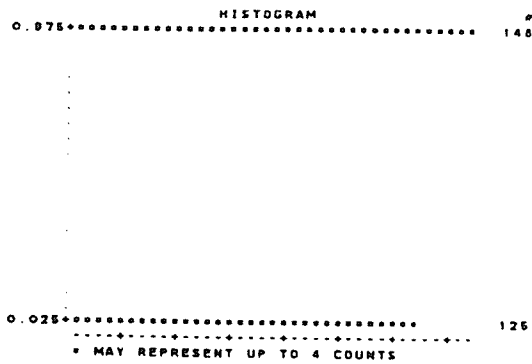
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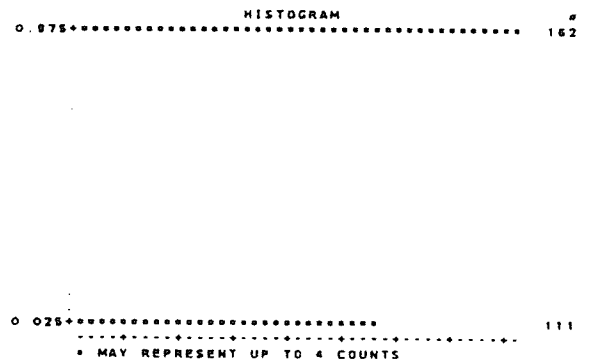
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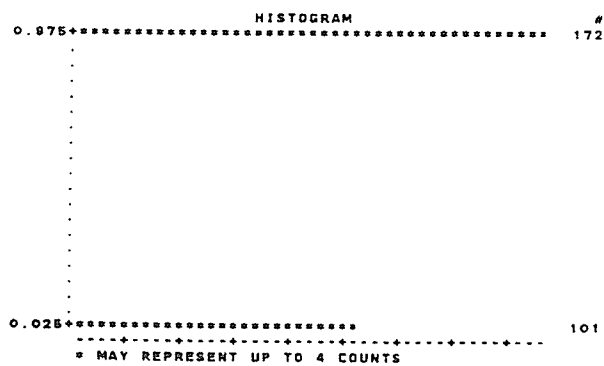
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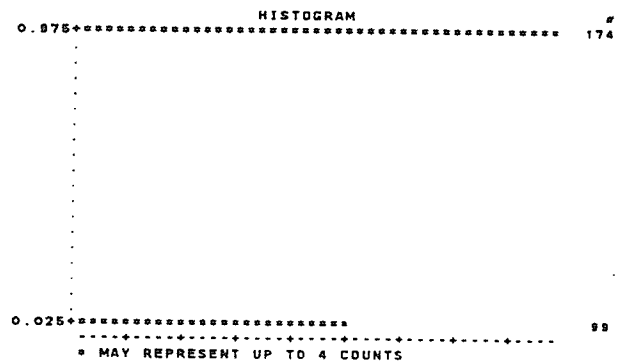
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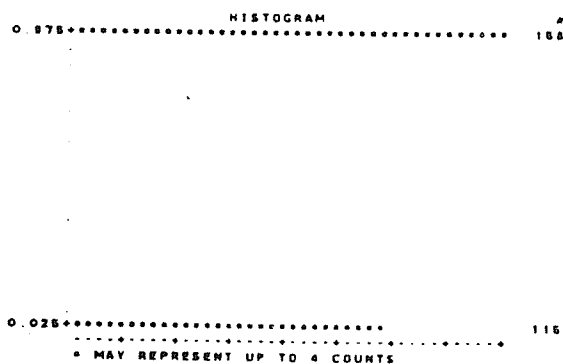
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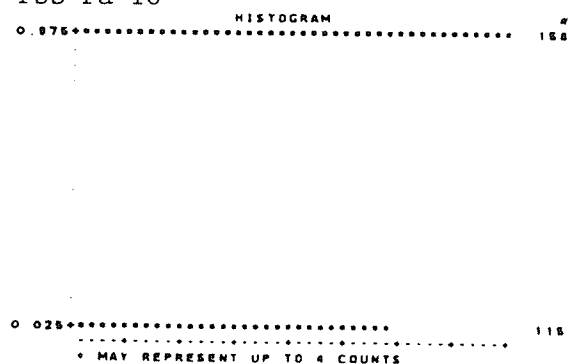
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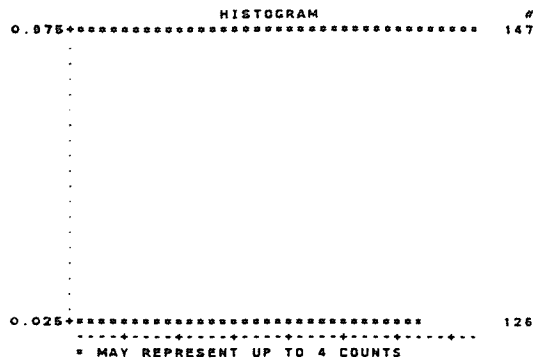
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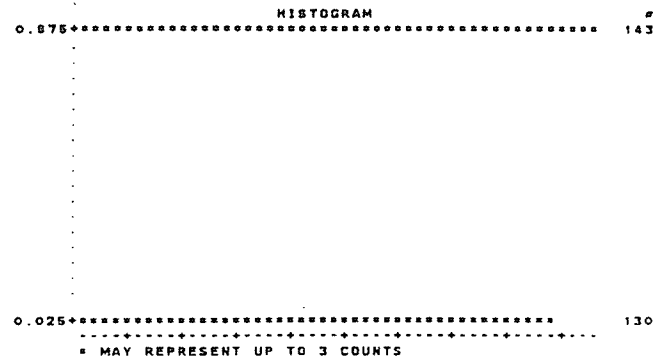
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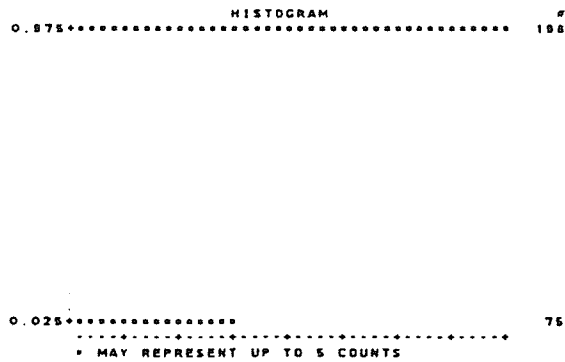
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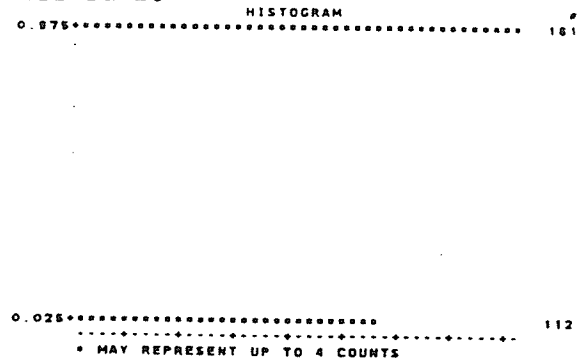
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PSS-Fa 19



PSS-Fa 20

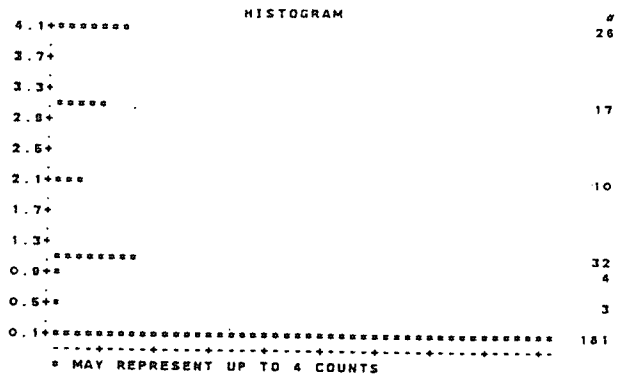


APPENDIX E

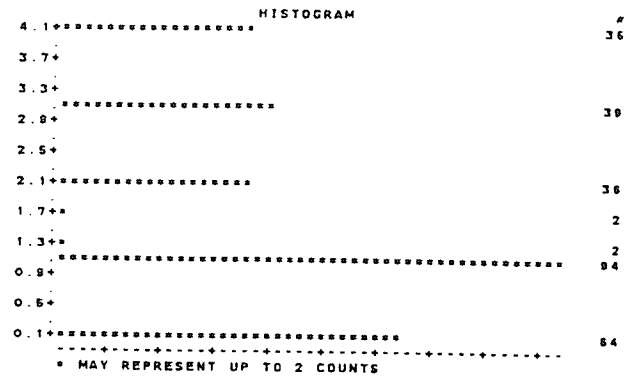
Frequency Histograms for the Items of the ISSB

Frequency Histograms for the Items on the ISSB

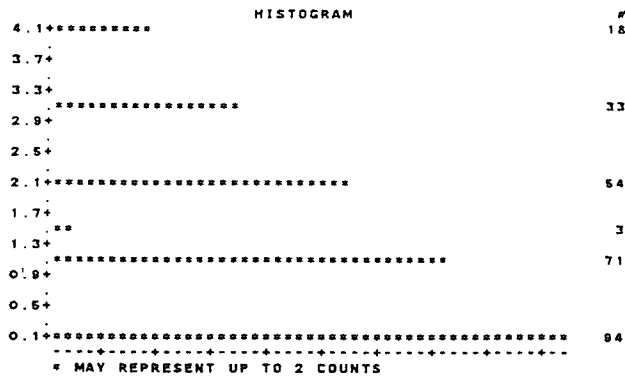
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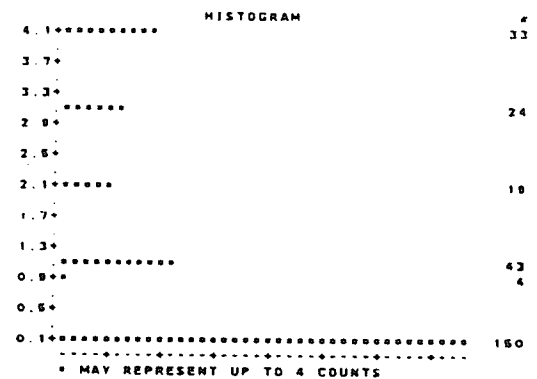
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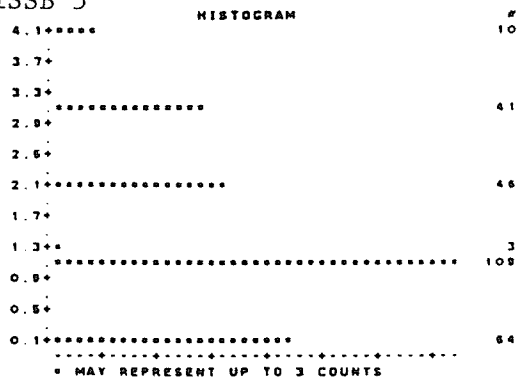
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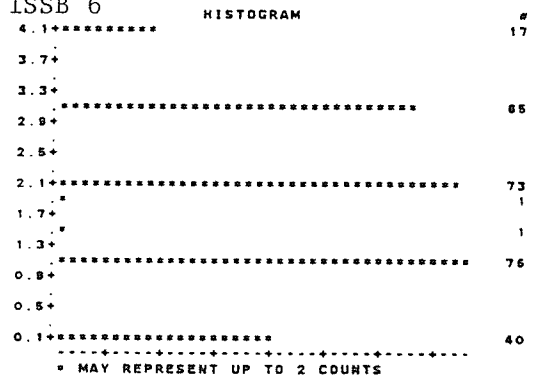
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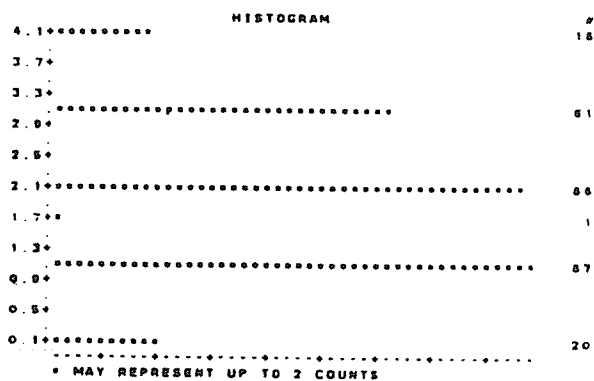
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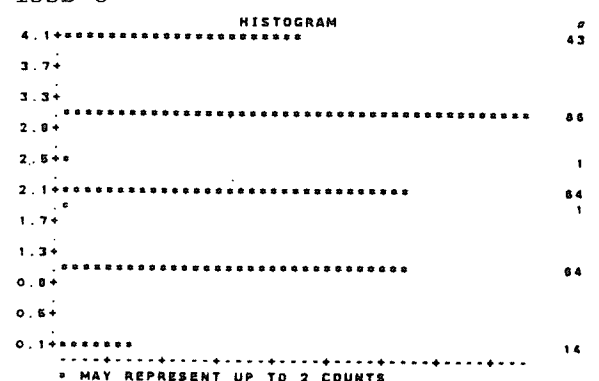
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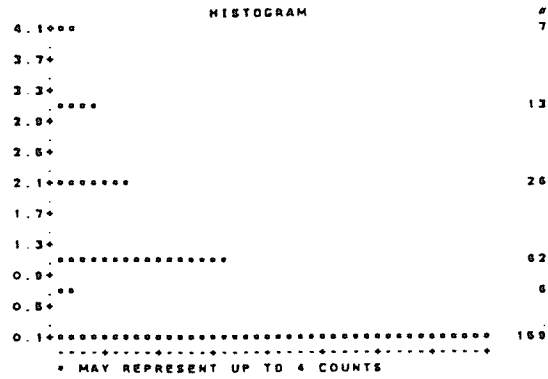
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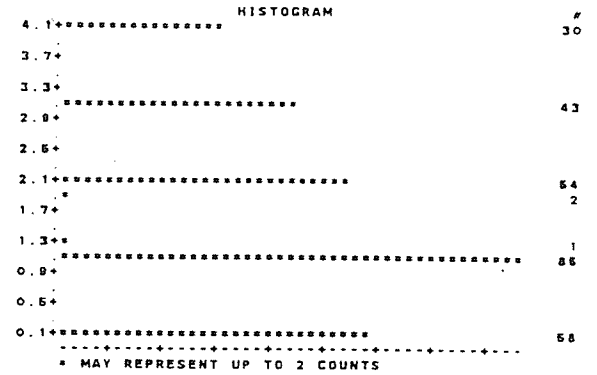
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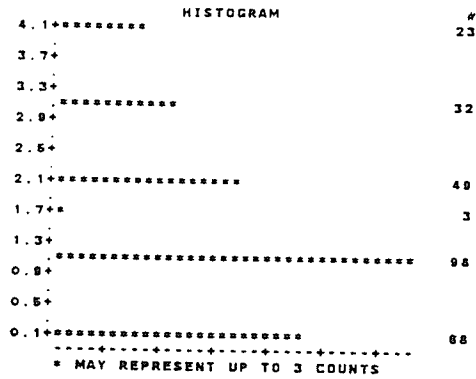
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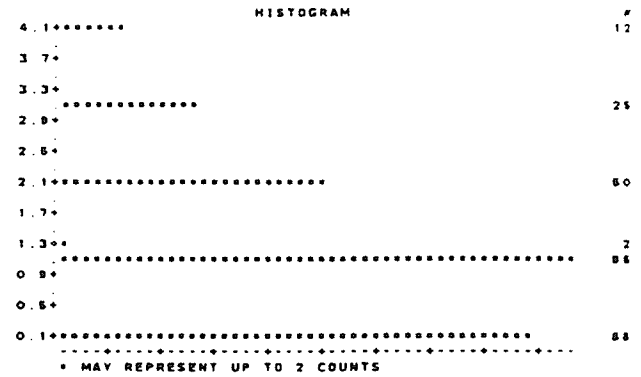
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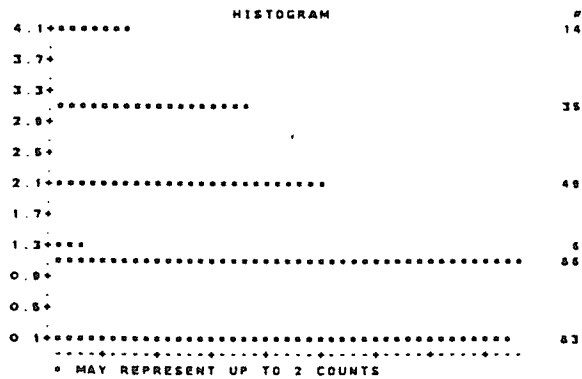
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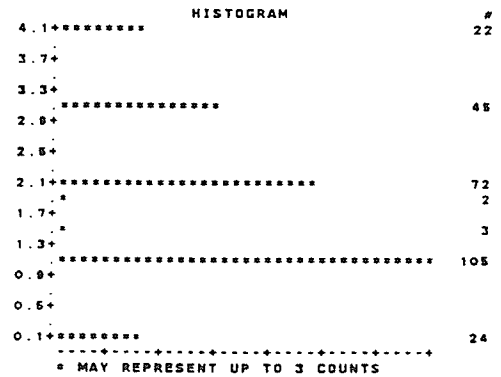
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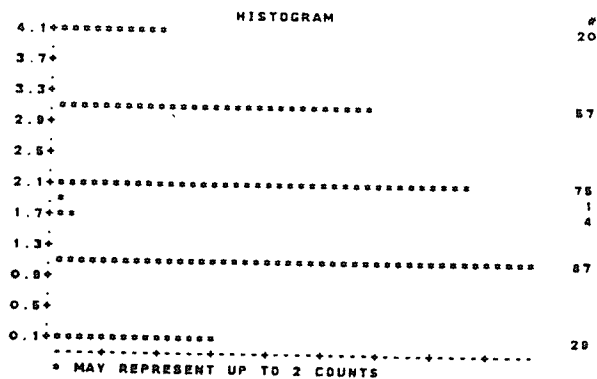
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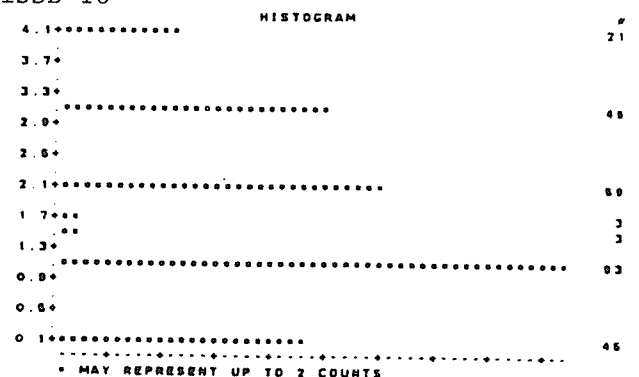
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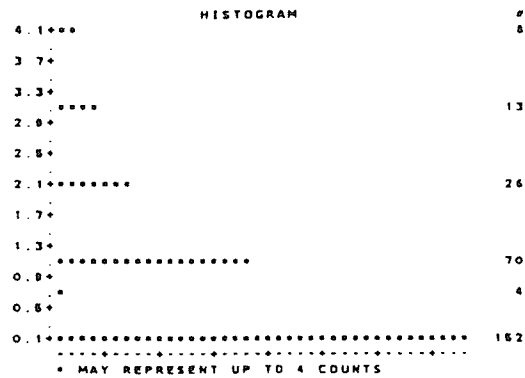
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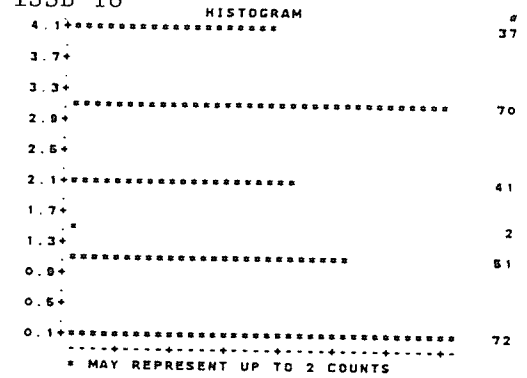
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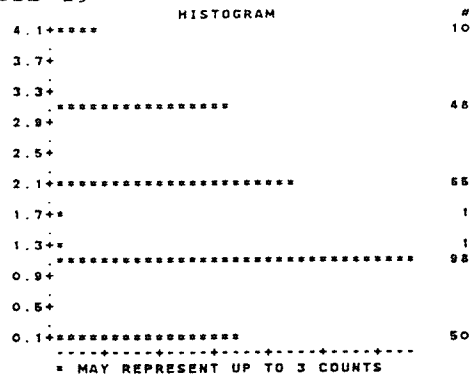
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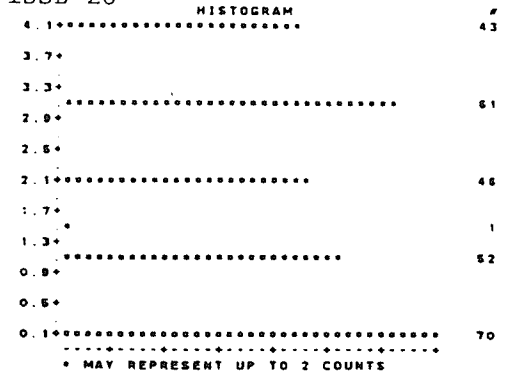
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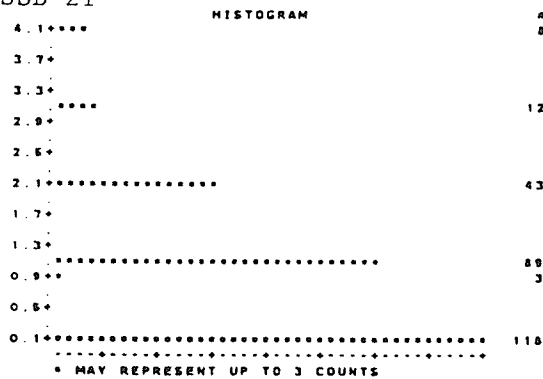
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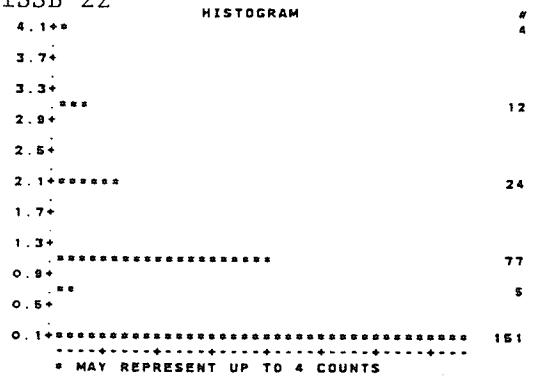
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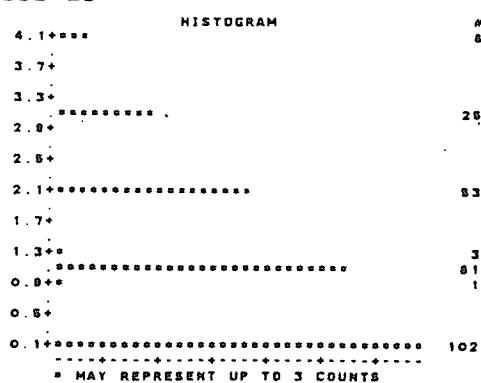
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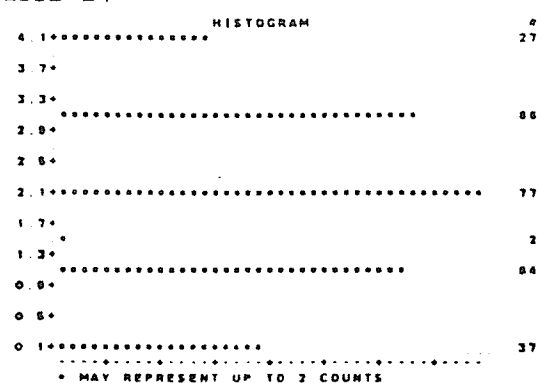
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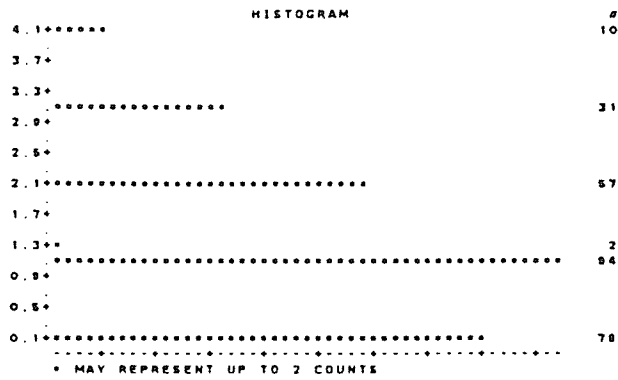
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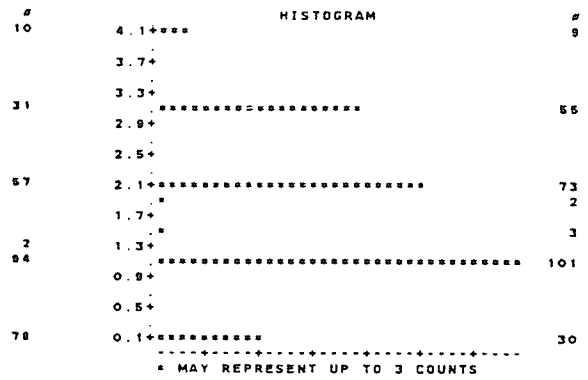
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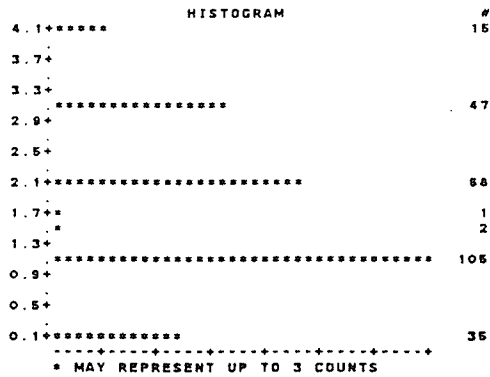
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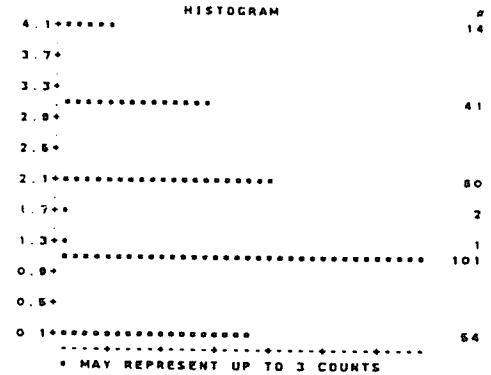
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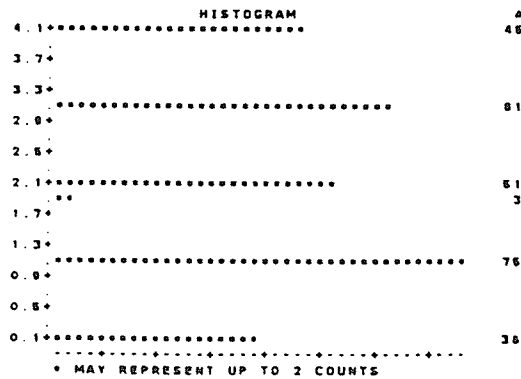
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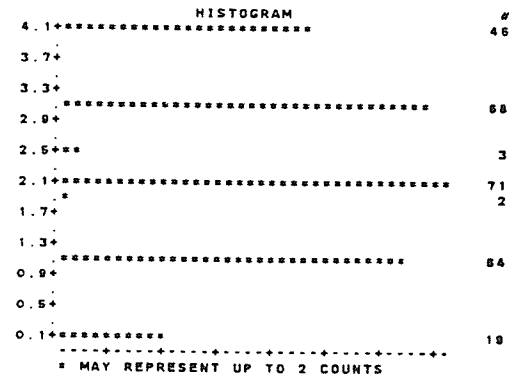
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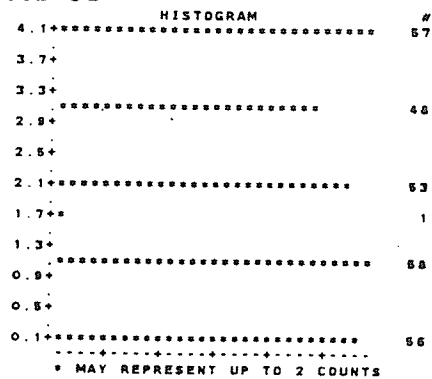
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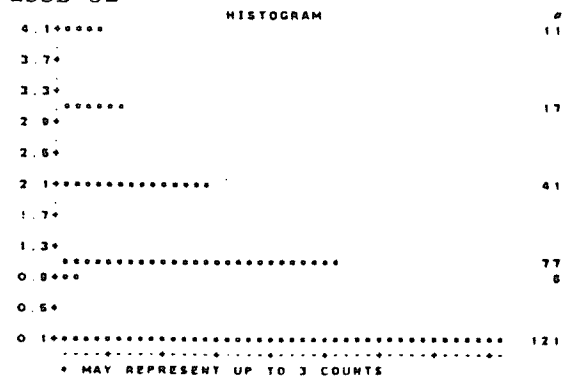
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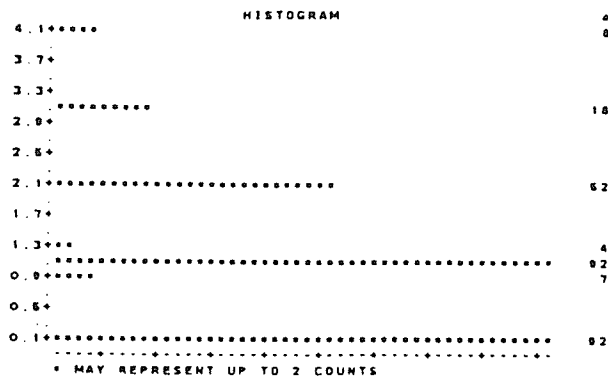
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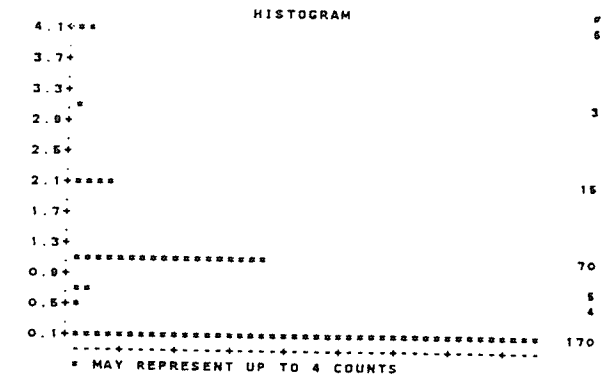
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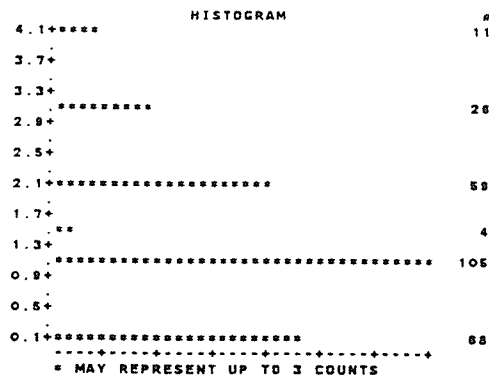
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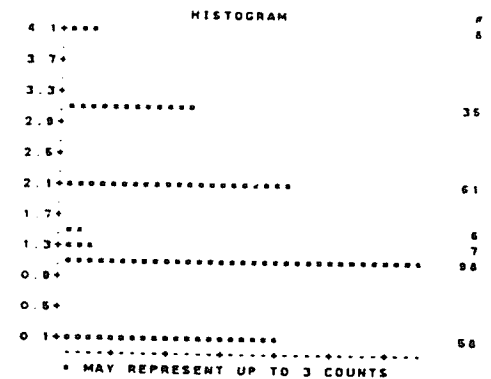
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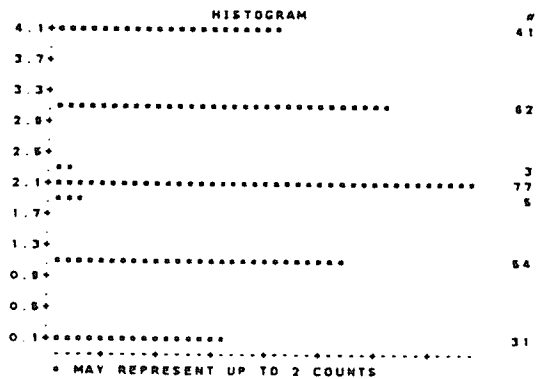
ISSB 35



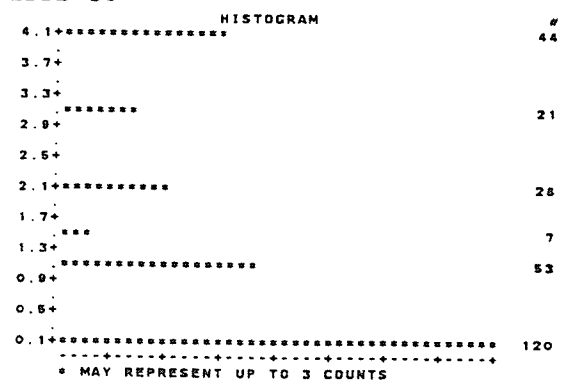
ISSB 36



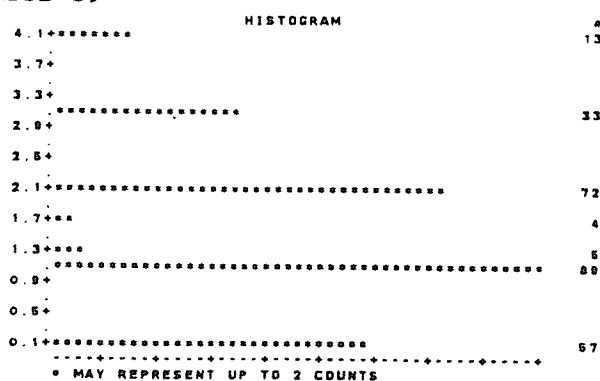
ISSB 37



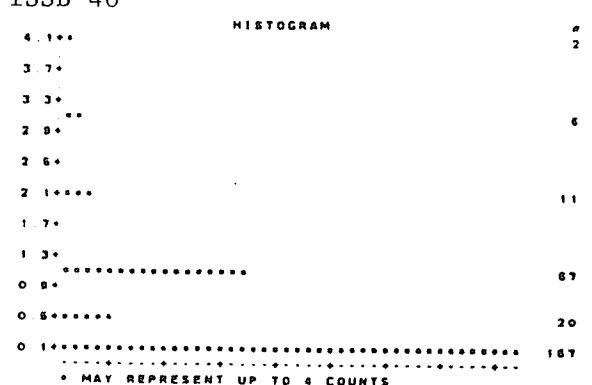
ISSB 38



ISSB 39



ISSB 40



APPENDIX F

Frequency Histograms for the Items on the SSQ

Raw Data

Transformed Data

SSQ 5

[illegible]

STEM	LEAF	
10	00000000000000000000000000000000	26
9	55555555555555555555555555555555	17
9	00000000000000000000000000000000	25
8	55555555555555555555555555555555	20
8		
7	88888888888888888888888888888888	34
7	00	44
6	9999	3
6	00	36
5		
5		
4	88888888888888888888888888888888	21
4		
3		
3	00000000000000000000000000000000	19
2		
2		
1		
1		
0		
0	00000000000000000000000000000000	19
-----+-----		
MULTIPLY STEM, LEAF BY 10 ⁴ -01		

SSQ 6

HISTOGRAM

5 1+*

4 1+***

3 1+*****

2 1+*****

1 1+*****

* MAY REPRESENT UP TO 3 COUNTS

```

                                HISTOGRAM
#
0.825+*
      *
      .
      .
      .***
      .*****
0.575+*
      .
      .*****
      .***
0.325+*
      .
      .-----+-----+-----+-----+
      * MAY REPRESENT UP TO 3 COUNTS

```

SSQ 7

STEM	LEAF	#
8		10
8		1
7		11
6		9
5		26
4		22
4		4
3		43
3		7
2		48
2		35
1		28
0		24

[illegible]

SSQ 8

```

      HISTOGRAM
      #
      6.1++                                     3
      .
      .
      5.1++                                     2
      .
      .
      4.1+++                                     6
      .
      .
      3.1+*****                               26
      .
      .
      2.1+*****                               118
      .
      .
      1.1+*****                               107

```

```
HISTOGRAM
```

	#
0.826++	3
.	2
.	
..	6
.....	20
0.575+	
.	
.....	118
.....	11
0.325+	107

* MAY REPRESENT UP TO 3 COUNTS

SSQ 17

Raw Data

```

STEM LEAF
8 00000000000000000000
8 00000000000000000000
7 00000000000000000000
6 00000000000000000000
5 00000000000000000000
4 00000000000000000000
3 00000000000000000000
2 00000000000000000000
1 00000000000000000000
0 00000000000000000000

```

Transformed Data

```

STEM LEAF
10 00000000000000000000
9 00000000000000000000
8 00000000000000000000
7 00000000000000000000
6 00000000000000000000
5 00000000000000000000
4 00000000000000000000
3 00000000000000000000
2 00000000000000000000
1 00000000000000000000
0 00000000000000000000

```

MULTIPLY STEM LEAF BY 10**01

SSQ 18

```

HISTOGRAM
6 1** 2
5 1** 2
4 1**** 4
3 1***** 21
2 1***** 104
1 1***** 116

```

* MAY REPRESENT UP TO 3 COUNTS

```

HISTOGRAM
0.825** 2
0.575** 21
0.325** 116

```

* MAY REPRESENT UP TO 3 COUNTS

SSQ 19

```

HISTOGRAM
8.75***** 18
6 6
5 6
4 16
3 24
2 31
1 48
0.25***** 28

```

* MAY REPRESENT UP TO 2 COUNTS

```

HISTOGRAM
0.875***** 21
6 6
5 16
4 24
3 31
2 47
1 44
0.025***** 28

```

* MAY REPRESENT UP TO 2 COUNTS

SSQ 20

```

HISTOGRAM
6 1** 3
5 1*** 6
4 1***** 11
3 1***** 34
2 1***** 111
1 1***** 92

```

* MAY REPRESENT UP TO 3 COUNTS

```

HISTOGRAM
0.825** 3
0.575** 34
0.325** 92

```

* MAY REPRESENT UP TO 3 COUNTS

Raw Data

Transformed Data

SSQ 21

```
HISTOGRAM
```

	#
8.75*****	23
.....*	6
.....*	10
.....*	19
.....*	20
.....*	25
.....*	30
.....*	40
.....*	54
0.25*****	26

* MAY REPRESENT UP TO 2 COUNTS

[illegible]

SSQ 22

[illegible][illegible]

SSQ 23

[illegible][illegible]

SSQ 24

```

#
HISTOGRAM
1
5.1++
3
4.1++++
11
3.1++++++
23
2.1+++++
116
13
7
1.1+++++
00
* MAY REPRESENT UP TO 3 COUNTS

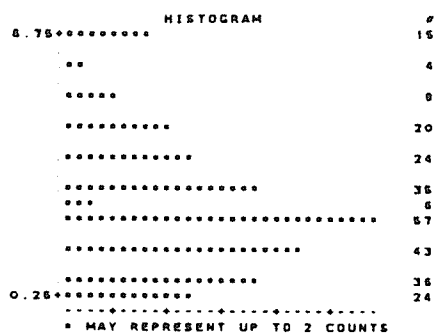
```

```

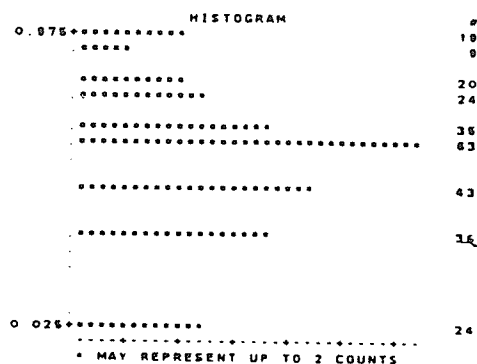
                                HISTOGRAM
O 876++                               #
      .                               1
      .                               3
      .....
      .....
O 576+                               11
      .....                          23
      .....
      .....
O 376+                               120
      .....                          7
      .....
O 176+                               80
      .....
      * MAY REPRESENT UP TO 3 COUNTS

```

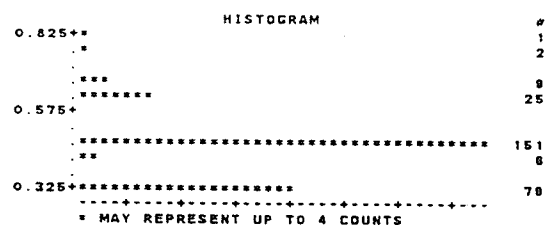
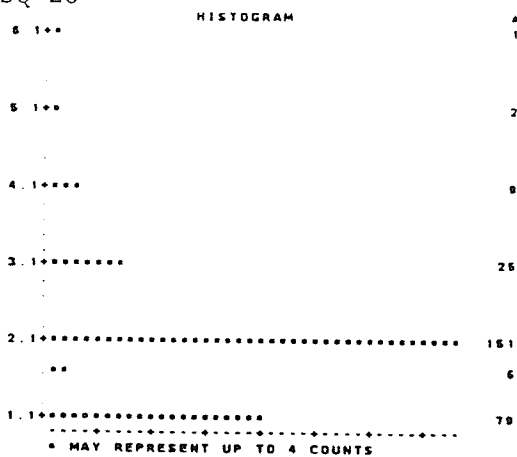
Raw Data SSQ 25



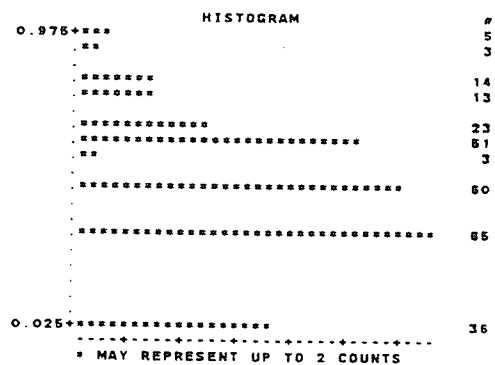
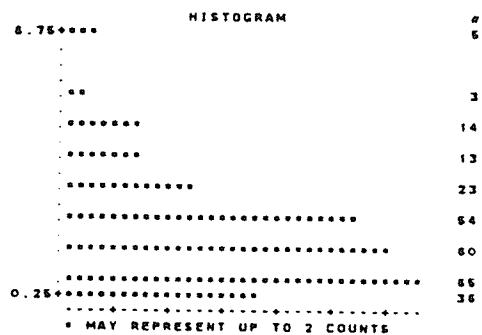
Transformed Data



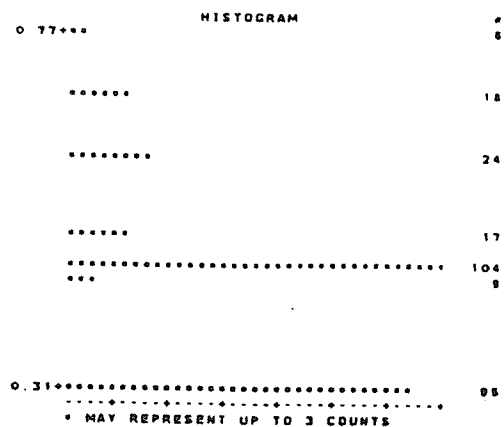
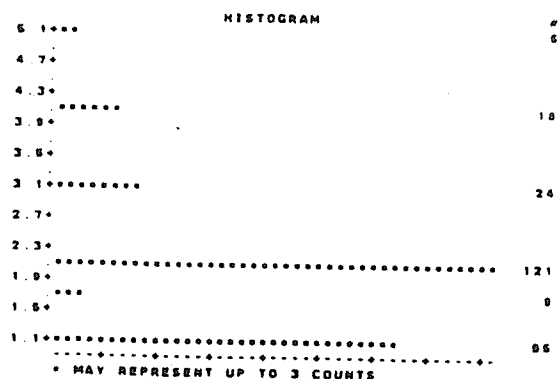
SSQ 26



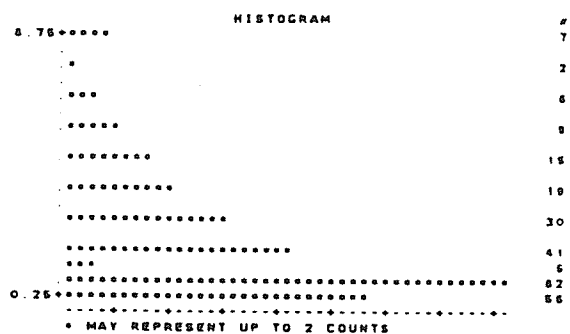
SSQ 27



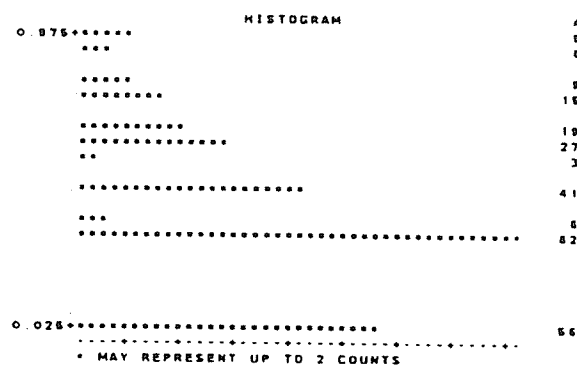
SSQ 28



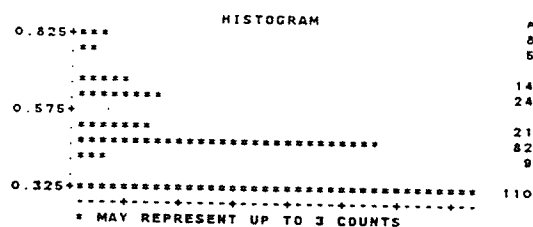
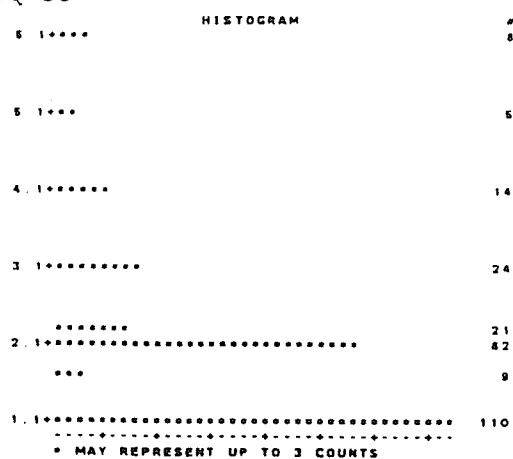
SSQ 29 Raw Data



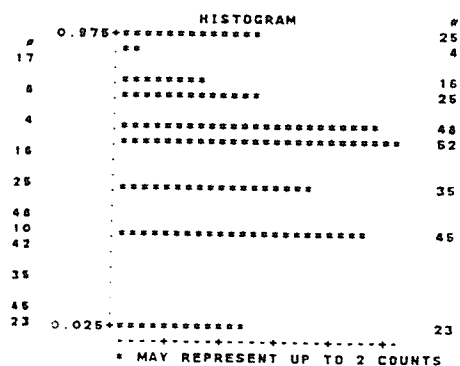
Transformed Data



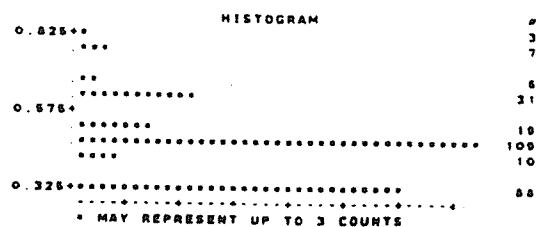
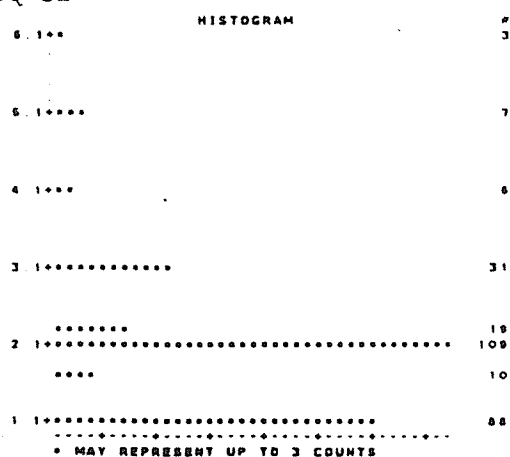
SSQ 30



SSQ 31

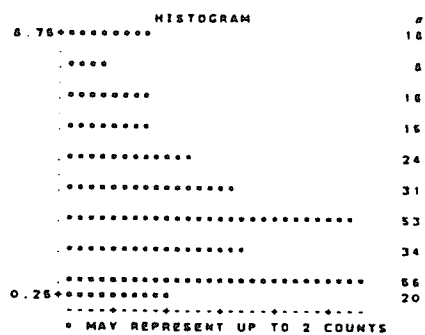


SSQ 32

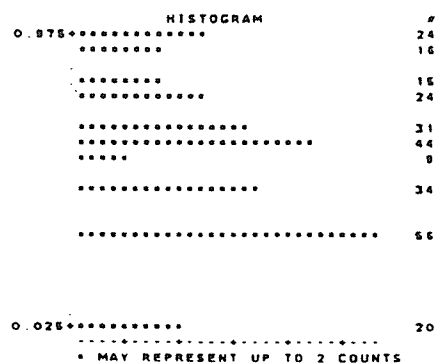


Raw Data

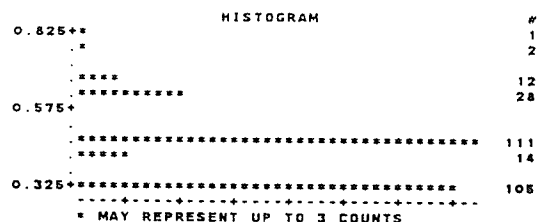
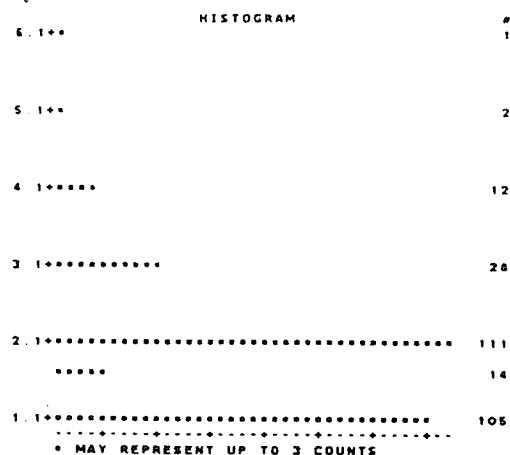
SSQ 37



Transformed Data



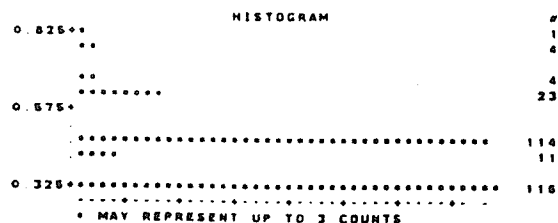
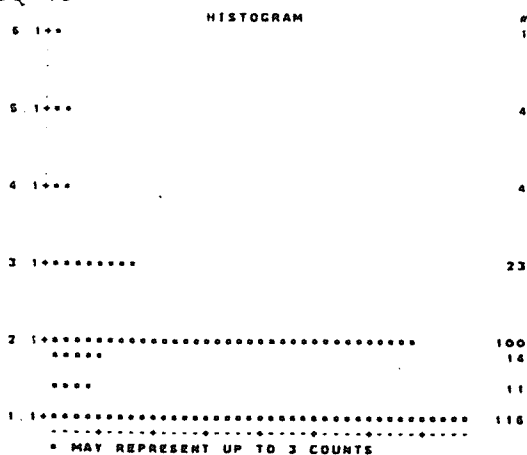
SSQ 38



SSQ 39

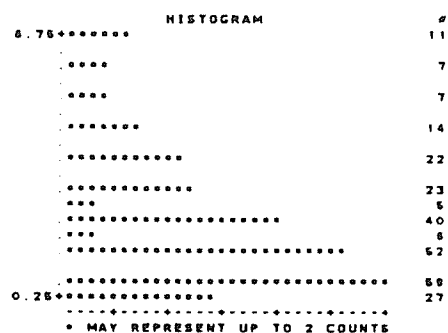


SSQ 40

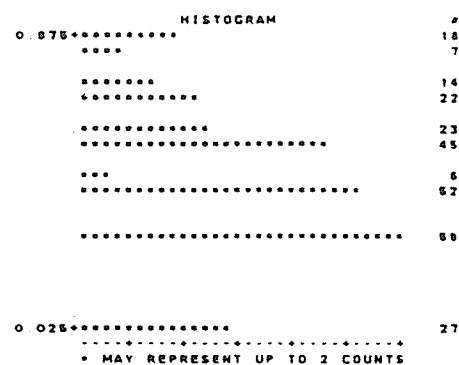


Raw Data

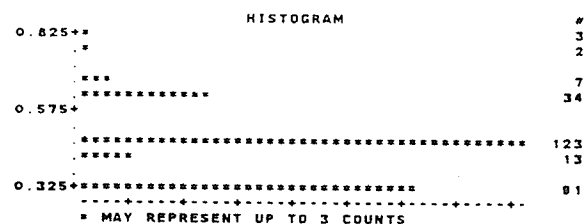
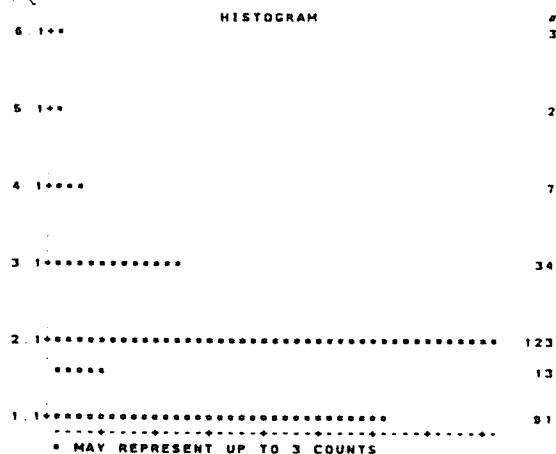
SSQ 41



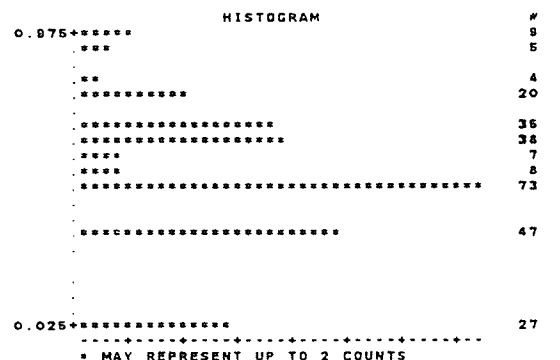
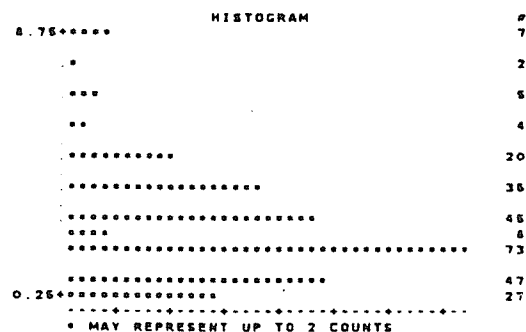
Transformed Data



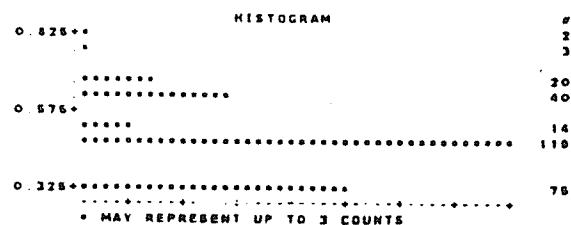
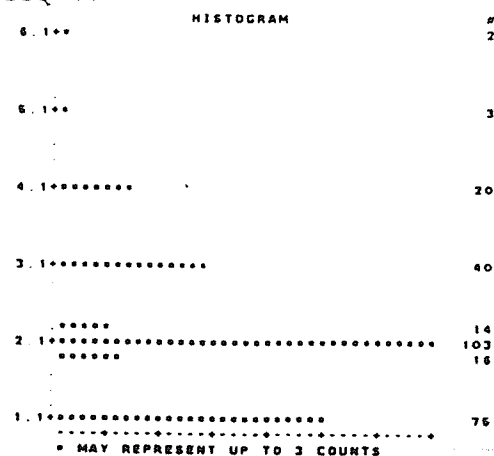
SSQ 42



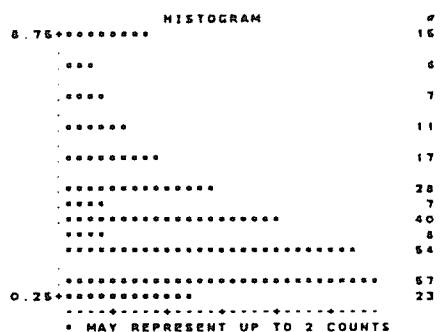
SSQ 43



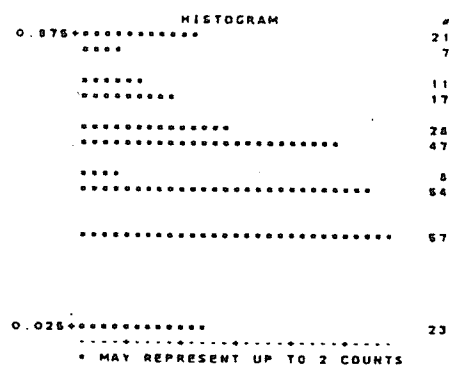
SSQ 44



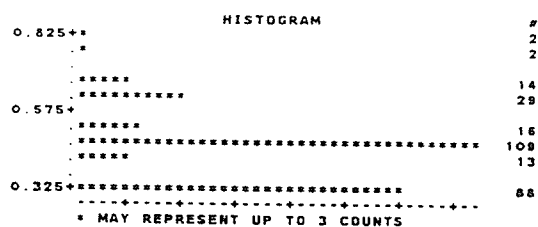
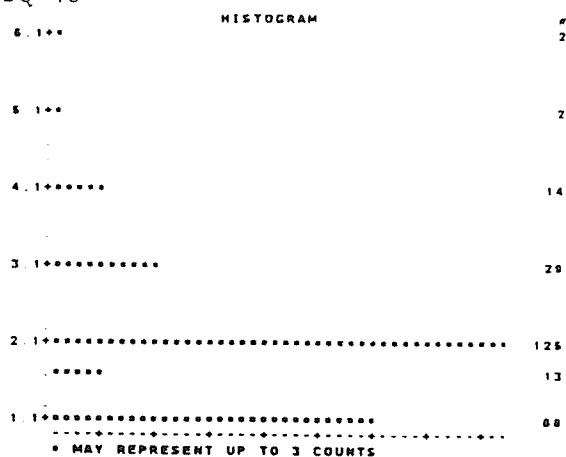
Raw Data SSQ 45



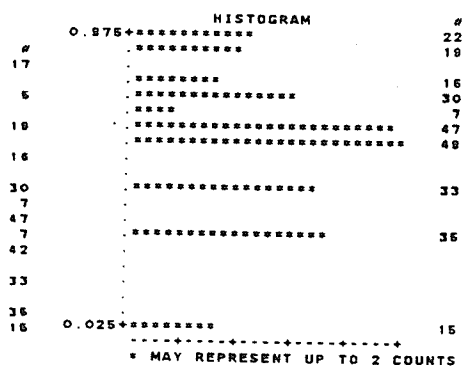
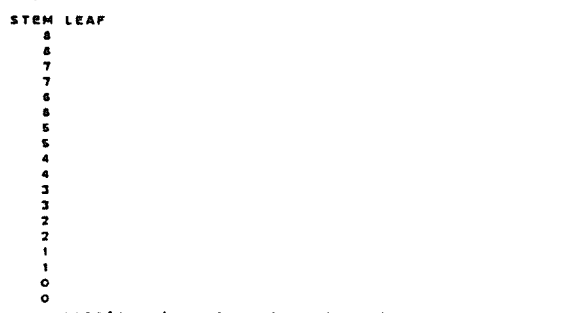
Transformed Data



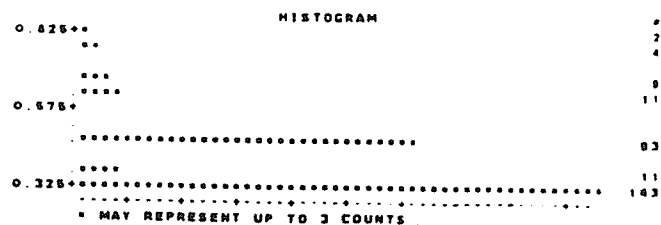
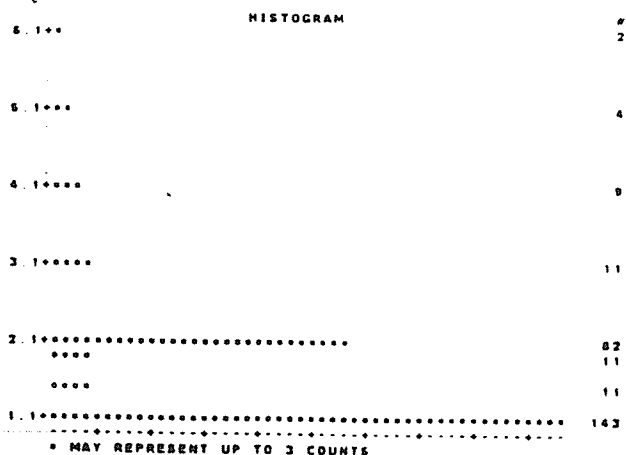
SSQ 46



SSQ 47

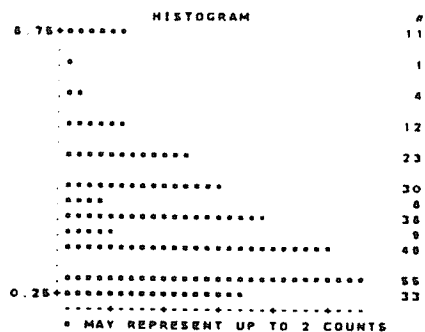


SSQ 48

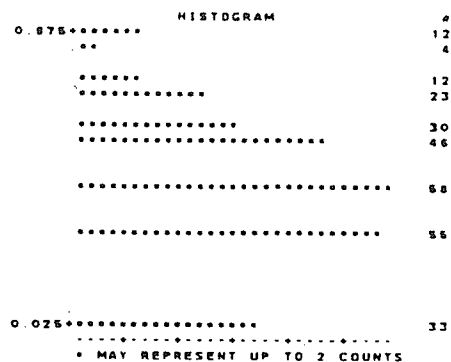


Raw Data

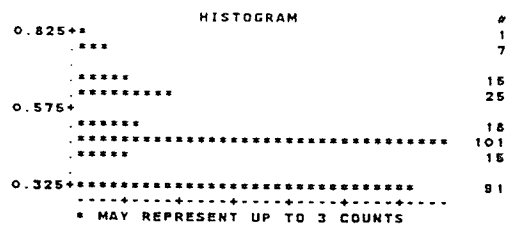
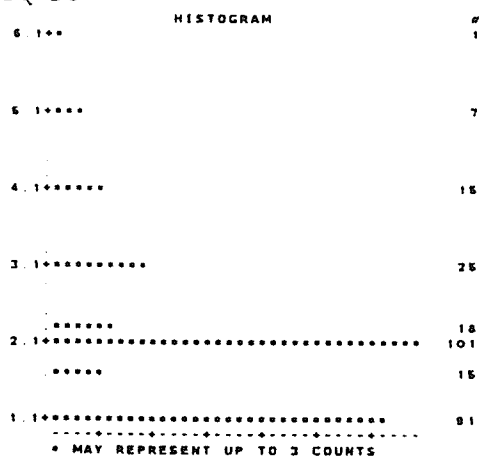
SSQ 49



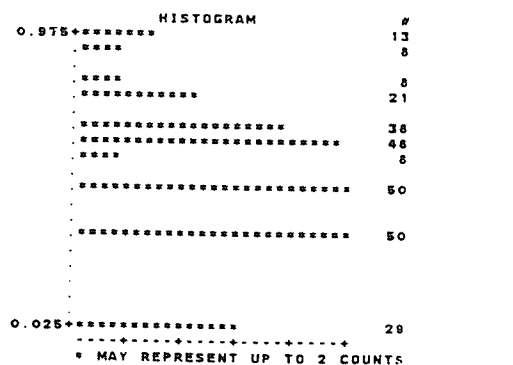
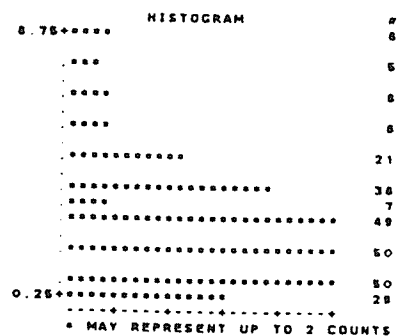
Transformed Data



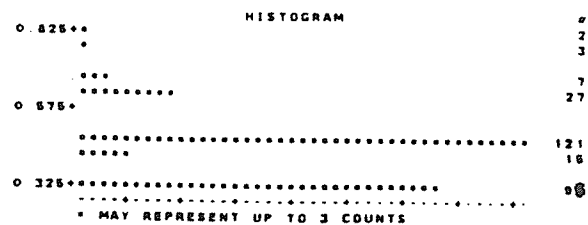
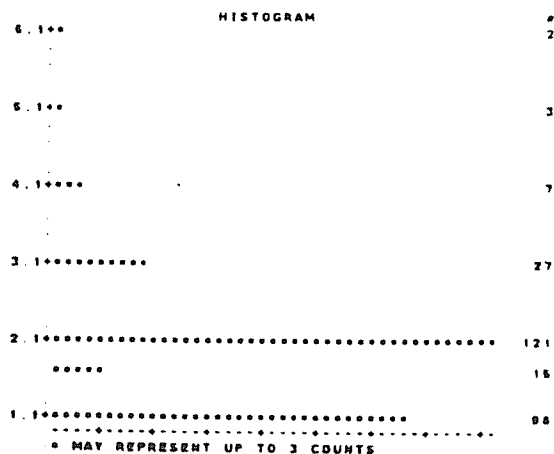
SSQ 50



SSQ 51

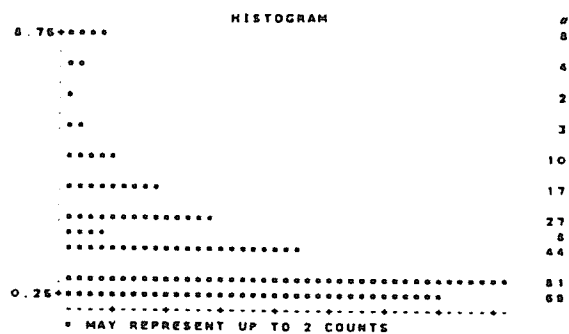


SSQ 52

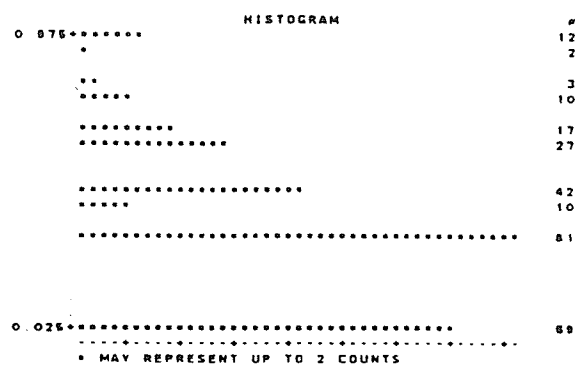


Raw Data

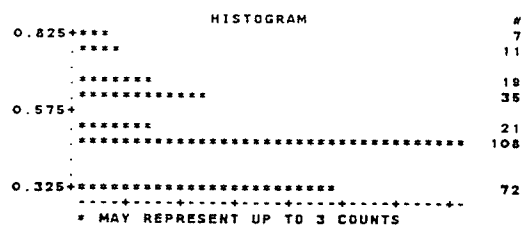
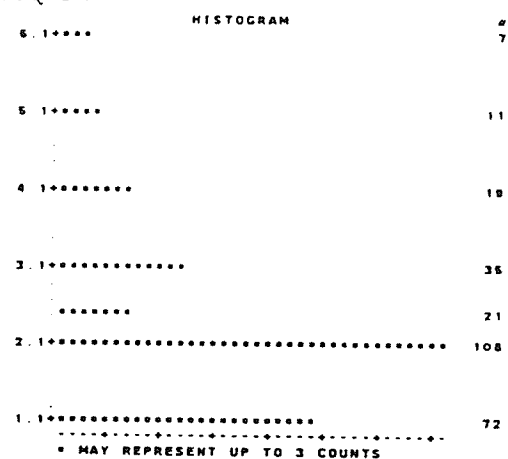
SSQ 53



Transformed Data



SSQ 54



APPENDIX G

Frequency Histograms for the Items on the SS:R

Frequency Histograms for the Items on the SS:R

SS:R ENETWORK

HISTOGRAM	#
0.75+-----	116
.....	11
.....	10
.....	26
.....	17
.....	31
.....	19
.....	16
.....	12
..	8
0.25+-----	2
* MAY REPRESENT UP TO 3 COUNTS	

SS:R SNETWORK

HISTOGRAM	#
0.75+-----	125
.....	12
.....	26
.....	13
.....	24
.....	24
.....	23
...	9
..	4
...	7
0.25+-----	6
* MAY REPRESENT UP TO 3 COUNTS	

SS:R PNETWORK

HISTOGRAM	#
0.75+-----	85
.....	11
.....	12
.....	20
.....	31
.....	33
.....	19
.....	19
.....	21
....	8
0.25+-----	14
* MAY REPRESENT UP TO 2 COUNTS	

SS:R FNETWORK

HISTOGRAM	#
0.75+-----	62
.....	7
...	6
.....	11
.....	21
.....	29
.....	39
.....	33
.....	34
.....	18
0.25+-----	14
* MAY REPRESENT UP TO 2 COUNTS	

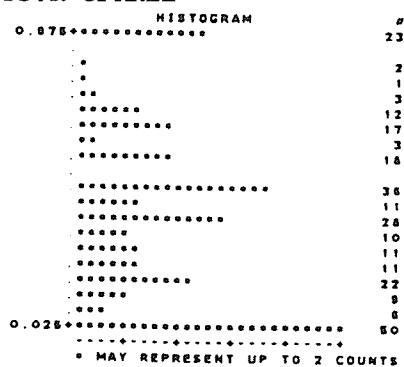
SS:R GNETWORK

HISTOGRAM	#
0.75+-----	89
.....	9
.....	12
.....	26
.....	26
.....	30
.....	33
.....	18
.....	24
....	8
0.25+-----	18
* MAY REPRESENT UP TO 2 COUNTS	

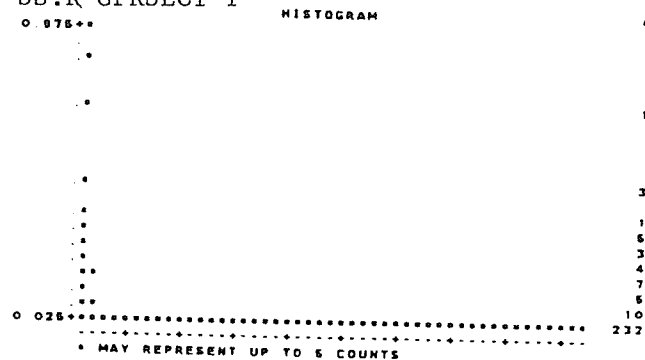
SS:R EFREQ

STEM LEAF	#
50 00000	5
48	
46 000	3
44 00	2
42 005038	6
40 00000000	9
38 00000080	8
36 000005	6
34 00000000000000	14
32 00000002900338	14
30 000000000000000000124	21
28 0000000038889000000000	21
26 00000000003377700000001	22
24 00000000000000000000007777	25
22 00000000000000000000003333	24
20 000000000000013478	16
18 000000888890000	18
16 00033700135555	14
14 0003333400000777	18
12 08833388	8
10 00000000000000000000	22
8	
6	
4	
2	
0 00	2
MULTIPLY STEM LEAF BY 10**-01	

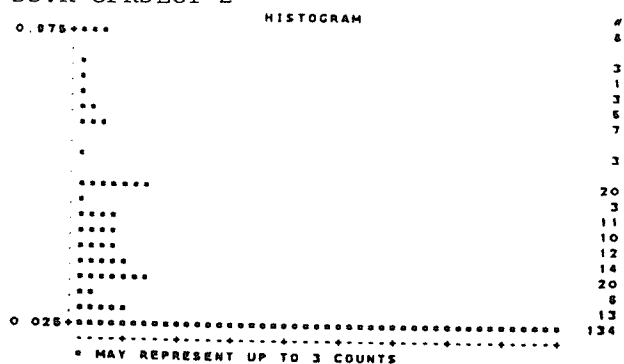
SS:R GPRREL



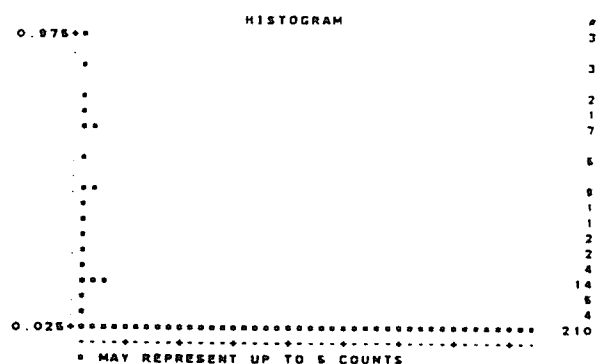
SS:R GPRSECT 1



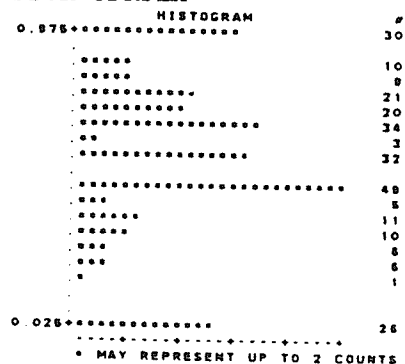
SS:R GPRSECT 2



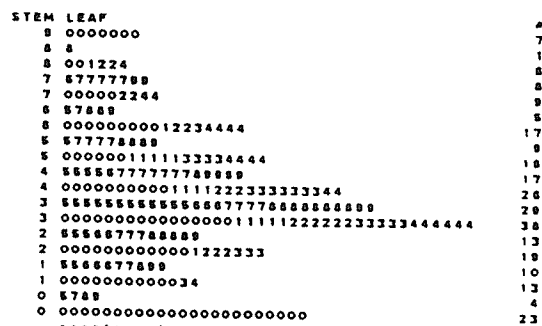
SS:R GPRSECT 3



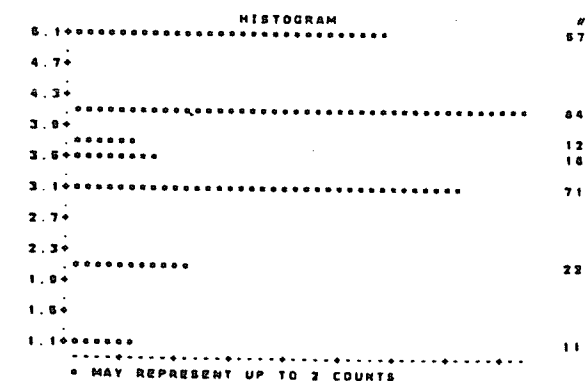
SS:R GPRSEX



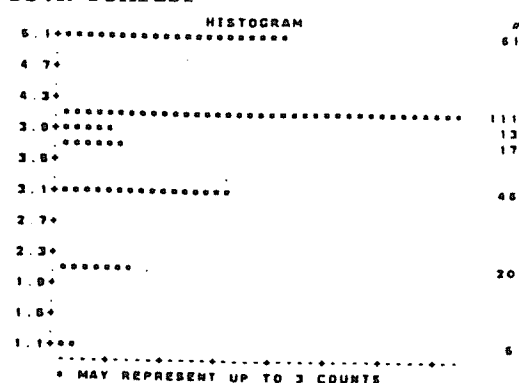
SS:R GKNOW



SS:R ESATISF



SS:R FSATISF



SS:R GSATISF

HISTOGRAM	#
5.1+.....	47
4.7+	
4.3+	
3.9+.....	95
3.5+.....	14
3.1+.....	15
2.7+	80
2.3+	
1.9+.....	26
1.5+	
1.1+.....	7

• MAY REPRESENT UP TO 2 COUNTS

SS:R PSATISF

HISTOGRAM	#
5.1+.....	35
4.7+	
4.3+	
3.9+.....	103
3.5+.....	12
3.1+.....	18
2.7+	77
2.3+	
1.9+.....	25
1.5+	
1.1+.....	4

• MAY REPRESENT UP TO 3 COUNTS

SS:R SSATISF

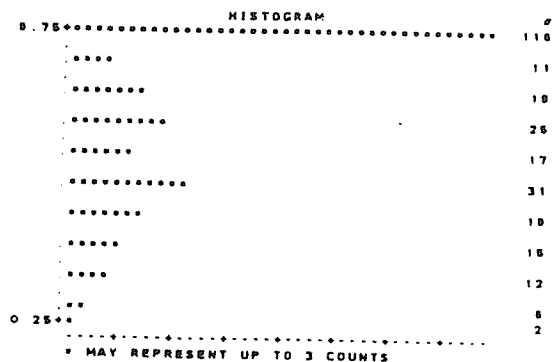
HISTOGRAM	#
5.1+.....	45
4.7+	
4.3+	
3.9+.....	95
3.5+.....	13
3.1+.....	15
2.7+	67
2.3+	
1.9+.....	24
1.5+	
1.1+.....	12

• MAY REPRESENT UP TO 2 COUNTS

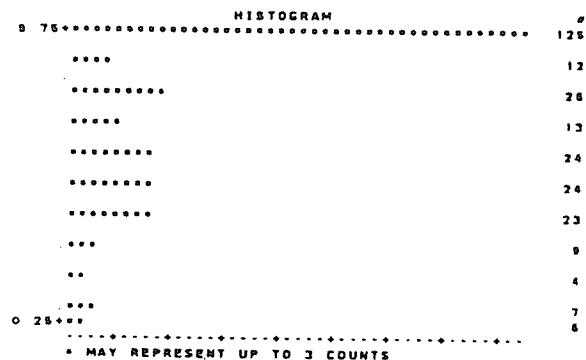
APPENDIX H

Frequency Histograms for the Authors' Test Scores

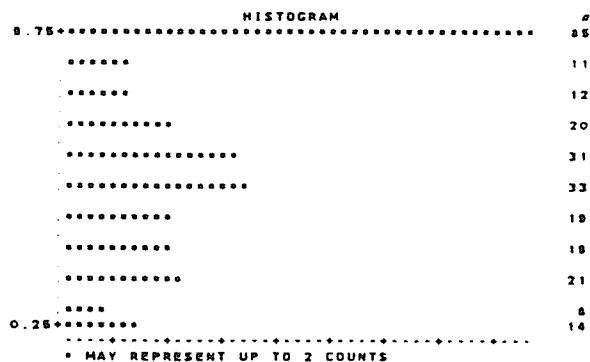
SS:R ENETWORK



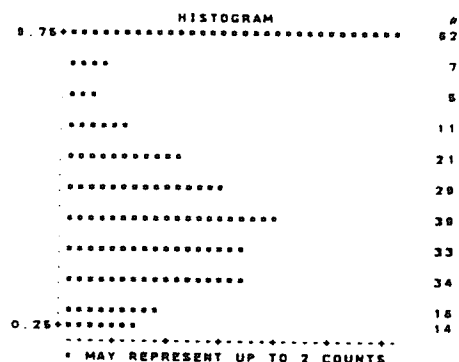
SS:R SNETWORK



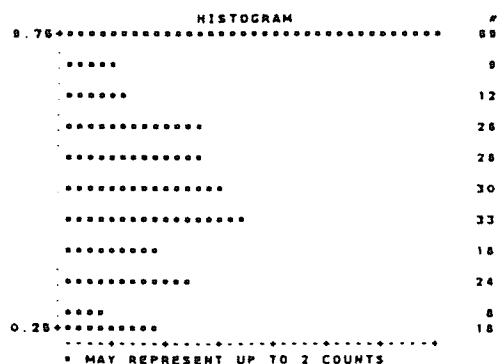
SS:R PNETWORK



SS:R FNETWROK



SS:R GNETWORK

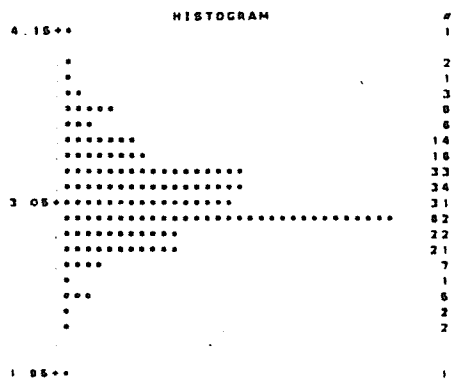


SS:R TOTFREQ

STEM	LEAF	#
50	00	2
48		
46	0	1
44	30238	6
42	0333	4
40	0080389	7
38	0001112335258	13
36	0023579803689	13
34	011222348046788	16
32	00013485555779880013333355888	30
30	00000003587777888933379	24
28	12224558889000225	18
26	022233334444555778998000112335559	34
24	01333445567000000034466777	26
22	00122278991233333333668	23
20	000000000570333477	18
18	33486800113	11
16	0334457770119	13
14	003360027	9
12	42333	5
10	87	2

MULTIPLY STEM LEAF BY 10***01

SS:R TOTBAL



SS:R TOTCLOSE

STEM	LEAF	#
36	367701	5
34	0727	4
32	049	3
30	00000578990134777	17
28	133334889000022448	13
26	0001122334447777777790011122355788	35
24	0000001233333348877890000000000000223344555889	47
22	00011122244455566678999999900011112335566677889	46
20	000000000000000145588992223444477778999999	41
18	0122338889011122344	21
16	001337778123355669	18
14	033480047	9
12	0228	4
10	01	2

MULTIPLY STEM LEAF BY 10***01

SS:R TOTKNOW

[illegible]

SS:R TOTSATIS

[illegible]

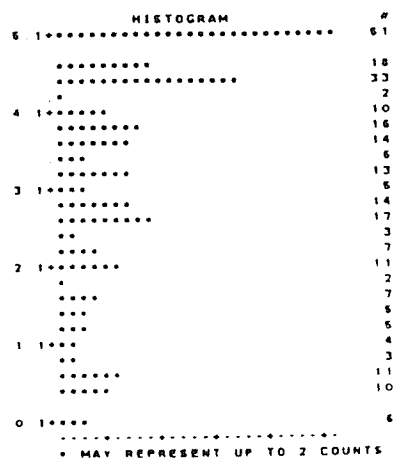
MULTIPLY STEM LEAF BY 100-01

APPENDIX I

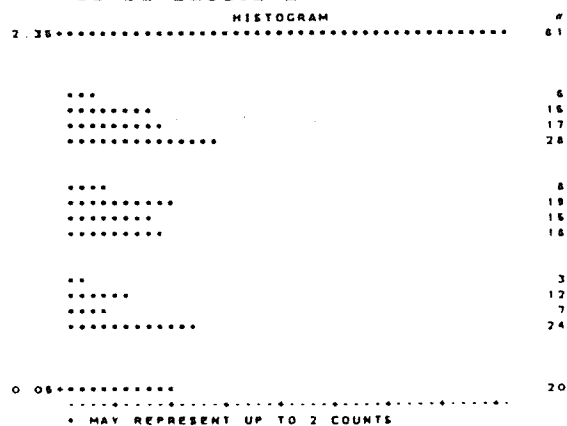
Frequency Histograms for the Weighted Factor Scores

Frequency Histograms for the Weighted Factor Scores

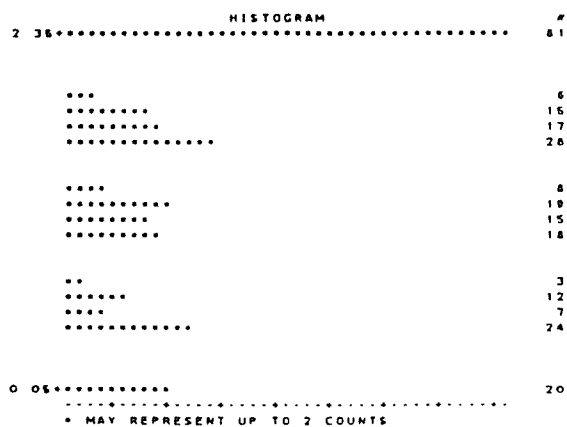
PSS-Fr factor 1



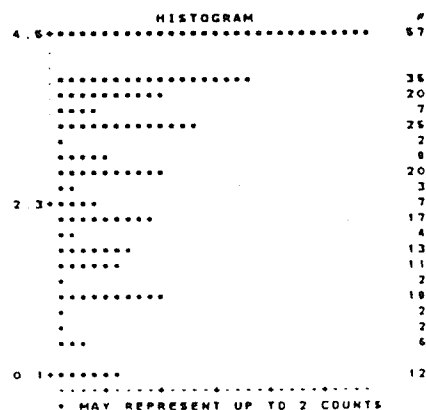
PSS-Fr factor 2



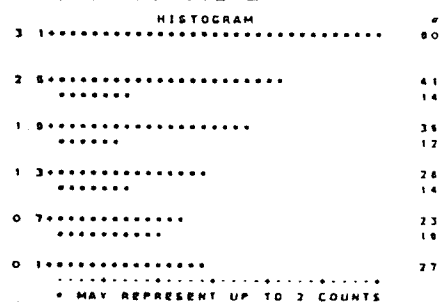
PSS-Fr factor 3



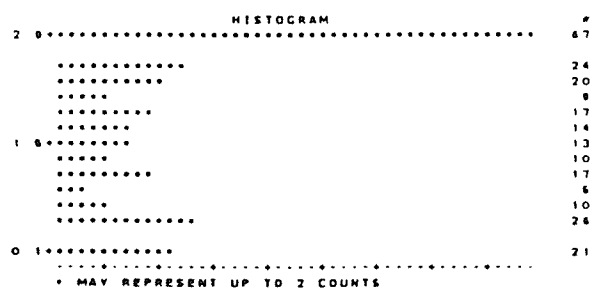
PSS-Fa factor 1



PSS-Fa factor 2



PSS-Fa factor 3



ISSB factor 1

STEM	LEAF	#
28	0	1
26	1678	4
24	2	1
23	678	2
22	16678	5
21	00112266	8
20	77788	6
19	00011267788	11
18	0001112348888	13
17	12334666888	11
16	001122223366886788	19
15	0222378	7
14	13366889999	11
13	022224667888	13
12	000122344788	17
11	0122233466667788888	19
10	0002233334668888888	14
9	0002334666778888888	18
8	012334666677889999	20
7	00011346677888	14
6	00034666677777	16
5	0112236668888	13
4	1133356678	10
3	0114667	7
2	236778	6
1	0466788	7
0	00	2

ISSB factor 2

STEM	LEAF	#
24	3	1
23		
22	02	2
21		
20	67	2
19	136	3
18	02367	6
17	023446788	9
16	334	3
15	01147	5
14	00122234568888	14
13	0012334446668888	16
12	0113346666778	13
11	001334446677888	15
10	136666777788	12
9	00111222234466778	18
8	00111333444666788	18
7	000112334466677788888	21
6	0001112223334466666688888	28
5	11122222333344466666788888	26
4	00116666788888888	17
3	01122234666666788	18
2	00016688	8
1	0466788	7
0	000046667778	12

ISSB factor 3

STEM	LEAF	#
12	22	2
11	788	3
11	3	1
10	668	3
10	012233444	8
9	56666	5
8	04	2
8	566666777888888	16
8	111111222334	12
7	5666666788888	14
7	000011122233334444	18
6	566666777888888888888	21
6	00011111122222333333444444	27
5	566666666677888888	18
5	00111111222333444444	20
4	566666777777788888888	21
4	0000111112333344444	18
3	5666677778888	13
3	001111111333334	15
2	566666666677788	16
2	0011234	7
1	5667888	7
1	014	3
0	5	1
0	004	3

ISSB factor 4

HISTOGRAM

STEM	LEAF	#
11	26..	1
	.	1
	.	
	.	1
	.	1
	.	
	.	
	.	4
	.	7
	.	1
	.	4
	.	11
	.	7
	.	8
	.	20
	.	33
	.	4
	.	48
	.	27
0	25.....	94

* MAY REPRESENT UP TO 2 COUNTS

SSQ factor 1

STEM	LEAF	#
68	467	3
66	5	1
64	28008	5
62		
60	58	2
58	010578	6
56	36	2
54	53	2
52	11888	5
50	1103	4
48	4422	4
46	48927	5
44	0470668	7
42	234668278	9
40	666778805568	12
38	112224444444666888112244	26
36	0111222336666677777780366	26
34	0088887888801133466677	21
32	1111467023488	13
30	011224446778011228677778	24
28	0000112348892234578	18
26	067780588	9
24	1344678000035578	16
22	236778801267	17
20	3344489823467788	16
18	333333333778880000001167788	27

SSQ factor 2

STEM	LEAF	#
18	044	3
16	2247	4
14	14	2
13	138	3
12	02378	3
11	122488878	5
10	0222348888	8
9	0001334446678	10
8	000000233467788	13
7	011123466667778	15
6	0000000011111122334466666677777888888	16
5	111111222333334444466666677888888	39
4	00011112222333344466666677778888888	34
3	000011122222223344466666677778888888888	38
2	1123333444466666667778888888888888888	44
1	01336688888	27
0	0	11

MULTIPLY STEM LEAF BY 10***01

APPENDIX J

Secondary Factor Analyses for the PSS-Fr

Secondary Factor Analyses for the PSS-Fr

1. 4 factor solution: principal components extraction with varimax rotation.

ROTATED FACTOR PATTERN				
	FACTOR1	FACTOR2	FACTOR3	FACTOR4
PSSFR1	0.81187	0.31857	0.05626	-0.21336
PSSFR2	0.38445	0.15500	0.33225	0.34028
PSSFR3	0.18885	0.58858	0.12863	0.23804
PSSFR4	0.06546	0.84452	0.01134	0.01282
PSSFR5	0.64287	0.13935	-0.06208	0.08615
PSSFR6	0.08034	0.01471	0.84062	0.23783
PSSFR7	0.06702	0.08278	0.71236	-0.04588
PSSFR8	0.28287	0.63568	0.18040	0.06465
PSSFR9	0.43387	0.32651	0.15053	0.24002
PSSFR10	0.57481	0.30307	0.10753	0.06174
PSSFR11	0.42802	0.54431	0.02377	0.20885
PSSFR12	0.68948	-0.06360	0.15364	0.17067
PSSFR13	0.61458	0.20123	0.01919	0.22055
PSSFR14	0.33887	-0.01237	0.28805	0.67857
PSSFR15	0.16388	0.22648	0.64888	0.19767
PSSFR16	0.06686	0.81278	0.38502	0.01240
PSSFR17	0.07312	0.46548	0.00686	0.88034
PSSFR18	0.42884	0.18729	0.31741	0.06237
PSSFR19	0.62885	0.02854	0.22360	0.08202
PSSFR20	0.17802	0.44018	0.48253	-0.28452

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4
3.371708	2.642389	2.068241	1.485106

FINAL COMMUNALITY ESTIMATES TOTAL = 9.567423

2. 3 factor solution: principal components extraction, varimax rotation.

ROTATED FACTOR PATTERN			
	FACTOR1	FACTOR2	FACTOR3
PSSFR1	0.48441	0.37358	-0.04843
PSSFR2	0.45427	0.17839	0.36237
PSSFR3	0.20884	0.55888	0.14865
PSSFR4	0.04439	0.84391	-0.02127
PSSFR5	0.62835	0.18886	-0.08083
PSSFR6	0.10554	0.04804	0.87826
PSSFR7	0.00584	0.15152	0.86843
PSSFR8	0.27238	0.55677	0.14949
PSSFR9	0.47034	0.34531	0.17023
PSSFR10	0.54853	0.34009	0.07554
PSSFR11	0.45025	-0.58354	0.02774
PSSFR12	0.70210	-0.02110	0.16236
PSSFR13	0.54456	0.22377	0.03624
PSSFR14	0.52853	-0.01804	0.41704
PSSFR15	0.18631	0.26182	0.55171
PSSFR16	0.02150	0.53852	0.34049
PSSFR17	0.25755	0.42081	0.15189
PSSFR18	0.40538	0.24150	0.29125
PSSFR19	0.51058	0.07713	0.20763
PSSFR20	0.04811	0.50208	0.37436

VARIANCE EXPLAINED BY EACH FACTOR			
FACTOR1	FACTOR2	FACTOR3	
3.534477	2.886258	2.060150	

FINAL COMMUNALITY ESTIMATES TOTAL :			
			4.480895

3. 4 factor solution: principal components extraction, promax rotation.

ROTATED FACTOR PATTERN (STD REG COEFS)					FACTOR STRUCTURE (CORRELATIONS)				
	FACTOR1	FACTOR2	FACTOR3	FACTOR4		FACTOR1	FACTOR2	FACTOR3	FACTOR4
PSSFR1	0.84911	0.22895	-0.05335	-0.29878	PSSFA1	0.55455	0.12097	0.39878	0.13770
PSSFR2	0.29389	0.04932	0.26211	0.30511	PSSFA2	0.58449	0.22305	0.13205	0.33815
PSSFR3	0.01094	0.58705	0.03379	0.22386	PSSFA3	0.35172	0.19405	0.37624	0.74251
PSSFR4	-0.06315	0.58598	-0.07473	0.00508	PSSFA4	0.23023	0.20557	0.75995	0.23047
PSSFR5	0.86772	0.03421	-0.17555	-0.00267	PSSFA5	0.42541	0.30544	0.28158	0.36101
PSSFR6	-0.06432	-0.07858	0.55714	0.22808	PSSFA6	0.52151	0.33018	0.08807	0.17694
PSSFR7	-0.04443	0.00640	0.73908	-0.05750	PSSFA7	0.31478	0.58194	0.25714	-0.08077
PSSFR8	0.18155	0.50355	0.08287	0.03058	PSSFA8	0.55206	0.28367	0.55281	0.15504
PSSFR9	0.35587	0.24885	0.04720	0.18841	PSSFA9	0.50893	0.40198	0.55704	0.10554
PSSFR10	0.55540	0.20523	-0.00635	-0.00204	PSSFA10	0.47582	0.41381	0.41080	0.40048
PSSFR11	0.31882	0.54544	-0.11540	0.16995	PSSFA11	0.55936	0.41329	0.18124	0.42444
PSSFR12	0.73367	-0.22324	0.06453	0.09816	PSSFA12	0.43993	0.74287	0.31489	0.02709
PSSFR13	0.60538	0.08402	-0.10174	0.18053	PSSFA13	0.72520	0.38532	0.36125	0.28107
PSSFR14	0.22837	-0.12427	0.20089	0.55186	PSSFA14	0.52087	0.34618	0.48267	0.36817
PSSFR15	0.02743	0.14544	0.52305	0.17705	PSSFA15	0.18068	0.50712	0.08744	0.40232
PSSFR16	-0.11735	0.50951	0.32575	-0.00095	PSSFA16	0.23482	0.27664	0.59518	0.45022
PSSFR17	-0.12902	0.47744	-0.09285	0.57846	PSSFA17	0.15675	0.53884	0.43491	0.31631
PSSFR18	0.38493	0.09331	0.24852	0.01112	PSSFA18	0.31027	0.56749	0.14835	0.37240
PSSFR19	0.54785	-0.11749	0.14077	0.02204	PSSFA19	0.32409	0.15408	0.30182	0.59288
PSSFR20	0.05804	0.39146	0.45848	-0.30495	PSSFA20	0.48621	0.03590	0.57142	0.77567

INTER-FACTOR CORRELATIONS				
FACTOR1	FACTOR2	FACTOR3	FACTOR4	
FACTOR1	1.00000	0.39888	0.32435	0.29189
FACTOR2	0.38888*	1.00000	0.28428	0.12503
FACTOR3	0.32435*	0.28428*	1.00000	0.14186
FACTOR4	0.29189*	0.12503	0.14186*	1.00000

* significant (n=273, $p < .05$)

APPENDIX K

Secondary Factor Analyses for the PSS-Fa

Secondary Factor Analyses for the PSS-Fa

1. 4 factor solution: principal components extraction with varimax rotation.

ROTATED FACTOR PATTERN				
	FACTOR1	FACTOR2	FACTOR3	FACTOR4
PSSFA1	0.62617	-0.02622	0.26806	0.03746
PSSFA2	0.64172	0.10474	-0.01353	0.26890
PSSFA3	0.23743	0.08167	0.25906	0.68430
PSSFA4	0.05876	0.10625	0.74471	0.14270
PSSFA5	0.33816	0.20396	0.18468	0.30896
PSSFA6	0.60972	0.22520	-0.07032	0.08073
PSSFA7	0.19314	0.67488	0.16382	-0.18860
PSSFA8	0.68478	0.13639	0.43784	0.03161
PSSFA9	0.38810	0.28447	0.67203	-0.01906
PSSFA10	0.35077	0.30024	0.28425	0.30716
PSSFA11	0.48832	0.30027	0.01841	0.34164
PSSFA12	0.30468	0.68618	0.18891	-0.30841
PSSFA13	0.65861	0.21828	0.19725	0.18482
PSSFA14	0.61246	0.19726	0.34182	0.27801
PSSFA15	0.05824	0.68280	-0.03084	0.34890
PSSFA16	0.04488	0.17284	0.84693	0.37104
PSSFA17	-0.02601	0.48677	0.36741	0.24053
PSSFA18	0.17411	0.62422	0.00868	0.28640
PSSFA19	0.21877	0.03680	0.18281	0.66467
PSSFA20	0.40702	-0.11080	0.60204	0.18117

VARIANCE EXPLAINED BY EACH FACTOR				
FACTOR1	FACTOR2	FACTOR3	FACTOR4	
1	2	2	1	
123147	442348	400598	911866	
FINAL COMMUNALITY ESTIMATES TOTAL = 8.877860				

2. 3 factor solution: principal components extraction, varimax rotation.

ROTATED FACTOR PATTERN			
	FACTOR1	FACTOR2	FACTOR3
PSSFA1	0.88880	0.24399	-0.00036
PSSFA2	0.88880	0.08081	0.11843
PSSFA3	0.36687	0.62842	0.07146
PSSFA4	0.03699	0.72328	0.13183
PSSFA5	0.36446	0.26466	0.21598
PSSFA6	0.81287	-0.06806	0.23793
PSSFA7	0.12099	0.03653	0.86820
PSSFA8	0.62878	0.37870	0.16864
PSSFA9	0.31147	0.47787	0.31352
PSSFA10	0.38560	0.36732	0.31853
PSSFA11	0.64185	0.13740	0.31062
PSSFA12	0.24785	0.08403	0.70980
PSSFA13	0.88018	0.21398	0.23882
PSSFA14	0.83601	0.40142	0.22004
PSSFA15	0.12608	0.11085	0.86033
PSSFA16	0.08207	0.73888	0.18300
PSSFA17	-0.00625	0.42408	0.80830
PSSFA18	0.22184	0.11718	0.62837
PSSFA19	0.34745	0.46389	0.04630
PSSFA20	0.40844	0.61788	-0.08484

VARIANCE EXPLAINED BY EACH FACTOR			
FACTOR1	FACTOR2	FACTOR3	
3.337151	2.908136	2.572728	

FINAL COMMUNALITY ESTIMATES TOTAL = 8.818014			
--	--	--	--

3. 4 factor solution: principal components extraction, promax rotation.

ROTATED FACTOR PATTERN (STD REG COEFS)					FACTOR STRUCTURE (CORRELATIONS)				
	FACTOR1	FACTOR2	FACTOR3	FACTOR4		FACTOR1	FACTOR2	FACTOR3	FACTOR4
PSSFA1	0.84880	-0.16370	0.19110	-0.03728	PSSFR1	0.63567	0.43306	0.18182	-0.08643
PSSFA2	0.86477	0.00188	-0.14676	0.22742	PSSFR2	0.48747	0.28175	0.41510	0.43416
PSSFA3	0.13879	-0.04684	0.17794	0.87707	PSSFR3	0.31348	0.80936	0.23693	0.30285
PSSFA4	-0.10882	0.02625	0.78024	0.07214	PSSFR4	0.18800	0.64016	0.10759	0.06191
PSSFA5	0.28154	0.12377	0.07815	0.28504	PSSFR5	0.64332	0.26824	0.06820	0.17740
PSSFA6	0.84855	0.13749	-0.21856	0.03174	PSSFR6	0.18516	0.11878	0.64619	0.28381
PSSFA7	0.08426	0.89176	0.10548	-0.27484	PSSFR7	0.17773	0.19767	0.71886	0.02490
PSSFA8	0.82263	0.00830	0.36636	-0.06288	PSSFR8	0.41825	0.60420	0.29429	0.15839
PSSFA9	0.26505	0.19291	0.63281	-0.12148	PSSFR9	0.62842	0.47961	0.26400	0.34013
PSSFA10	0.25481	0.21471	0.19808	0.24378	PSSFR10	0.63460	0.42464	0.23380	0.18489
PSSFA11	0.48474	0.21326	-0.12395	0.29108	PSSFR11	0.54897	0.86010	0.17224	0.31443
PSSFA12	0.19185	0.88858	0.10280	-0.19308	PSSFR12	0.69442	0.10075	0.28077	0.28367
PSSFA13	0.64633	0.08025	0.08014	0.08264	PSSFR13	0.65878	0.32684	0.14804	0.33474
PSSFA14	0.44647	0.07322	0.23798	0.20319	PSSFR14	0.43719	0.10870	0.33222	0.74128
PSSFA15	-0.06643	0.88393	-0.11577	0.31856	PSSFR15	0.30879	0.32244	0.68963	0.27734
PSSFA16	-0.14219	0.08214	0.88587	0.31482	PSSFR16	0.23146	0.86874	0.46792	0.08727
PSSFA17	-0.21185	0.48884	0.34881	0.18512	PSSFR17	0.22941	0.48348	0.10191	0.88733
PSSFA18	0.06270	0.81888	-0.09255	0.24743	PSSFR18	0.60832	0.32187	0.40341	0.17027
PSSFA19	0.13869	-0.06139	0.11411	0.84449	PSSFR19	0.86304	0.18610	0.31945	0.21844
PSSFA20	0.36114	-0.24828	0.48228	0.12958	PSSFR20	0.30385	0.62337	0.68904	-0.18536

INTER-FACTOR CORRELATIONS				
FACTOR1	FACTOR2	FACTOR3	FACTOR4	
FACTOR1	1.00000	0.37371	0.38962	0.25562
FACTOR2	0.37371*	1.00000	0.28267	0.21478
FACTOR3	0.38962*	0.28267*	1.00000	0.23167
FACTOR4	0.25562*	0.21478*	0.23167*	1.00000

* significant (n=273, p<.05)

APPENDIX L

Secondary Factor Analyses for the ISSB

Secondary Factor Analyses for the ISSB

1. 7 factor solution: principal components extraction, varimax rotation.

ROTATED FACTOR PATTERN							
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7
ISSB1	0.1454E	0.01521	-0.04419	0.05542	-0.04425	-0.03305	0.76229
ISSB2	0.41875	0.29982	0.12148	0.24448	0.18995	-0.07523	0.16264
ISSB3	0.23785	0.11794	0.24475	0.12266	0.09983	0.16742	0.52642
ISSB4	-0.13031	0.20481	0.20706	0.01895	0.26379	0.25037	0.51532
ISSB5	0.03613	0.44248	0.38343	0.18150	0.30840	-0.26084	0.18055
ISSB6	0.27348	0.07895	0.69863	0.01300	0.21436	0.10870	0.28882
ISSB7	0.31724	0.17027	0.85898	0.02585	-0.13753	0.10611	0.11162
ISSB8	0.46664	0.23874	0.80261	0.12560	-0.00079	0.16531	-0.04781
ISSB9	0.07592	0.18688	0.10582	0.30216	0.66588	0.00695	0.20426
ISSB10	0.82433	0.21532	0.25494	0.05605	0.22827	0.15694	-0.06950
ISSB11	0.44700	0.16000	0.31766	0.08682	0.48288	0.10679	0.08088
ISSB12	0.44310	0.60476	-0.08491	-0.03173	0.28110	0.12259	0.11836
ISSB13	0.20835	0.63328	-0.07653	-0.00043	0.11628	0.12638	0.21246
ISSB14	0.86747	0.26278	0.28882	-0.02333	0.06700	0.28126	0.10368
ISSB15	0.07238	0.73289	0.21599	0.07076	-0.01478	0.24410	0.02261
ISSB16	0.10054	0.74380	0.27018	0.04974	0.05126	0.02218	-0.03832
ISSB17	0.18354	0.14821	0.08497	0.31128	-0.24253	0.04437	0.25751
ISSB18	0.86067	0.04458	0.10861	0.11128	-0.24253	-0.00446	0.20812
ISSB19	0.32880	0.69598	0.28450	0.10655	0.18927	0.10788	0.10057
ISSB20	0.07462	0.08102	0.05599	0.23898	-0.11014	0.58231	0.11908
ISSB21	0.34870	0.80964	0.18721	0.18270	0.16253	0.18918	0.14530
ISSB22	0.16278	0.03364	0.02014	0.88782	-0.10882	0.28175	0.01885
ISSB23	0.25263	0.67864	0.09491	0.20957	0.13187	0.06485	0.04804
ISSB24	0.64277	0.28921	0.29241	0.07022	0.16189	-0.01074	0.05856
ISSB25	0.07105	0.35900	0.18421	0.34817	0.01328	0.37136	-0.05754
ISSB26	0.43087	0.38990	0.45777	0.23640	0.05622	-0.04302	-0.02567
ISSB27	0.40130	0.52845	0.39972	0.02015	0.13170	0.13841	0.00203
ISSB28	0.39068	0.41258	0.42510	0.20241	0.21433	-0.02931	0.12089
ISSB29	0.70805	0.29609	0.13209	0.03695	0.19053	0.07389	0.07632
ISSB30	0.73083	0.27193	0.15070	0.05421	0.01200	0.14508	0.09447
ISSB31	0.85801	0.04368	0.08450	0.03028	0.03836	0.05389	0.04186
ISSB32	0.21192	0.38918	0.08213	0.19477	0.69835	0.10474	0.03277
ISSB33	0.34761	0.55851	0.02351	0.10829	0.27072	0.22177	0.05241
ISSB34	-0.00746	0.07361	0.05130	0.88883	0.35673	0.00717	0.10023
ISSB35	0.09276	0.35858	0.20163	0.12739	0.35986	0.44262	-0.02602
ISSB36	0.28113	0.35023	0.32581	0.23886	0.29427	0.22785	-0.17940
ISSB37	0.35333	0.16700	0.41441	-0.02088	0.27845	0.44085	-0.13180
ISSB38	0.09389	0.18233	-0.07604	0.33579	0.15527	0.58777	0.23282
ISSB39	0.26985	0.24665	0.28645	0.13722	0.23818	0.43668	0.05146
ISSB40	-0.02240	0.01811	0.04265	0.70873	0.20782	0.25551	-0.14487

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7
5.784436	5.269884	2.994952	2.938089	2.389029	2.183866	1.767428

FINAL COMMUNALITY ESTIMATES TOTAL : 23.277185

2. 8 factor solution: principal components extraction, varimax rotation.

ROTATED FACTOR PATTERN								
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8
ISSB1	0.18377	0.00326	-0.13861	0.08920	0.03588	-0.02528	0.82805	0.01111
ISSB2	0.42785	0.30238	-0.05484	0.21223	0.20518	0.27315	0.04440	0.02041
ISSB3	0.26823	0.14152	-0.04145	0.09120	0.42891	0.18612	0.32335	0.34222
ISSB4	-0.11010	0.17322	0.35825	0.07149	0.10533	0.14187	0.85587	0.02843
ISSB5	0.05932	0.44007	-0.00159	0.13143	0.48882	0.33740	0.04516	-0.20922
ISSB6	0.28567	0.08380	0.18427	-0.01517	0.68287	0.22848	0.04834	0.17523
ISSB7	0.38477	0.17473	0.25997	0.03199	0.58858	-0.18461	0.02183	0.04088
ISSB8	0.47802	0.22742	0.35026	0.14336	0.35573	-0.07315	-0.05872	0.00814
ISSB9	0.08481	0.17591	0.11116	0.27392	0.19140	0.68158	0.12027	0.02822
ISSB10	0.81843	0.20228	0.30242	0.05569	0.14619	0.19557	-0.08200	0.05484
ISSB11	0.44212	0.13705	0.34809	0.06892	0.23100	0.42674	0.07216	-0.02102
ISSB12	0.42888	0.48080	0.14538	-0.02811	-0.12618	0.28594	0.14183	0.06838
ISSB13	0.20370	0.83907	0.00539	-0.00701	-0.01414	0.17118	0.18740	0.17816
ISSB14	0.88473	0.23983	0.34083	-0.00181	0.15712	0.00772	0.12037	0.12073
ISSB15	0.08063	0.73884	0.22777	0.08822	0.18823	-0.03225	-0.00585	0.18083
ISSB16	0.11217	0.74833	0.13530	0.04886	0.25251	0.05410	-0.08553	-0.01478
ISSB17	0.21882	0.13853	-0.00383	0.70880	0.11228	0.11835	0.23814	0.03448
ISSB18	0.88588	0.05748	-0.15755	0.28652	0.17718	-0.14880	0.08320	0.13207
ISSB19	0.33808	0.89784	0.17112	0.08565	0.28458	0.21777	0.00262	0.08826
ISSB20	0.08865	0.11890	0.11849	0.23182	0.15424	-0.04733	-0.05235	0.87577
ISSB21	0.35867	0.80214	0.20121	0.19810	0.18214	0.15782	0.11425	0.10538
ISSB22	0.17105	0.03512	0.07438	0.88782	0.00280	-0.08813	-0.00622	0.26028
ISSB23	0.26086	0.88135	0.17880	0.22741	0.00945	0.10833	0.09307	-0.05811
ISSB24	0.85528	0.24748	0.22854	0.07548	0.17808	0.12254	0.07414	-0.12183
ISSB25	0.07813	0.33438	0.42708	0.42115	-0.01155	-0.08897	0.08860	0.08584
ISSB26	0.48085	0.36570	0.33531	0.28687	0.25077	-0.04484	0.05725	-0.27988
ISSB27	0.41810	0.80139	0.42288	0.05488	0.20289	0.02841	0.07882	-0.08835
ISSB28	0.41888	0.38028	0.31510	0.22475	0.27673	0.13009	0.18380	-0.22420
ISSB29	0.70882	0.28121	0.18081	0.03381	0.05727	0.18587	0.06763	0.01288
ISSB30	0.73735	0.28388	0.18889	0.05855	0.07390	0.01224	0.07649	0.08439
ISSB31	0.85802	0.04116	0.05858	0.01247	0.05395	0.07803	-0.02184	0.08384
ISSB32	0.18185	0.37378	0.17853	0.18140	-0.08648	0.80588	-0.05025	0.05863
ISSB33	0.33077	0.54417	0.24728	-0.08842	-0.08624	0.24852	0.08183	0.12183
ISSB34	-0.00201	0.05684	0.05411	0.89188	0.07424	0.38803	0.08928	-0.02889
ISSB35	0.07862	0.33860	0.80254	0.18075	0.05820	0.26336	0.02218	-0.21801
ISSB36	0.28785	0.31837	0.48902	0.27175	0.10412	0.17477	-0.08759	-0.05224
ISSB37	0.34418	0.13216	0.87254	0.02832	0.14435	0.11351	-0.02834	0.10736
ISSB38	0.07949	0.18858	0.22349	0.35065	-0.05600	0.18555	0.13348	0.83349
ISSB39	0.26708	0.22434	0.81101	0.17894	0.11485	0.12882	0.12583	0.19670
ISSB40	-0.03043	0.00471	0.21469	0.72184	-0.02552	0.18000	-0.12424	0.13413

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8
5.938704	5.017149	3.055911	3.031434	2.131688	2.118278	1.583902	1.442840

FINAL COMMUNALITY ESTIMATES: TOTAL = 24.320884

3. 7 factor solution: principal components extraction, varimax rotation.

ROTATED FACTOR PATTERN (STD REG COEFS)							
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7
ISSB1	0.12091	-0.00838	-0.00370	-0.00390	-0.03593	0.02120	0.78356
ISSB2	0.35708	0.18890	0.03235	0.17598	0.18507	-0.14859	0.05848
ISSB3	0.12458	-0.02328	0.26808	0.03325	0.08385	0.17084	0.51480
ISSB4	-0.31251	0.10740	0.23855	-0.07874	0.24161	0.25774	0.83349
ISSB5	-0.15591	0.37472	0.38833	0.08892	0.28517	-0.34983	0.08880
ISSB6	0.11000	-0.18887	0.88843	-0.08208	0.18144	0.05625	0.27875
ISSB7	0.18497	0.03809	0.74212	-0.08208	-0.28720	0.05885	0.08877
ISSB8	0.32897	0.07586	0.48578	0.04801	-0.10823	0.08973	-0.08888
ISSB9	-0.04114	-0.03519	0.01518	0.22848	0.74480	-0.06232	0.14854
ISSB10	0.87823	-0.00028	0.17187	-0.02073	0.17817	0.05718	-0.12812
ISSB11	0.35358	-0.12468	0.25842	0.00302	0.48840	0.00812	0.02888
ISSB12	0.38348	0.44427	-0.23702	-0.11822	0.23899	0.03876	0.06071
ISSB13	0.08504	0.89055	-0.20076	-0.04808	0.03784	0.07893	0.18750
ISSB14	0.47781	0.08913	0.24521	-0.11267	-0.02685	0.18595	0.07214
ISSB15	-0.15157	0.80885	0.13090	-0.02517	-0.18538	-0.19122	-0.01419
ISSB16	-0.11359	0.81105	0.18558	-0.04848	-0.07824	-0.05330	-0.08148
ISSB17	0.10771	0.05043	0.01354	0.87314	0.08787	0.03884	0.18341
ISSB18	0.88810	-0.04189	0.08944	0.28233	-0.28883	-0.02585	0.14441
ISSB19	0.14848	0.82198	0.19239	-0.00551	0.10345	0.01890	0.03881
ISSB20	-0.01138	0.02838	0.03489	0.21164	-0.18842	0.82020	0.13449
ISSB21	0.19788	0.42880	0.09891	0.09528	0.08058	0.08883	0.08822
ISSB22	0.11857	-0.02778	-0.04917	0.88584	-0.13508	0.18882	-0.02880
ISSB23	0.08382	0.88882	-0.04248	0.12178	0.04289	-0.01532	-0.02889
ISSB24	0.88752	0.08937	0.22570	-0.01528	0.10711	-0.11435	-0.00970
ISSB25	-0.08813	0.32148	0.12404	0.31783	-0.07748	0.35330	-0.09000
ISSB26	0.28582	0.28527	0.41238	0.14978	-0.03454	-0.14204	0.08885
ISSB27	0.22718	0.42953	0.33882	-0.09006	0.01254	0.03824	-0.05041
ISSB28	0.24214	0.37488	0.08760	0.08760	0.14773	-0.12733	0.05068
ISSB29	0.88323	0.12588	0.02887	-0.04659	0.14289	-0.02532	0.00781
ISSB30	0.71289	0.13304	0.06474	-0.01925	-0.08793	0.08885	0.03491
ISSB31	0.83059	-0.18071	-0.00554	-0.01808	0.00570	-0.02809	-0.01884
ISSB32	0.13086	0.24831	-0.25820	0.12832	0.82402	0.01025	-0.10108
ISSB33	0.24852	0.81105	-0.18288	-0.20201	0.20302	0.13983	0.00878
ISSB34	-0.08473	-0.08734	-0.03582	0.88079	0.42708	-0.01338	0.03072
ISSB35	-0.08007	0.20822	0.11785	0.04511	0.30557	0.38102	-0.04701
ISSB36	0.14422	0.18054	0.23557	0.18278	0.23824	0.13462	-0.23528
ISSB37	0.22474	-0.08881	0.38501	-0.10452	0.20430	0.35604	-0.14211
ISSB38	-0.00429	0.08518	-0.18289	0.28588	0.12421	0.88731	0.22448
ISSB39	0.12424	0.05740	0.23617	0.05221	0.18983	0.38208	0.04285
ISSB40	-0.09585	-0.10585	-0.04788	0.71841	0.23830	0.25288	-0.18553

FACTOR STRUCTURE (CORRELATIONS)							
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7
ISS01	0.18708	0.10018	0.02082	0.13304	0.07225	0.04361	0.78236
ISS02	0.51185	0.48885	0.34708	0.30846	0.37213	0.08527	0.18309
ISS03	0.35167	0.28946	0.37028	0.20863	0.26734	0.21842	0.81042
ISS04	0.07058	0.28946	0.27675	0.07337	0.31151	0.27784	0.48885
ISS05	0.18304	0.52877	0.80389	0.27800	0.44403	0.12788	0.18488
ISS06	0.38187	0.28361	0.84278	0.10182	0.36747	0.18778	0.24800
ISS07	0.42518	0.33757	0.72581	0.12007	0.07547	0.18826	0.08167
ISS08	0.54316	0.43375	0.88287	0.20274	0.27810	0.28834	0.08034
ISS09	0.20013	0.35337	0.78426	0.32883	0.73511	0.12555	0.20537
ISS010	0.69902	0.43335	0.49204	0.11782	0.41817	0.30589	0.08885
ISS011	0.54917	0.38688	0.52586	0.15886	0.62335	0.28185	0.08863
ISS012	0.56286	0.61724	0.20184	0.02636	0.47880	0.25317	0.12876
ISS013	0.35275	0.67307	0.16733	0.08080	0.33659	0.24076	0.21784
ISS014	0.65411	0.44865	0.48836	0.06785	0.26878	0.37800	0.08870
ISS015	0.27044	0.76682	0.42181	0.13420	0.27725	0.36725	0.06551
ISS016	0.28178	0.77228	0.46478	0.11838	0.32087	0.18772	0.04087
ISS017	0.30686	0.32016	0.27180	0.74722	0.26821	0.12850	0.30337
ISS018	0.67863	0.23202	0.28128	0.38962	0.08120	0.07162	0.26537
ISS019	0.50498	0.73584	0.53734	0.18872	0.47125	0.27058	0.08841
ISS020	0.71150	0.18242	0.16146	0.25612	0.03883	0.58713	0.09320
ISS021	0.61058	0.86116	0.45448	0.26755	0.42180	0.31371	0.14848
ISS022	0.23829	0.17183	0.18488	0.69851	0.04045	0.33376	0.05283
ISS023	0.42275	0.76187	0.36306	0.27301	0.40073	0.22083	0.06377
ISS024	0.72220	0.47878	0.52588	0.15519	0.35563	0.14171	0.07270
ISS025	0.22131	0.46044	0.35881	0.39294	0.23188	0.45574	0.08606
ISS026	0.55948	0.57453	0.65630	0.31889	0.30933	0.11545	0.01285
ISS027	0.55899	0.68252	0.62874	0.10573	0.40342	0.28851	0.01270
ISS028	0.53835	0.80220	0.63840	0.28090	0.45314	0.13225	0.12559
ISS029	0.77840	0.50435	0.40830	0.11508	0.38533	0.22624	0.09387
ISS030	0.78888	0.47891	0.41478	0.14185	0.24110	0.27817	0.11178
ISS031	0.85353	0.28878	0.32180	0.10232	0.18094	0.17085	0.07183
ISS032	0.32949	0.51310	0.17633	0.20868	0.71252	0.25147	0.02308
ISS033	0.47667	0.84644	0.24235	0.05635	0.47622	0.35881	0.04302
ISS034	0.08386	0.21602	0.19308	0.69816	0.43438	0.08933	0.13883
ISS035	0.28478	0.49177	0.39214	0.15259	0.53975	0.58085	0.06678
ISS036	0.42817	0.52237	0.53562	0.27489	0.48926	0.37711	0.18018
ISS037	0.46681	0.36555	0.57856	0.02188	0.45148	0.55275	0.18155
ISS038	0.22580	0.31888	0.11530	0.35330	0.31400	0.60977	0.21788
ISS039	0.41204	0.43324	0.47709	0.18558	0.43613	0.53854	0.02764
ISS040	0.06487	0.14732	0.16684	0.68247	0.29475	0.31540	0.12247

VARIANCE EXPLAINED BY EACH FACTOR IGNORING OTHER FACTORS

FACTOR1 FACTOR2 FACTOR3 FACTOR4 FACTOR5 FACTOR6 FACTOR7
 8.786382 9.372188 7.418304 3.562884 6.034385 3.827528 1.786503

FINAL COMMUNALITY ESTIMATES TOTAL = 23.277185

INTER-FACTOR CORRELATIONS

	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7
FACTOR1	1.00000	0.45981	0.42351	0.18589	0.28556	0.25353	0.11121
FACTOR2	0.45981	1.00000	0.48680	0.20754	0.48136	0.28511	0.08515
FACTOR3	0.42351	0.48680	1.00000	0.21915	0.36267	0.22746	0.01738
FACTOR4	0.18589	0.20754	0.21915	1.00000	0.12135	0.05564	0.15561
FACTOR5	0.28556	0.48136	0.36267	0.12135	1.00000	0.28009	0.03006
FACTOR6	0.25353	0.28511	0.22746	0.05564	0.28009	1.00000	0.10967
FACTOR7	0.11121	0.08515	0.01738	0.15561	0.03006	0.10967	1.00000

* significant (n=273, p<.05)

4. 7 factor solution: principal components extraction, varimax rotation, common logarithm transformation.

ROTATED FACTOR PATTERN

	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7
ISS01	0.08544	0.05443	0.07104	0.00523	-0.02825	-0.05703	0.79488
ISS02	0.41237	0.28228	0.28928	0.10851	0.18043	-0.09287	0.14287
ISS03	0.27460	0.07080	0.10070	0.14987	0.17789	0.20780	0.48788
ISS04	-0.09460	0.28085	0.07767	0.06242	0.38255	0.20333	0.43332
ISS05	0.06763	0.41887	0.11303	0.37487	0.38041	-0.09857	0.06387
ISS06	0.33202	0.02830	-0.04358	0.44208	0.38488	0.22131	0.28703
ISS07	0.35871	0.10317	-0.03388	0.61787	-0.01028	0.27580	0.14727
ISS08	0.49888	0.23432	0.08312	0.42828	0.01306	0.16054	-0.08501
ISS09	0.09427	0.27582	0.32816	0.02761	0.58789	-0.04427	0.18102
ISS010	0.83085	0.25418	0.10872	0.16087	0.16088	0.08433	-0.11266
ISS011	0.47528	0.15848	0.07883	0.22818	0.48122	0.12954	0.08632
ISS012	0.38378	0.54358	0.02323	-0.14788	0.17361	-0.00885	0.08625
ISS013	0.20885	0.83738	0.00238	-0.14836	0.11131	0.18065	0.20136
ISS014	0.82045	0.21827	-0.02711	0.18505	0.08374	0.25262	0.08218
ISS015	0.08195	0.88442	0.08470	0.26255	-0.00312	0.28933	0.01644
ISS016	0.09189	0.88832	0.08838	0.34851	0.02085	0.07805	0.28067
ISS017	0.19688	0.13829	0.88873	0.07200	0.00826	-0.07805	0.03864
ISS018	0.84488	0.08784	0.32280	0.13080	-0.25010	-0.00589	0.05483
ISS019	0.29387	0.68780	0.10741	0.38585	0.15800	0.08922	0.10483
ISS020	0.01285	0.06368	0.23680	0.12195	-0.11888	0.68738	0.05745
ISS021	0.33148	0.57483	0.12806	0.11818	0.12382	0.18888	0.12775
ISS022	0.16668	0.02108	0.67718	0.02554	-0.13974	0.32484	0.00302
ISS023	0.24768	0.83888	0.15601	0.14891	0.12886	0.12246	0.03674
ISS024	0.86003	0.24451	0.07281	0.23888	0.17042	-0.08380	0.06857
ISS025	0.05267	0.30472	0.31579	0.18727	0.12072	0.41837	-0.06154
ISS026	0.44058	0.38245	0.18788	0.48878	0.04048	-0.02300	0.02332
ISS027	0.36474	0.47018	-0.00254	0.48197	0.14442	0.15248	0.02835
ISS028	0.36678	0.42825	0.13757	0.43884	0.21396	-0.00167	0.10770
ISS029	0.89858	0.30082	0.00162	0.03529	0.18283	0.10427	0.08407
ISS030	0.76033	0.28428	-0.00247	0.04888	0.03743	0.17530	0.08978
ISS031	0.84385	0.09745	0.03874	0.04881	-0.03278	-0.01248	0.07488
ISS032	0.19096	0.62802	0.23542	-0.11173	0.42728	0.00438	-0.09382
ISS033	0.29505	0.81788	-0.02612	0.02633	0.10855	0.12055	0.02757
ISS034	-0.03436	0.08875	0.72818	0.03060	0.33864	-0.00558	0.06775
ISS035	0.16174	0.35209	0.11231	0.10314	0.38484	0.44871	0.01483
ISS036	0.37461	0.34534	0.20811	0.13745	0.35555	0.17118	0.19888
ISS037	0.44120	0.17652	0.03324	0.17078	0.35093	0.35998	-0.22888
ISS038	0.13246	0.27581	0.34366	0.28748	0.15880	0.49716	0.18439
ISS039	0.30284	0.26987	0.11281	0.14204	0.25146	0.42077	0.05174
ISS040	-0.07863	0.04384	0.73088	-0.00043	0.20987	0.20885	-0.11812

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1 FACTOR2 FACTOR3 FACTOR4 FACTOR5 FACTOR6 FACTOR7
 5.871704 5.383511 2.881396 2.383558 2.285982 2.171674 1.689423

FINAL COMMUNALITY ESTIMATES TOTAL = 27.748668

APPENDIX M

Secondary Factor Analyses for the SSQ

Secondary Factor Analyses for the SSQ

1. 5 factor solution: principal components extraction, varimax rotation,
common logarithm transformation.

ROTATED FACTOR PATTERN					
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
SS01	-0.08428	0.83028	-0.21838	-0.10227	-0.18468
SS02	0.57718	-0.16766	0.24877	0.18865	0.13854
SS03	-0.10942	0.88088	0.01300	-0.27083	-0.02545
SS04	0.84608	-0.18325	0.04488	0.42843	0.02406
SS05	-0.11733	0.88402	-0.30467	-0.33881	0.10410
SS06	0.82262	-0.08827	0.38422	0.28870	0.14843
SS07	-0.08237	0.88041	0.03647	-0.35108	0.02203
SS08	0.88367	-0.22889	-0.01856	0.37148	0.17467
SS09	-0.08207	0.73312	0.00710	-0.27458	0.01814
SS010	0.82388	-0.14720	-0.10031	0.32048	0.18088
SS011	-0.18384	0.86182	0.07114	-0.09012	-0.32882
SS012	0.88878	-0.02471	-0.00227	0.14188	0.37144
SS013	-0.07343	0.70783	0.12423	-0.07885	-0.18468
SS014	0.81818	-0.17038	-0.30328	0.17188	0.13742
SS015	-0.08460	0.78488	0.10802	0.02484	0.08988
SS016	0.87220	-0.13414	-0.20888	0.10016	-0.02237
SS017	-0.13418	0.71878	-0.10151	-0.11318	0.02284
SS018	0.73002	-0.08284	0.03838	0.13874	-0.08888
SS019	-0.08818	0.88840	-0.02717	-0.18831	0.14802
SS020	0.87708	-0.15484	0.12800	0.33820	-0.00027
SS021	-0.28421	0.82878	0.08388	-0.12031	-0.32444
SS022	0.87018	-0.18201	-0.03134	0.02820	0.35488
SS023	-0.13820	0.70238	-0.04333	-0.02178	-0.08702
SS024	0.71288	-0.14315	-0.01619	-0.08208	0.20881
SS025	-0.08780	0.73287	0.10788	0.08672	-0.02181
SS026	0.71242	-0.20070	-0.13529	0.02870	0.06432
SS027	-0.20077	0.88334	-0.03788	0.28180	-0.21821
SS028	0.74024	-0.13183	-0.08580	-0.28788	0.15883
SS029	-0.24478	0.88614	-0.19888	0.03780	0.08851
SS030	0.87812	-0.10855	0.18108	-0.01408	0.08741
SS031	-0.18880	0.81877	0.10202	-0.08988	0.48122
SS032	0.88881	-0.11015	0.01471	-0.08852	-0.28038
SS033	-0.20432	0.88088	0.08841	0.02088	0.21028
SS034	0.72088	-0.21178	-0.12782	-0.00238	-0.18818
SS035	-0.18888	0.88448	-0.03811	-0.28083	0.08312
SS036	0.72134	-0.17833	0.08003	0.18858	-0.08838
SS037	-0.18878	0.70823	-0.17811	-0.00788	-0.28088
SS038	0.72847	-0.08888	0.28701	0.00028	0.12044
SS039	-0.11777	0.72212	-0.38800	-0.02177	0.03288
SS040	0.72088	-0.16288	0.38481	0.00804	-0.00811
SS041	-0.13132	0.74828	-0.08413	0.02072	-0.17821
SS042	0.88847	-0.13870	0.12388	0.03447	-0.00188
SS043	-0.18724	0.82882	0.01888	0.22141	0.12888
SS044	0.78180	-0.14782	-0.18887	-0.13882	-0.11344
SS045	-0.10838	0.73701	0.02823	0.12888	0.08438
SS046	0.78441	-0.21028	-0.02840	-0.08188	0.20208
SS047	-0.18888	0.88718	-0.48828	-0.03888	0.02278
SS048	0.88827	-0.08388	0.48828	-0.03888	0.07788
SS049	-0.22803	0.70881	-0.10888	0.18262	0.04780
SS050	0.77780	-0.18780	0.18881	-0.18182	-0.18784
SS051	-0.08883	0.87787	-0.04888	0.03404	0.12888
SS052	0.70837	-0.11213	0.20428	0.03708	-0.12188
SS053	-0.28721	0.88702	0.01800	0.05288	0.22380
SS054	0.88223	-0.18041	0.00838	-0.08282	-0.17712

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
13.231563	13.067244	1.891052	1.886127	1.578878

FINAL COMMUNALITY ESTIMATES: TOTAL = 31.220884

2. 8 factor solution: principal components extraction, varimax rotation,
common logarithm transformation.

ROTATED FACTOR PATTERN								
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8
SS01	0.81247	-0.04727	-0.15482	-0.23235	-0.25051	0.07884	0.00882	0.02356
SS02	-0.17741	0.52857	0.40813	0.23070	-0.00284	0.01723	0.18884	-0.04469
SS03	0.66381	-0.05600	-0.34552	0.00555	-0.12385	0.02150	0.14885	-0.01785
SS04	-0.15746	0.47983	0.57877	0.01654	-0.02758	-0.04600	0.01044	0.07656
SS05	0.83383	-0.10264	-0.18082	-0.22020	-0.00732	0.47425	0.22211	-0.00801
SS06	-0.06729	0.43810	0.40225	0.37724	0.21632	-0.07841	-0.02194	-0.04329
SS07	0.64768	-0.04779	-0.28105	0.07536	-0.12430	0.25842	0.23807	-0.00828
SS08	-0.19464	0.51320	0.52578	-0.01547	0.24432	-0.05372	-0.07763	-0.04713
SS09	0.70438	-0.05071	-0.10036	0.04695	-0.08114	0.30462	0.07938	-0.20315
SS010	-0.13514	0.56844	0.27111	-0.07267	0.22017	-0.08874	0.12833	0.37276
SS011	0.63278	-0.12707	-0.18823	0.03472	-0.44238	0.00308	0.02182	0.10809
SS012	-0.00130	0.57688	0.31307	0.08082	0.48194	0.10780	0.05458	0.00362
SS013	0.68555	-0.08933	-0.09036	0.20553	-0.04790	0.21252	-0.13021	0.10353
SS014	-0.15506	0.80568	0.23188	-0.32448	0.12216	-0.07247	0.07785	0.02887
SS015	0.77752	-0.08195	-0.04829	0.06825	0.03455	-0.14834	-0.02111	-0.15039
SS016	-0.14135	0.55713	0.10882	-0.17894	0.00147	0.02487	0.08665	0.28180
SS017	0.72094	-0.13198	0.02040	-0.10456	-0.00174	0.15212	-0.03898	-0.33474
SS018	-0.08562	0.88606	0.08554	0.12159	0.07355	0.03794	0.00540	0.45255
SS019	0.68948	-0.05337	-0.17779	-0.02584	0.08127	0.04178	0.08245	-0.19777
SS020	-0.15088	0.83384	0.38428	0.10627	-0.03371	-0.13172	0.08138	0.22574
SS021	0.58223	-0.23187	-0.04130	0.07493	-0.44112	0.17245	-0.07788	-0.11797
SS022	-0.13523	0.82484	0.02175	0.03355	0.48280	-0.05637	0.14551	0.15184
SS023	0.68813	-0.18103	-0.00359	0.07831	0.11282	0.32039	-0.20520	0.09601
SS024	-0.13809	0.73055	0.00518	-0.05257	0.09800	-0.12332	0.25361	-0.07058
SS025	0.73851	-0.08377	-0.01155	0.08287	-0.05702	-0.08098	0.03348	0.08170
SS026	-0.18776	0.70201	0.08828	-0.05529	0.14559	-0.01320	0.00855	0.04791
SS027	0.68490	-0.21304	0.14055	-0.06187	0.21822	-0.08571	-0.10884	0.21321
SS028	-0.12075	0.74403	-0.07921	-0.00891	0.25002	0.10620	0.01637	-0.18565
SS029	0.56828	-0.21375	0.06297	-0.28539	-0.21290	-0.03503	0.25252	-0.13457
SS030	-0.05634	0.64711	-0.00467	0.23912	0.32079	-0.12901	-0.15206	-0.05433
SS031	0.48337	-0.17803	0.01140	0.07868	0.11435	-0.07167	0.80797	0.08094
SS032	-0.08342	0.70151	-0.10279	0.06848	0.02775	-0.03088	-0.32707	-0.00955
SS033	0.68821	-0.20119	-0.13513	0.04957	0.11709	-0.19259	0.17753	0.00457
SS034	-0.18716	0.73880	0.03119	-0.11251	-0.04814	-0.03694	-0.18019	0.02350
SS035	0.58858	-0.17759	-0.09762	0.00931	-0.12194	0.40854	0.25278	-0.06816
SS036	-0.13323	0.70441	0.12358	0.07761	0.14617	-0.24378	-0.21382	0.00763
SS037	0.68327	-0.18371	-0.00634	-0.08711	-0.12687	0.33703	0.18485	0.16832
SS038	-0.08315	0.70580	0.20721	0.28429	0.08055	-0.05322	0.08325	-0.16496
SS039	0.72225	-0.10995	-0.05525	-0.33756	0.03403	0.11895	0.00181	-0.00180
SS040	-0.15091	0.88759	0.17840	0.35548	0.00006	-0.02525	0.01458	-0.05394
SS041	0.74822	-0.14005	-0.10803	0.00922	-0.02153	0.10596	-0.16764	0.18304
SS042	-0.11568	0.58830	0.19482	0.07850	-0.01878	-0.12943	-0.05195	-0.24459
SS043	0.64791	-0.18082	0.01795	-0.07881	-0.02351	-0.33322	0.17474	0.08851
SS044	-0.14386	0.76158	-0.01349	-0.09857	0.04335	0.13173	-0.13228	-0.02498
SS045	0.75477	-0.11249	0.00203	-0.00801	0.01183	-0.17327	0.04779	0.00269
SS046	-0.20387	0.77091	-0.07833	0.01318	-0.01128	0.01129	-0.14063	0.14482
SS047	0.58872	-0.20435	0.01992	-0.43028	0.05728	0.31785	-0.06084	-0.03973
SS048	-0.07538	0.63353	0.18001	0.52415	0.02888	0.03430	0.14358	0.00358
SS049	0.71388	-0.24882	-0.11189	-0.12682	-0.00916	-0.00037	0.01429	0.00595
SS050	-0.19787	0.80181	-0.11031	0.20285	-0.08721	0.00542	0.01768	0.13048
SS051	0.67868	-0.10577	0.07929	-0.05737	0.00779	0.03761	0.09880	-0.12366
SS052	-0.12146	0.69155	0.18220	0.23657	-0.08131	0.05054	-0.00885	0.11304
SS053	0.69732	-0.28395	-0.04806	-0.02020	0.10840	-0.11572	0.17171	-0.03185
SS054	-0.18107	0.69145	0.07290	-0.01426	-0.17718	-0.00328	-0.08380	-0.15638

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8
12.658594	12.530759	1.987747	1.696495	1.608501	1.434420	1.339243	1.154282

FINAL COMMUNALITY ESTIMATES: TOTAL = 34.421021

3. 5 factor solution: principal components extraction, promax rotation, common logarithm transformation.

ROTATED FACTOR PATTERN (STD REG COEFS)						FACTOR STRUCTURE (CORRELATIONS)					
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5		FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
SS01	0.07169	0.83688	-0.23248	-0.08843	-0.17065	SS01	-0.18981	0.83418	-0.25855	-0.18068	-0.18438
SS02	0.82722	-0.03778	0.26037	0.18280	0.14148	SS02	0.88418	-0.26775	0.31720	0.23276	0.18765
SS03	0.03037	0.88887	0.00475	0.27315	0.00443	SS03	-0.22344	0.88912	-0.03480	-0.34808	-0.04369
SS04	0.81918	-0.01506	0.04823	0.48304	0.00443	SS04	0.84825	-0.26008	0.11184	0.47462	0.10457
SS05	0.02895	0.84083	-0.31039	-0.35584	0.12578	SS05	-0.20650	0.84834	-0.34821	-0.40175	0.08102
SS06	0.48828	0.04867	0.38230	0.30428	0.14576	SS06	0.50679	-0.17854	0.40828	0.34320	0.20811
SS07	0.05649	0.87522	0.03077	-0.35735	0.08820	SS07	-0.18644	0.88272	-0.00850	-0.42408	-0.00109
SS08	0.86384	-0.08598	-0.01075	0.38577	0.15489	SS08	0.80680	-0.23275	0.05419	0.43842	0.24816
SS09	0.08755	0.72189	-0.00070	-0.27834	0.04861	SS09	-0.16720	0.73148	-0.03940	-0.35243	0.00431
SS10	0.81370	-0.00432	-0.08318	0.33570	0.14382	SS10	0.82578	-0.26206	-0.02861	-0.38013	0.23451
SS11	-0.03720	0.88884	0.05464	-0.08811	-0.13684	SS11	-0.28728	0.88871	0.02227	-0.18325	-0.33618
SS12	0.85881	0.10889	0.01040	0.13962	0.37801	SS12	0.64748	-0.15088	0.06402	0.20917	0.43621
SS13	0.06886	0.73527	0.11124	-0.08459	-0.14974	SS13	-0.20116	0.71261	0.08017	-0.16887	-0.18393
SS14	0.43448	-0.05152	-0.29475	0.18683	0.12478	SS14	0.63554	-0.28675	0.22488	0.23061	0.20265
SS15	0.04305	0.78742	0.08222	0.02111	0.05863	SS15	-0.22823	0.78848	0.04828	-0.05549	0.06763
SS16	0.70418	-0.01147	-0.18683	0.13205	-0.03784	SS16	0.84484	-0.28897	-0.11834	0.14612	0.03181
SS17	0.01204	0.71352	0.11318	-0.12214	0.07577	SS17	-0.28097	0.72936	0.15777	-0.18391	0.05743
SS18	0.78188	0.08348	0.04857	0.17780	-0.09837	SS18	0.72874	-0.21418	0.12811	0.14005	-0.02879
SS19	0.03035	0.88580	-0.03482	-0.20830	0.18844	SS19	-0.22139	0.88848	-0.06036	-0.25739	0.13898
SS20	0.85572	0.01599	0.13488	0.37210	-0.01335	SS20	0.87888	-0.27485	0.21072	0.38343	0.07805
SS21	-0.13504	0.81087	0.07780	-0.10075	-0.31332	SS21	-0.27236	0.88914	0.02740	-0.22387	-0.34331
SS22	0.84370	-0.04742	-0.01463	0.02513	0.36415	SS22	0.84212	-0.28484	0.04515	0.11012	-0.07324
SS23	0.01025	0.71331	-0.05821	-0.07182	-0.08132	SS23	-0.26237	0.71526	-0.08568	-0.11168	-0.08516
SS24	0.70721	-0.02300	0.00065	-0.07183	-0.01689	SS24	0.72665	-0.27488	0.06860	-0.00478	-0.28642
SS25	0.03985	0.78897	0.08792	0.10124	0.08708	SS25	-0.22814	0.73828	0.05487	0.01218	0.00811
SS26	0.71880	-0.05971	-0.12221	0.08359	-0.23805	SS26	0.73860	-0.33200	-0.04208	0.08568	0.12312
SS27	-0.05468	0.72649	-0.06132	-0.24453	0.18517	SS27	-0.33536	0.71987	-0.09703	0.16625	-0.18588
SS28	0.78484	-0.02321	-0.04434	-0.24453	0.08281	SS28	0.76070	-0.28840	0.02648	-0.18674	0.18289
SS29	-0.12775	0.85038	-0.21368	0.00728	0.10380	SS29	-0.34948	0.81843	-0.26288	-0.03671	0.08267
SS30	0.88980	0.02587	0.20535	0.00728	0.48841	SS30	0.87888	-0.27485	0.21072	0.38343	0.07805
SS31	-0.11464	0.48140	0.08871	-0.10437	-0.24735	SS31	-0.25757	0.63703	0.03856	-0.04793	0.45465
SS32	0.72470	0.02754	0.02454	-0.04578	0.14004	SS32	0.70088	-0.23227	0.10844	-0.06146	-0.21230
SS33	-0.10928	0.87216	0.07825	-0.00194	0.21809	SS33	-0.33383	0.70858	0.01881	-0.04810	0.20870
SS34	0.74831	-0.07055	-0.11755	0.04471	-0.18711	SS34	0.76221	-0.34184	-0.02481	0.04702	-0.14077
SS35	-0.05948	0.81548	-0.04645	-0.30577	0.10948	SS35	-0.28433	0.87573	-0.08700	-0.38365	0.08823
SS36	0.71407	-0.01785	0.08001	0.20377	-0.05158	SS36	0.73382	-0.30722	0.17237	0.22248	0.00885
SS37	0.00848	0.71378	-0.18800	0.01080	-0.25225	SS37	-0.28087	0.72303	-0.22982	-0.11364	-0.24714
SS38	0.70375	0.08071	0.31266	0.02178	0.14004	SS38	0.72448	-0.21813	0.38055	0.08819	0.17407
SS39	0.05875	0.72111	-0.37128	-0.02898	0.03185	SS39	-0.24418	0.72411	-0.40831	-0.10860	0.04008
SS40	0.88787	0.00130	0.38841	0.04053	0.01014	SS40	-0.28613	0.78522	0.44434	0.07178	0.04446
SS41	0.03184	0.78884	-0.07180	0.03527	-0.17342	SS41	-0.28613	0.78522	0.44434	0.07178	0.04446
SS42	0.88233	0.00842	0.13891	0.06459	0.00788	SS42	0.89728	-0.28813	0.20883	0.08127	0.06369
SS43	-0.07185	0.84782	0.00183	0.22028	0.11702	SS43	-0.28379	0.84782	-0.04471	0.16123	0.14343
SS44	0.78488	-0.01585	-0.14573	-0.08752	-0.10014	SS44	0.77517	-0.28602	-0.06677	-0.08521	-0.08260
SS45	0.01847	0.78898	0.02310	0.12572	0.06799	SS45	-0.28261	0.74487	-0.02019	0.04671	0.08260
SS46	-0.77767	-0.08705	-0.02708	-0.03363	0.18118	SS46	0.78864	-0.34485	0.08720	-0.02848	-0.14882
SS47	-0.03128	0.88702	-0.50325	-0.04882	0.01518	SS47	-0.28394	0.81375	-0.54084	-0.12018	-0.12137
SS48	0.82888	0.08134	0.81100	-0.01303	0.10487	SS48	0.86016	-0.17741	0.87035	0.02372	0.12183
SS49	-0.08888	0.71184	-0.12882	0.16489	0.03847	SS49	-0.38221	0.73820	-0.17774	0.07348	0.05743
SS50	0.78188	-0.04155	0.18278	-0.11675	-0.13378	SS50	0.80445	-0.32382	0.27275	-0.10240	-0.11184
SS51	0.02723	0.89137	-0.08775	0.02321	0.13114	SS51	-0.22322	0.88135	-0.08927	-0.03602	-0.13456
SS52	0.85485	0.04135	0.21375	0.07773	-0.10857	SS52	0.71356	-0.23614	0.28454	0.08809	-0.08432
SS53	-0.14565	0.81722	0.00304	0.02620	0.22383	SS53	-0.38588	0.72082	-0.06038	-0.02043	0.21831
SS54	0.62779	-0.05004	0.01785	-0.03995	-0.15288	SS54	0.88948	-0.28781	0.08882	-0.03692	-0.13159

VARIANCE EXPLAINED BY EACH FACTOR ELIMINATING OTHER FACTORS

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
10.782882	10.731138	1.760481	1.717874	1.555734

VARIANCE EXPLAINED BY EACH FACTOR IGNORING OTHER FACTORS

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
14.943383	14.940055	2.335387	2.319123	1.759745

FINAL COMMUNITY ESTIMATES TOTAL = 31.220884

INTER-FACTOR CORRELATIONS

	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
FACTOR1	1.00000	-0.38574	0.10810	0.03555	0.05975
FACTOR2	-0.38574*	1.00000	-0.05805	-0.11548	-0.00551
FACTOR3	0.10810	-0.05805	1.00000	0.01451	-0.03548
FACTOR4	0.03555	-0.11548	0.01451	1.00000	0.15512
FACTOR5	0.05975	-0.00551	-0.03548	0.15512*	1.00000

* significant (n=273, p<.05)

4. 5 factor solution: principal components extraction, varimax rotation, untransformed data.

ROTATED FACTOR PATTERN					
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
SS01	0.84411	-0.05284	-0.25015	-0.08633	-0.06038
SS02	-0.14603	0.33763	0.85567	0.12411	0.11610
SS03	0.71009	-0.03355	-0.13987	-0.05146	-0.27346
SS04	-0.12852	0.35052	0.36488	0.10168	0.48819
SS05	0.61168	-0.04476	-0.28522	0.13262	-0.26317
SS06	-0.10826	0.29130	0.61563	0.12441	0.11657
SS07	0.73366	-0.03364	-0.07962	-0.08030	-0.26820
SS08	-0.20335	0.40305	0.35963	0.37084	0.28536
SS09	0.77134	-0.04960	-0.04823	-0.04698	-0.27046
SS010	-0.12118	0.48380	0.12340	0.29435	0.43992
SS011	0.89802	-0.08259	-0.12426	-0.34654	-0.01624
SS012	-0.01347	0.44751	0.42104	0.48985	0.08143
SS013	0.78428	-0.04888	-0.00854	-0.19351	-0.11182
SS014	-0.14970	0.55802	-0.03457	0.43088	0.20559
SS015	0.80812	-0.10199	0.04999	-0.00945	-0.07725
SS016	-0.11407	0.61448	-0.04158	0.13889	0.31768
SS017	0.76457	-0.13015	-0.07915	0.02725	-0.15881
SS018	-0.08519	0.68345	0.15145	0.00821	0.27780
SS019	0.76674	-0.11921	-0.02350	0.05588	-0.16284
SS020	-0.14882	0.64241	0.36919	0.06626	0.36956
SS021	0.54330	-0.17234	-0.08886	-0.38428	-0.09533
SS022	-0.09802	0.62080	0.26880	0.48724	0.05542
SS023	0.76193	-0.11384	-0.08491	-0.10549	-0.00155
SS024	-0.12488	0.62888	0.18550	0.28875	-0.00888
SS025	0.78108	-0.11804	0.03813	-0.05144	0.04374
SS026	-0.18264	0.63182	0.08195	0.25770	0.17870
SS027	0.73652	-0.16403	-0.08477	-0.18593	0.25085
SS028	-0.10099	0.68518	0.15800	0.29541	-0.18253
SS029	0.82396	-0.22457	-0.12480	0.05477	0.09145
SS030	-0.05371	0.68567	0.37911	0.20071	-0.11461
SS031	0.64204	-0.22040	0.11663	0.19521	-0.10421
SS032	-0.11249	0.70423	0.07305	-0.12278	-0.08543
SS033	0.75588	-0.21814	0.04484	0.00524	-0.01631
SS034	-0.19065	0.72831	0.08100	-0.01183	0.12823
SS035	0.72540	-0.12304	-0.12205	-0.00924	-0.23240
SS036	-0.16268	0.63144	0.32853	0.13062	0.16221
SS037	0.77320	-0.10500	-0.18700	-0.16950	0.06347
SS038	-0.09038	0.67992	0.55894	0.10434	-0.03670
SS039	0.78048	-0.06436	-0.26517	0.05744	0.02951
SS040	-0.13986	0.68380	0.57810	-0.04503	0.01968
SS041	0.78751	-0.07487	-0.10290	-0.14096	0.04911
SS042	-0.13483	0.65952	0.39424	0.11127	0.01467
SS043	0.69496	-0.20037	0.01885	0.00804	0.15552
SS044	-0.13885	0.78029	-0.01706	0.09197	-0.02172
SS045	0.79216	-0.12273	0.05001	-0.00081	0.00903
SS046	-0.19146	0.77787	0.04231	-0.08809	0.04851
SS047	0.62877	-0.15443	-0.32823	0.13675	0.04540
SS048	-0.06557	0.62846	0.84125	-0.08157	-0.02693
SS049	0.78240	-0.21211	-0.08918	-0.00889	0.14483
SS050	-0.17485	0.75515	0.23130	-0.14781	-0.02625
SS051	0.76164	-0.14015	-0.00421	0.02740	0.03994
SS052	-0.12454	0.68003	0.32337	-0.10487	0.08014
SS053	0.77108	-0.27060	0.02420	0.00785	0.07858
SS054	-0.17507	0.63379	0.12950	0.02708	-0.07157

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
14.998993	10.064030	3.609373	1.842118	1.840270

FINAL COMMUNALITY ESTIMATES: TOTAL = 32.124783

5. 5 factor solution: principal components extraction, varimax rotation, common logarithm transformation, items with $\geq 10\%$ missing values removed.

ROTATED FACTOR PATTERN					
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
SS01	0.61280	-0.10881	-0.22832	0.18401	-0.14807
SS02	-0.14375	0.58880	0.31724	-0.10940	0.04049
SS03	0.84808	-0.13751	-0.02928	0.33783	0.02736
SS04	-0.12121	0.59212	0.12886	-0.34447	-0.10870
SS05	0.53414	-0.09585	-0.32935	0.45040	0.05486
SS06	-0.05633	0.53161	0.38788	-0.25782	0.05287
SS07	0.85878	-0.09978	0.03898	0.48085	0.01985
SS08	-0.18200	0.55109	0.05053	-0.34145	0.05810
SS09	0.70877	-0.07889	-0.00844	0.34402	-0.00362
SS010	-0.12725	0.58505	-0.04651	-0.25483	0.08184
SS011	0.65952	-0.23922	0.06387	0.14484	-0.28251
SS012	-0.01420	0.73791	0.05096	-0.08151	0.20465
SS013	0.71468	-0.11243	0.12508	0.08252	-0.14829
SS014	-0.18979	0.68737	-0.23046	-0.07863	0.01559
SS015	0.75630	-0.08021	0.08713	0.01342	0.16291
SS016	-0.12435	0.70187	-0.11243	-0.02138	-0.19607
SS017	0.70288	-0.12490	0.12684	0.17532	0.07345
SS018	-0.07134	0.71403	0.14562	-0.04230	-0.18712
SS019	0.68195	-0.08959	-0.02282	0.19882	0.22245
SS021	0.62738	-0.32420	0.09174	0.15942	-0.31324
SS022	-0.17211	0.71680	-0.00227	0.02100	0.24881
SS023	0.70577	-0.14278	-0.04575	0.05608	-0.08846
SS024	-0.15449	0.72114	0.08557	0.15185	0.10398
SS025	0.74016	-0.09341	0.05376	-0.06797	0.05889
SS026	-0.20594	0.72434	-0.03672	0.04512	-0.05044
SS027	0.71881	-0.20015	-0.09534	-0.25203	-0.15809
SS028	-0.15519	0.72416	0.02879	0.28004	0.04887
SS029	0.57187	-0.20586	-0.25416	0.02473	0.17531
SS031	0.49839	-0.08981	0.00831	0.13834	0.50807
SS033	0.87816	-0.19216	0.02999	-0.01349	0.34999
SS034	-0.21722	0.87399	-0.04051	0.02470	-0.27644
SS035	0.62422	-0.18587	-0.07540	0.35848	0.05388
SS037	0.70878	-0.17120	-0.18023	0.08240	-0.30322
SS039	0.70005	-0.08053	-0.42228	0.09083	0.00839
SS040	-0.14249	0.87522	0.43130	0.03877	-0.10507
SS041	0.75412	-0.14954	-0.07264	-0.01374	-0.14510
SS042	-0.12881	0.66104	0.22791	0.01803	-0.07486
SS043	0.63985	-0.12178	-0.09482	-0.22005	0.22361
SS045	0.74172	-0.09047	-0.00648	-0.07333	0.14522
SS047	0.56907	-0.14876	-0.58386	0.10340	-0.04218
SS048	-0.05160	0.62540	0.58359	0.08599	0.00030
SS049	0.71317	-0.19449	-0.15554	-0.09556	0.06735
SS051	0.67983	-0.08586	-0.10727	-0.02581	0.11446
SS053	0.68063	-0.21508	-0.08359	-0.01368	0.27645

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
12.493408	8.371228	1.797136	1.605308	1.336768

FINAL COMMUNALITY ESTIMATES: TOTAL = 25.603848

APPENDIX N

Secondary Factor Analyses for the SS:R

Secondary Factor Analyses for the SS:R

1. 9 factor solution: principal components extraction, varimax rotation.

ROTATED FACTOR PATTERN									
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8	FACTOR9
EFREQ	0.13604	-0.13872	0.03108	0.01855	0.68788	-0.21510	0.01912	-0.11570	-0.10420
EBAL	-0.05301	0.18217	0.05251	0.02487	0.28978	-0.05607	0.11521	0.29549	0.21588
ECLOSE	0.01741	0.80470	-0.03228	-0.10343	-0.06177	-0.08955	0.09370	-0.05038	0.26509
ECOMPL	-0.00285	0.78118	-0.01192	-0.02240	-0.17132	0.03194	0.01557	-0.15521	0.07465
EPREX	0.18212	-0.15836	-0.04128	-0.04154	-0.14106	-0.08604	-0.04371	0.55084	-0.20565
EKNOW	0.87974	0.16474	-0.22902	-0.05553	-0.05769	-0.03524	0.01595	0.07284	0.10432
EPREL	-0.18408	0.28775	-0.82513	-0.25405	0.13420	-0.17057	-0.01844	0.03574	0.05267
EPREX1	0.06803	0.03354	0.00152	-0.02673	-0.05833	-0.07749	0.78787	-0.01102	-0.04822
EPREX2	-0.07281	0.00181	0.80451	-0.14053	0.07712	0.13978	-0.11711	-0.01417	-0.07550
EPREX3	-0.06054	-0.02710	-0.03747	0.87038	0.01293	-0.12925	0.03058	0.04726	-0.02887
EFREQ	0.10445	0.10547	-0.09674	-0.05485	0.83038	-0.03554	-0.03847	0.08161	-0.25328
EBAL	0.08031	0.41037	0.08085	-0.05934	0.37238	-0.04137	-0.01262	0.45075	0.05189
ECLOSE	0.18389	0.87884	0.01648	0.00105	0.12678	-0.11655	-0.04914	0.09327	0.13117
ECOMPL	0.18092	0.77885	-0.01839	0.01225	0.00809	-0.01329	-0.07814	-0.03405	0.08616
EPREX	0.02228	0.02012	-0.05882	0.04465	-0.03705	-0.03370	-0.03893	0.70705	-0.05191
EKNOW	0.58581	0.24995	-0.01764	-0.06076	-0.08451	-0.00628	0.04717	0.16855	0.13471
EPREL	0.00318	0.28034	-0.39822	-0.11960	0.29488	0.04647	-0.14736	-0.10514	0.00502
EPREX1	-0.06043	0.00540	-0.05678	-0.02728	-0.00884	0.05597	0.84847	0.03134	-0.04292
EPREX2	-0.13232	0.08851	0.74582	-0.14254	0.04143	0.04781	-0.18832	0.08124	0.00595
EPREX3	0.05902	0.01802	-0.09394	0.87329	0.07254	-0.03150	-0.05597	0.06325	-0.01443
EFREQ	0.18807	0.07145	-0.04715	0.07205	0.81690	0.03220	-0.02495	0.06034	-0.07540
EBAL	0.12250	0.32442	0.03999	0.06207	0.40189	0.35585	0.08643	0.47418	0.05735
ECLOSE	0.24089	0.84888	0.01262	0.00388	0.05405	0.28214	0.02469	0.18733	0.10092
ECOMPL	0.23585	0.73838	-0.01123	0.03491	-0.01858	0.33885	0.01293	0.05537	-0.00588
EPREX	0.08089	0.07982	0.17293	0.14055	0.11341	0.00722	0.08227	0.73823	0.03888
EKNOW	0.72322	0.20981	-0.17724	-0.02889	0.02307	0.06124	0.07895	0.21405	0.14671
EPREL	-0.05949	0.26813	-0.84934	-0.21687	0.05385	0.35071	-0.17115	-0.00042	-0.03673
EPREX1	-0.04911	-0.00474	-0.05722	-0.06044	0.05259	0.03240	0.82648	0.02103	0.00223
EPREX2	-0.04824	0.07698	0.83287	-0.11489	0.05875	0.05077	-0.04388	0.11453	0.00882
EPREX3	-0.01495	-0.01883	-0.07248	0.83000	0.01802	-0.00338	-0.04495	0.03388	-0.04701
EFREQ	0.17304	-0.20562	0.02824	0.14325	0.88178	0.28626	-0.01947	-0.03895	-0.02830
EBAL	0.08560	-0.03711	0.12274	0.05913	0.18285	0.81637	0.01406	0.18433	0.01275
ECLOSE	0.18894	0.27222	0.05060	-0.01176	-0.03174	0.74482	0.02551	0.02912	0.04338
ECOMPL	0.21381	0.43081	0.00005	-0.01138	-0.15500	0.87228	-0.00233	-0.12717	-0.08450
EPREX	0.22523	-0.11540	0.21132	0.14500	-0.02437	0.23075	-0.02043	0.87038	-0.08155
EKNOW	0.88341	0.05933	-0.15949	-0.10294	-0.00957	0.29025	-0.00387	0.05912	0.08438
EPREL	-0.18497	-0.00802	-0.40232	-0.23956	-0.02508	0.85171	-0.18286	-0.03591	-0.05992
EPREX1	0.11528	0.02268	0.02048	0.08089	-0.03591	-0.02388	0.70887	0.02514	-0.00772
EPREX2	0.04074	0.07487	0.72835	-0.04924	0.03885	-0.03519	0.02654	0.08439	-0.02001
EPREX3	-0.01993	-0.07851	-0.03146	0.83047	0.04239	0.07688	-0.02834	0.01801	-0.02802
EFREQ	0.24481	0.03058	0.07869	0.10178	0.81648	0.09581	-0.05318	0.06335	-0.05057
EBAL	0.08307	0.30177	0.14085	0.08420	0.48438	0.38672	0.07610	0.43727	0.11101
ECLOSE	0.14784	0.81838	0.04762	-0.02485	0.20127	0.35585	0.07884	0.17287	0.26224
ECOMPL	0.18908	0.89018	0.02813	0.02010	0.08247	0.38433	0.08990	0.05543	0.11884
EPREX	0.22822	0.04432	0.14178	0.03635	0.10897	0.11591	0.03650	0.75332	-0.06184
EKNOW	0.68227	0.20878	-0.15851	-0.10982	0.06459	0.15588	0.08787	0.23504	0.20264
EPREL	-0.18704	0.30507	-0.41208	-0.23103	0.18616	0.34258	-0.07627	0.12178	0.15024
EPREX1	0.05526	0.03340	-0.03180	-0.04283	-0.01189	-0.03317	0.82822	0.00088	-0.04300
EPREX2	-0.00074	0.04452	0.78714	-0.11551	0.01794	0.06001	-0.02551	0.07030	-0.04799
EPREX3	-0.02078	0.03104	-0.03096	0.80200	0.08072	0.01088	0.03179	0.10523	-0.03723
ESATISF	0.22146	0.22126	-0.18500	-0.00919	-0.10438	-0.08485	0.02157	-0.20857	0.88305
ESATISF	0.24844	0.21372	0.08346	-0.01415	-0.12742	-0.07877	-0.02261	-0.01931	0.88805
PSATISF	0.18295	0.12415	-0.05858	0.00040	-0.11018	0.04105	-0.01150	-0.03688	0.76388
FSATISF	-0.05222	0.05590	-0.04080	-0.06398	-0.01473	0.10430	-0.15004	0.07989	0.85730
GSATISF	0.21457	0.14983	-0.02105	-0.06917	-0.04154	0.01012	-0.00136	-0.13927	0.73669
ENETWORK	0.78480	-0.02721	0.07047	-0.00816	0.16225	-0.08082	-0.06227	-0.00515	-0.01844
SNETWORK	0.85640	0.14495	0.20074	0.00175	0.25687	-0.05700	0.01716	0.07278	0.04597
PNETWORK	0.74543	0.08230	0.10855	0.07451	0.28852	0.05805	0.03500	0.11100	0.08959
FNETWORK	0.88989	-0.02556	0.12357	0.20919	0.27021	0.11007	0.04085	-0.04282	0.05308
GNETWORK	0.73110	0.12244	0.14391	0.08109	0.26419	0.04899	0.00926	0.07987	0.11015

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8	FACTOR9
5.859799	5.390407	4.598703	4.420052	4.023889	3.580021	3.476263	3.466424	3.084597

FINAL COMMUNITY ESTIMATES TOTAL = 37.898153

2. 15 factor solution: principal components extraction, varimax rotation.

ROTATED FACTOR PATTERN								
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8
EPREO	0.01851	0.08185	0.02889	-0.13644	0.02736	0.01875	0.80834	-0.07837
EBAL	0.04255	-0.01180	0.08361	-0.01829	0.11341	0.04252	0.13027	0.02654
ECLDSE	-0.08887	-0.11758	-0.00083	0.34283	0.18825	0.05781	-0.07420	0.18321
ECOMPL	-0.05162	-0.08032	-0.00753	0.82878	0.04803	-0.00006	-0.08387	0.14825
EPRSEX	-0.04377	-0.01848	-0.03304	-0.04023	0.10601	-0.00485	0.07125	-0.08480
EKNOW	-0.01316	0.18487	-0.12281	0.08089	0.79318	0.02048	0.08682	0.13246
EPREL	-0.15780	-0.10889	-0.25141	0.18954	0.04770	0.00283	-0.00261	0.00050
EPRESECT1	-0.03376	0.05827	-0.02872	0.01543	0.00757	0.80240	-0.04851	-0.01025
EPRESECT2	-0.11134	-0.03886	0.81787	0.01268	-0.08087	-0.09188	0.08625	-0.05918
EPRESECT3	0.88531	-0.00036	-0.10802	-0.03134	-0.08201	0.01234	0.01467	-0.05133
EFREO	-0.05576	0.08308	0.08887	0.10245	0.13757	-0.00107	0.21383	0.01814
SBAL	-0.03775	0.12076	0.02114	0.24018	0.14488	-0.03113	0.04714	0.14244
SCLOSE	-0.00204	0.08510	-0.00201	0.81211	0.09186	-0.04426	0.04445	0.21785
SCOMPL	-0.00428	0.08510	0.04152	-0.10448	0.03322	-0.02091	0.00828	-0.00827
SPRSEX	0.03488	-0.07224	-0.07882	0.10448	0.79288	0.02741	-0.03834	0.10030
SKNOW	-0.01842	0.11003	0.04152	0.00858	0.02314	-0.07802	0.15931	0.02118
SPREL	-0.02380	0.08361	-0.14371	0.00858	-0.00064	0.84878	-0.01890	-0.04841
SPRESECT1	-0.01270	-0.08283	-0.03889	0.00820	-0.05678	-0.14016	0.01955	0.00544
SPRESECT2	-0.09078	-0.08028	0.80588	0.01464	-0.05678	-0.05844	0.05375	-0.01389
SPRESECT3	0.88859	0.10743	-0.12244	0.02591	-0.00608	-0.00480	0.81228	-0.03709
PFREO	0.09284	0.18547	0.01035	0.02537	0.08103	0.11189	0.20748	0.01565
PBAL	0.12746	0.13318	0.17823	0.10917	0.18801	0.11189	0.12748	0.15057
PCLOSE	0.04028	0.11828	0.12305	0.43545	0.26180	0.05937	0.00750	0.12764
PCOMPL	0.04055	0.11877	0.07264	0.79357	0.17631	0.04685	0.03134	0.03158
PPRSEX	0.14729	0.11148	0.17137	0.02715	0.04272	0.08744	0.05337	0.14030
PKNOW	0.01181	0.28442	-0.10170	0.10605	0.78188	0.07207	0.05229	0.02534
PPREL	-0.11081	-0.07885	-0.23859	0.18349	0.05676	-0.09328	-0.01436	0.02534
PPRESECT1	-0.05103	-0.08712	-0.08820	0.00459	0.00226	0.82828	0.08552	0.00831
PPRESECT2	-0.08855	0.01568	0.88675	-0.01417	-0.01738	-0.02394	0.00541	-0.01460
PPRESECT3	0.84425	-0.00448	-0.08950	0.00137	-0.01525	-0.02820	0.03710	-0.02082
FFREO	0.12388	0.20307	0.00137	-0.14992	-0.01755	-0.01420	0.87453	-0.01835
FBAL	0.05351	0.06175	0.12435	0.02952	0.07730	-0.00250	0.07803	-0.08087
FCLOSE	-0.04077	0.05218	0.03855	0.30198	0.12507	0.01851	-0.01859	0.04821
FCOMPL	-0.02870	0.10374	-0.00341	0.70513	0.10889	0.00375	-0.05352	0.02645
FPRSEX	0.11887	0.32227	0.15889	0.01507	0.00085	-0.02809	-0.07230	-0.10220
FKNOW	-0.06077	0.29135	-0.05992	0.06567	0.71858	-0.00026	0.04072	0.07463
FPREL	-0.19829	-0.31208	-0.24965	0.06650	0.03557	-0.15461	0.02489	-0.02207
FPRESECT1	0.07355	0.11955	-0.00903	0.05783	0.06255	0.70303	-0.04522	0.00052
FPRESECT2	-0.00072	0.21289	0.78948	0.02374	-0.05517	0.05552	-0.05239	-0.03244
FPRESECT3	0.85817	0.02072	-0.00426	-0.07201	-0.00563	-0.01857	0.01340	-0.03331
GFREO	0.08897	0.25504	0.08504	0.00125	0.04358	-0.08024	0.78887	-0.04638
GBAL	0.06248	0.15223	0.12557	0.18851	0.07308	0.02229	0.23479	-0.02717
GCLOSE	-0.03402	0.15187	0.05572	0.42853	0.14443	0.03565	0.03563	0.17755
GCOMPL	-0.01077	0.17077	0.02255	0.76210	0.12205	0.05737	0.03433	0.13690
GPRSEX	0.03378	0.18278	0.13439	0.05407	0.12152	0.03554	0.08879	-0.07729
GKNOW	-0.08858	0.29534	-0.07084	0.11113	0.75819	0.05748	0.05967	0.18452
GPREL	-0.18010	-0.08880	-0.20182	0.21155	-0.00180	-0.07535	0.00412	0.07800
GPRESECT1	-0.03300	0.01641	-0.02768	-0.02217	0.05820	-0.07535	-0.00763	-0.03034
GPRESECT2	-0.07826	0.07430	0.82815	0.05183	-0.02881	-0.00239	-0.01515	-0.04489
GPRESECT3	0.91084	0.01831	-0.04130	0.03582	-0.01398	0.03023	0.08531	-0.04477
ESATISF	-0.01957	0.07185	-0.15895	0.14287	0.15854	0.03382	-0.04164	0.74823
SSATISF	-0.04135	0.15543	0.03385	0.14424	0.15041	-0.02880	-0.12169	0.71817
PSATISF	-0.00785	0.12485	-0.04912	0.11339	0.07108	0.00235	-0.10104	0.82016
FSATISF	-0.02605	-0.23264	0.04695	0.02017	0.14715	-0.15149	0.03589	0.84838
GSATISF	-0.08783	0.18689	-0.03077	0.05336	0.02067	0.02373	-0.03816	0.80881
ENETWORK	-0.04884	0.70118	-0.00720	-0.02023	0.29759	-0.05175	0.17827	0.05157
SNETWORK	-0.03886	0.82817	0.10631	0.12597	0.31118	0.00848	0.18592	0.07247
PNETWORK	0.03325	0.78503	0.03244	0.08192	0.27688	0.03113	0.15433	0.10805
FNETWORK	0.15771	0.81842	0.02878	0.02703	0.17847	0.03229	0.15220	0.06108
GNETWORK	0.03902	0.78834	0.07070	0.10028	0.23067	0.01189	0.18530	0.14719

ROTATED FACTOR PATTERN

	FACTOR8	FACTOR10	FACTOR11	FACTOR12	FACTOR13	FACTOR14	FACTOR15
EFREQ	-0.03378	-0.11811	-0.05182	-0.08108	0.05025	0.17260	-0.22570
EBAL	0.09714	-0.01774	0.05175	0.25918	0.05191	0.59320	0.08534
ECLOSE	-0.09355	0.01697	0.08556	-0.00021	0.47348	0.52282	-0.12802
ECOMPL	-0.08616	-0.08694	0.08680	-0.07645	0.18110	0.25745	0.02512
EPRSEX	0.78023	-0.04288	-0.04331	-0.14181	0.03832	-0.15689	-0.30383
EKNOW	0.08005	-0.04780	0.04330	-0.03603	0.12712	-0.00428	-0.17358
EPREL	-0.03934	0.04649	0.74946	-0.00789	-0.04811	0.32876	0.05587
EPRSECT1	-0.00573	-0.08520	-0.07523	0.04249	0.08338	-0.12289	-0.01488
EPRSECT2	-0.01874	0.12559	-0.19634	0.01825	0.00281	-0.08041	-0.00282
EPRSECT3	0.03495	-0.07779	-0.15774	-0.00881	0.03800	0.10884	-0.05249
SFREQ	0.10932	-0.05144	0.10603	-0.02786	-0.07838	-0.11017	0.30230
SBAL	0.28262	0.03384	0.09214	0.18842	0.32415	0.10709	0.69121
SCLOSE	0.04784	0.02623	0.05028	0.10889	0.83362	0.11417	0.15062
SCOMPL	0.00717	-0.01815	0.07630	-0.01046	0.51115	-0.06574	0.23787
SPRSEX	0.72284	0.02134	-0.06377	0.05205	0.09745	-0.07093	0.24462
SKNOW	0.01855	0.01883	-0.08294	0.03895	0.10635	0.07807	0.22336
SPREL	-0.12556	0.02566	0.88893	-0.08778	0.31420	0.03374	0.05559
SPRSECT1	0.01251	0.03631	0.03395	0.05171	-0.04383	0.03972	-0.03356
SPRSECT2	0.04413	-0.01085	-0.09281	0.06873	-0.00825	-0.03815	0.05438
SPRSECT3	0.07288	-0.00491	-0.03580	-0.02455	0.00551	0.05862	0.04588
PFREQ	0.05406	0.00508	0.12474	0.19075	0.02364	-0.04805	0.15553
PBAL	0.28797	0.20582	0.28541	0.53380	0.12415	-0.05240	0.29747
PCLOSE	0.15016	0.17394	0.21674	0.31746	0.43478	-0.10127	-0.00081
PCOMPL	0.11360	0.10920	0.20207	0.18733	0.13107	-0.18934	0.08918
PPRSEX	0.88062	0.00185	-0.00566	0.15771	-0.01217	0.14948	0.25150
PKNOW	0.10823	0.02589	0.03186	0.12078	0.05820	-0.00443	0.12285
PPREL	-0.00560	0.09288	0.75728	0.16785	0.00203	-0.29900	-0.06317
PPRSECT1	0.01566	0.05806	-0.04489	0.01868	-0.01890	0.04914	0.02617
PPRSECT2	0.05335	0.04062	-0.13672	0.05481	0.05321	0.06015	0.06180
PPRSECT3	0.03263	-0.01210	-0.04321	-0.00675	-0.00161	-0.10810	-0.00582
FFREQ	0.00966	0.48429	0.00454	-0.08518	-0.00828	0.10811	0.08557
FBAL	0.09431	0.85531	0.04496	0.21954	-0.08430	0.05430	0.17884
FCLOSE	0.07391	0.79348	0.01910	0.12733	0.24532	0.02843	-0.14732
FCOMPL	-0.01085	0.53781	0.05410	0.01051	-0.07014	-0.13363	-0.05724
FPRSEX	0.82881	0.27692	-0.00117	-0.07330	-0.16141	0.23837	0.05047
FKNOW	0.02592	0.30906	0.13331	-0.08188	-0.04278	0.08649	-0.03036
FREL	-0.01224	0.58888	0.33351	0.09454	-0.01918	-0.31317	-0.05187
FPRSECT1	0.01885	-0.02854	-0.04695	-0.05398	-0.11561	0.07802	0.07953
FPRSECT2	0.08097	-0.07050	0.03811	-0.08668	-0.03134	0.18574	0.00705
FPRSECT3	-0.01829	0.05475	0.01478	0.03547	-0.05386	-0.07052	-0.01604
GFREQ	0.07270	0.08685	-0.03008	0.31572	0.07262	0.03053	-0.05204
GBAL	0.20765	0.23647	0.02830	0.75413	0.03658	0.21557	0.15491
GCLOSE	0.03187	0.18901	0.10390	0.82075	0.27131	0.24887	-0.06911
GCOMPL	0.02112	0.11087	0.08138	0.43850	0.01105	0.11192	0.00338
GPRSEX	0.78374	0.04498	-0.02042	0.27825	-0.00366	0.07089	-0.07105
GKNOW	0.11791	0.08524	0.08444	0.25422	0.01870	0.07573	-0.02278
GREL	-0.02531	0.07541	0.58958	0.44130	-0.12970	0.10149	0.05003
GPRSECT1	0.00766	-0.00532	-0.00895	-0.01400	0.09798	0.01782	-0.04723
GPRSECT2	0.04860	-0.00525	-0.12240	0.07046	0.01222	-0.01560	-0.03820
GPRSECT3	0.07341	0.00715	-0.04875	0.04385	-0.01090	0.04473	0.02417
BSATISF	-0.15082	-0.05979	0.02408	-0.08195	0.14588	0.01803	-0.01059
SSATISF	-0.01595	-0.03482	-0.10442	-0.02595	0.07946	0.10257	0.15358
PSATISF	0.00187	-0.02673	0.04891	0.08940	-0.04250	-0.05508	-0.01411
FSATISF	0.04625	0.07354	0.06602	0.09853	-0.07732	0.12720	-0.02888
GSATISF	-0.06384	0.03154	0.03724	0.02177	0.17829	-0.08811	-0.06078
ENETWORK	0.11187	-0.07644	-0.07729	0.01405	0.14823	-0.14070	-0.25770
SHETWORK	0.03349	-0.05470	-0.13781	0.08331	0.02798	-0.04480	0.28118
PHETWORK	0.10333	0.01585	-0.00226	0.18474	0.00874	-0.02748	0.10503
PHETWORK	0.00121	0.18615	0.01457	-0.08054	-0.03705	0.12785	0.05984
GNETWORK	0.12202	0.00827	0.00457	0.15324	0.08345	-0.02984	-0.05538

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8
4.259301	3.860992	3.934204	3.788909	3.771333	3.414323	3.368167	3.249410
FACTOR9	FACTOR10	FACTOR11	FACTOR12	FACTOR13	FACTOR14	FACTOR15	
2.979390	2.722049	2.542264	2.486826	2.023346	1.723642	1.495981	

FINAL COMMUNALITY ESTIMATES: TOTAL = 45.721137

3. 11 factor solution: principal components extraction, varimax rotation.

ROTATED FACTOR PATTERN											
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8	FACTOR9	FACTOR10	FACTOR11
EFREQ	0.09841	-0.11808	0.00378	0.00982	0.78337	0.01544	-0.10277	-0.09264	-0.12481	-0.14588	0.13817
ESAL	0.04016	0.02806	0.16468	0.09508	0.15368	0.07804	0.10802	0.05313	-0.07716	0.32701	0.86340
ECLDSE	0.00178	0.83648	-0.00375	-0.08484	-0.07899	0.08344	-0.14800	0.17671	0.00021	0.03241	0.83483
ECOMPL	-0.02005	0.78737	0.00898	-0.02898	-0.17231	0.01940	-0.18608	0.08865	-0.00047	0.09308	0.09316
EPRSEK	0.07824	-0.04784	-0.12041	-0.08834	-0.01213	-0.02886	0.66159	-0.11492	0.01991	-0.28990	-0.09583
EKNOW	0.83488	0.17642	-0.26712	-0.08067	-0.03396	-0.00806	0.04979	0.08070	0.08853	-0.18148	0.33305
EPRREL	-0.05602	0.15123	-0.38132	-0.19504	-0.03142	-0.03788	-0.10552	-0.06187	-0.03852	0.61813	0.20911
EPRSECT1	0.04535	0.05684	-0.03149	-0.04290	-0.03481	0.78797	0.02592	-0.00792	-0.06363	-0.07394	-0.09126
EPRSECT2	-0.07024	0.02212	0.79260	-0.13396	0.09395	-0.10676	-0.00051	-0.06411	-0.15014	-0.15873	-0.04036
EPRSECT3	-0.04853	-0.02010	-0.06815	0.88809	0.01845	0.02243	0.03139	-0.04360	-0.08742	-0.11787	0.06879
EFREQ	0.07556	0.13680	-0.09150	-0.07632	0.68814	-0.02024	0.13107	-0.19380	-0.04808	0.07337	-0.10067
ESAL	0.09522	0.35749	0.11282	-0.03757	0.33834	-0.01024	0.40683	0.03348	-0.07181	0.20901	0.23775
ECLOSE	0.12348	0.89004	0.00229	-0.01385	0.18422	-0.04983	0.09973	0.15807	-0.05448	-0.08665	0.26883
SCOMPL	0.08550	0.82538	-0.03901	-0.01804	0.07753	-0.05872	0.02924	0.18384	-0.01636	-0.02088	-0.01348
SPRSEK	-0.04487	0.06757	-0.08271	0.02652	0.02871	-0.02511	0.78348	0.00009	-0.00111	-0.08530	0.01574
SKNOW	0.88808	0.22566	-0.03096	-0.05607	-0.08738	0.01605	0.09804	0.07230	0.08616	-0.09960	0.45434
SPRREL	0.04907	0.22435	-0.32184	-0.08676	0.22052	-0.15055	-0.15869	-0.02694	-0.03608	0.36888	0.05017
SPRSECT1	-0.04898	-0.01310	-0.05192	-0.02079	-0.02740	0.84435	0.01374	-0.05484	0.05142	0.06260	0.03569
SPRSECT2	-0.10062	0.04448	0.78227	-0.12171	0.01468	-0.16055	0.07188	-0.00679	0.01850	-0.03776	0.00615
SPRSECT3	0.07282	0.02365	-0.11022	0.87285	0.06258	-0.05894	0.07196	-0.02036	-0.03352	-0.02465	0.00754
PFREQ	0.19486	0.07113	-0.02091	0.07611	0.81869	-0.01284	0.09518	-0.04612	0.00837	0.15768	-0.01816
PBAL	0.18774	0.25075	0.14006	0.10324	0.29526	0.09788	0.41467	0.02832	0.22425	0.47094	0.04860
PCLDSE	0.24178	0.85111	0.04296	0.00292	0.04840	0.03768	0.19477	0.13286	0.23988	0.18863	0.40026
PCOMPL	0.22090	0.78587	0.01567	0.02298	-0.02043	0.04152	0.11489	0.07061	0.23186	0.22630	-0.19453
PPRSEK	0.10433	0.04952	0.20143	0.15858	0.07840	0.10172	0.71870	0.03412	-0.03876	0.13543	0.09041
PKNOW	0.71483	0.19174	-0.18087	-0.02760	0.00617	0.05889	0.18861	0.11108	0.10324	0.01537	0.30487
PPRREL	-0.00586	0.21555	-0.45232	-0.20088	-0.03237	-0.15688	-0.01297	-0.03230	0.19116	0.82541	-0.22189
PPRSECT1	-0.06805	-0.00346	-0.08817	-0.05352	0.07732	0.82616	0.02292	0.00577	0.05686	-0.01841	0.06727
PPRSECT2	-0.01180	0.04640	0.84844	-0.08947	0.02441	-0.04140	0.07767	-0.01952	0.03426	-0.08445	0.08461
PPRSECT3	-0.01525	0.01082	-0.10404	0.82079	0.03131	-0.04314	0.04752	-0.03315	0.00310	-0.08303	-0.06757
FFREQ	0.13766	-0.16474	0.01970	0.13843	0.71088	-0.01717	-0.01420	-0.01108	0.35703	-0.03820	0.04786
FBAL	0.08336	-0.03845	0.17733	0.08413	0.16212	0.01146	0.15109	-0.02753	0.81130	0.20887	0.07509
FCLDSE	0.11245	0.33430	0.05254	-0.02220	0.02335	0.02819	0.06740	0.06295	0.78752	0.01275	0.06231
FCEOMPL	0.17848	0.50937	0.00168	-0.00999	-0.11728	0.01895	-0.05878	-0.01385	0.62990	0.09033	-0.23674
FPRSEK	0.25308	-0.11951	0.22776	0.15977	-0.06016	-0.01540	0.85703	-0.10409	0.19217	0.07908	-0.00588
FKNOW	0.88142	0.05146	-0.15844	-0.09798	-0.02573	-0.02276	0.00591	0.02809	0.35346	0.00409	0.29831
FPREL	-0.20914	0.04736	-0.37186	-0.24951	0.01688	-0.18525	0.00801	-0.03455	0.86274	0.18872	-0.11801
FPRSECT1	0.13299	-0.01203	0.01246	0.08329	-0.05121	0.70624	0.01203	-0.01308	-0.04361	0.00829	0.01000
FPRSECT2	0.12272	0.01564	0.78212	-0.01424	-0.04821	0.03032	0.03363	-0.06283	-0.11333	0.05375	0.02667
FPRSECT3	0.00896	-0.07613	-0.03894	0.83565	0.01935	-0.03190	0.00037	-0.04038	0.06221	0.00104	-0.04144
GFREQ	0.23783	0.03691	0.09777	0.10583	0.82397	-0.04010	0.09867	-0.02230	0.09287	0.10517	-0.00107
GBAL	0.15403	0.19302	0.26234	0.12491	0.32534	0.07755	0.33286	0.03813	0.25799	0.51253	0.16945
GCLDSE	0.20240	0.52724	0.14551	0.01488	0.09806	0.07948	0.08886	0.21380	0.25183	0.43034	0.19183
GCEOMPL	0.23342	0.64363	0.10371	0.04051	0.00141	0.10542	0.03710	0.12675	0.22189	0.39539	-0.05087
GPRSEK	0.22920	0.04359	0.18035	0.04506	0.09393	0.04979	0.75485	-0.06740	0.07518	0.11137	0.01990
GKNOW	0.71147	0.16173	-0.13126	-0.09352	0.00912	0.06644	0.16309	0.14450	0.18442	0.13919	0.32017
GPREL	-0.06657	0.18293	-0.24962	-0.18919	0.00667	-0.07785	0.00606	0.06619	0.14522	0.73596	0.02793
GPRSECT1	0.03989	0.03775	-0.05291	-0.04921	0.00143	0.82490	0.00386	-0.03646	-0.01210	-0.05675	0.05678
GPRSECT2	0.03853	0.06788	0.80528	-0.09804	-0.01436	-0.01860	0.05465	-0.05448	0.01893	-0.05512	-0.03030
GPRSECT3	-0.00135	0.03052	-0.04079	0.80671	0.06451	0.02849	0.08585	-0.05130	0.00632	-0.01044	0.02713
ESATISF	0.16169	0.23011	-0.19610	-0.03202	-0.06423	0.02406	-0.17299	0.72250	-0.05825	-0.08638	0.05138
SSATISF	0.21414	0.20089	0.06895	-0.02317	-0.11780	-0.01971	-0.00636	0.71012	-0.08513	-0.04002	0.09362
PSATISF	0.16184	0.11230	-0.05817	-0.00833	-0.11871	0.00310	-0.00238	0.80598	-0.00248	0.09394	-0.08667
FSATISF	-0.07039	0.02147	-0.01248	-0.05053	-0.02840	-0.15833	0.04634	0.82423	0.13248	0.09394	0.22867
GSATISF	0.16201	0.16637	-0.04324	-0.09096	-0.00804	0.01505	-0.07855	0.80137	0.00610	-0.01371	-0.08331
ENETWORK	0.73988	0.03484	0.01288	-0.03889	0.20083	-0.04763	0.06895	0.05758	-0.08485	-0.14704	-0.18518
SNETWORK	0.87075	0.15064	0.18789	-0.00427	0.23785	0.02848	0.09170	0.08260	-0.10464	0.01068	-0.07503
FNETWORK	0.78784	0.08452	0.11713	0.07589	0.23284	0.05125	0.12401	0.12370	-0.04023	0.14225	-0.18040
FNETWORK	0.73872	-0.02902	0.12182	0.21200	0.21831	0.04898	-0.04344	0.06583	0.04427	0.07498	-0.12113
GNETWORK	0.75822	0.12941	0.13993	0.07535	0.22791	0.02762	0.10978	0.15971	-0.03881	0.09409	-0.18418

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8	FACTOR9	FACTOR10	FACTOR11
5.804350	4.928092	4.484187	4.384670	3.725262	3.453169	3.296192	3.116034	3.034886	2.885822	1.934129

FINAL COMMUNITY ESTIMATES: TOTAL = 41.056783

4. 6 factor solution: principal components extraction, varimax rotation.

ROTATED FACTOR PATTERN						
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6
EFREQ	-0.22175	0.24426	0.48877	-0.02721	-0.00123	-0.06470
EBAL	0.25913	0.09992	0.14314	0.08288	0.08216	0.09262
ECLOSE	0.48504	0.14129	-0.36582	-0.02881	-0.08360	0.07282
ECOMPL	0.58011	0.03595	-0.41724	-0.03537	-0.02219	0.00788
EPRSEX	-0.05622	0.08075	0.25301	0.09202	0.02186	0.08904
EKNOW	0.12316	0.88268	-0.05924	-0.18153	-0.04576	0.06388
EPRREL	0.24824	-0.10841	0.01831	-0.53519	-0.23443	-0.02133
EPRSECT1	-0.01579	0.08154	-0.04784	0.01186	-0.02785	0.78189
EPRSECT2	0.07716	-0.11705	0.11905	0.78304	-0.18498	-0.16738
EPRSECT3	-0.08353	-0.03848	0.01970	-0.01028	0.87848	0.03214
FFREQ	0.08876	0.14298	0.58184	-0.12788	-0.06738	-0.06894
GBAL	0.48412	0.20236	0.29096	0.12332	-0.00740	0.00789
SCLOSE	0.51456	0.30630	-0.13278	0.03893	0.03088	-0.04903
SCOMPL	0.59920	0.23188	-0.25218	-0.02610	0.02506	-0.08339
SPRSEX	0.17733	0.00928	0.25430	0.09387	0.12925	0.08808
SKNOW	0.23986	0.88138	-0.07287	0.02949	-0.03784	0.09087
SPRREL	0.23850	0.07312	0.09126	-0.43981	-0.11829	-0.17896
SPRSECT1	0.05632	-0.06717	0.03085	-0.05914	-0.03326	0.82868
SPRSECT2	0.11895	-0.12879	0.04840	0.72088	-0.18039	-0.18748
SPRSECT3	0.01607	0.08162	0.09033	-0.07248	0.87728	-0.05550
FFREQ	0.13848	0.20151	-0.84361	-0.10046	0.05885	-0.10875
FUAL	0.81310	0.18134	0.44281	0.05215	0.08120	0.07558
FCLOSE	0.72831	0.27018	-0.01826	0.01377	0.01087	0.02526
FCOMPL	0.78814	0.18891	-0.07739	-0.03445	0.02621	0.01378
FPRSEX	0.28415	0.12140	0.32861	0.30888	0.21326	0.17570
FKNOW	0.26396	0.71780	0.05327	-0.13039	-0.00457	0.12175
FPRREL	0.37889	-0.08400	0.05857	-0.57843	-0.21812	-0.16180
FPRSECT1	0.04231	-0.02482	0.04844	-0.06143	-0.05537	0.78418
FPRSECT2	0.13573	-0.04871	0.07435	0.81850	-0.13598	-0.07832
FPRSECT3	-0.01822	-0.03449	0.05995	-0.06079	0.92821	-0.04814
FFREQ	0.02505	0.18930	0.60244	-0.06489	0.08229	-0.12867
FBAL	0.47873	-0.05585	0.40983	0.05203	0.00421	-0.04338
FCLOSE	0.82380	0.04500	0.09533	-0.02411	-0.06511	-0.01899
FCOMPL	0.83330	0.04484	-0.04384	-0.08774	-0.04988	-0.02825
FPRSEX	0.17157	0.12025	0.35666	0.30004	0.17514	0.06171
FKNOW	0.21598	0.60248	0.09548	-0.16773	-0.11884	0.01854
FPRREL	0.32111	-0.28871	0.13776	-0.46876	-0.27455	-0.20673
FPRSECT1	0.00448	0.11009	-0.01076	0.03130	0.07724	0.69688
FPRSECT2	0.07717	0.03842	0.05390	0.72617	-0.06450	0.00736
FPRSECT3	-0.01864	-0.04612	0.09474	-0.03585	0.81558	-0.04767
GFREQ	0.14803	0.33385	0.86418	0.01682	0.07785	-0.14617
GBAL	0.61876	0.12636	0.48497	0.14413	0.07498	0.03808
GCLOSE	0.77413	0.23162	0.01395	0.02542	-0.02491	0.02871
GCOMPL	0.77342	0.20514	-0.05315	-0.00712	0.00787	0.05518
GPRSEX	0.28542	0.18576	0.43984	0.27027	0.08994	0.14014
GKNOW	0.32405	0.68839	0.08264	-0.12512	-0.08980	0.11361
GPRREL	0.48089	-0.12171	0.08188	-0.43108	-0.21811	-0.10067
GPRSECT1	0.01841	0.05825	-0.00468	-0.02674	-0.04583	0.81258
GPRSECT2	0.12135	-0.03056	0.06142	0.77740	-0.14312	-0.05293
GPRSECT3	0.05654	-0.02356	0.11511	-0.01307	0.80212	0.02531
ESATISF	0.15753	0.43414	-0.84406	-0.17794	0.00108	-0.05218
SSATISF	0.21313	0.44841	-0.48008	0.10287	0.00709	-0.07559
PSATISF	0.21638	0.39135	-0.48507	-0.05357	0.01802	-0.08200
FSATISF	0.22894	0.14409	-0.29502	-0.02919	-0.04204	-0.21077
GSATISF	0.18276	0.43068	-0.45471	-0.03880	-0.06559	-0.09182
ENETWORK	-0.07330	0.73008	0.18342	0.06918	-0.01809	-0.05295
SNETWORK	0.11761	0.87527	0.19729	0.18963	-0.00322	0.00477
PNETWORK	0.15573	0.75262	0.28369	0.10536	0.08565	0.01826
FNETWORK	0.04417	0.88756	0.25137	0.08371	0.17474	-0.00333
GNETWORK	0.15731	0.74433	0.21398	0.13530	0.06986	-0.01318

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6
7.188725	6.508547	4.837564	4.742484	4.450327	3.547285

FINAL COMMUNALITY ESTIMATES: TOTAL = 31.282032

5. 9 factor solution: principal components extraction, promax rotation.

ROTATED FACTOR PATTERN (STD REG COEFS)									
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8	FACTOR9
EFREQ	0.11580	-0.13483	-0.00815	-0.03842	0.77592	-0.25853	0.03015	-0.19104	-0.07900
EBAL	-0.18484	0.12483	0.02874	0.01758	0.27547	-0.13828	0.10685	0.27405	0.22097
ECLOSE	-0.08474	0.82840	0.00551	-0.05554	-0.07142	-0.13488	0.08171	-0.07286	0.18353
ECOMPL	-0.08814	0.88071	0.04812	0.05217	-0.19300	-0.01920	0.00591	-0.19702	-0.06055
EPRSEX	0.21246	-0.18488	-0.08584	-0.08117	-0.21784	-0.10150	-0.07791	0.83338	-0.21305
EKNOW	0.89389	0.11187	-0.24630	-0.08577	-0.08440	-0.05332	-0.01959	0.07140	0.02355
EPRREL	-0.18738	0.24600	-0.80698	-0.20878	0.15115	0.11083	-0.00145	0.04086	0.01200
EPRSECT1	0.04013	0.04070	-0.01153	-0.05162	-0.05287	-0.05475	0.78888	-0.03354	-0.07284
EPRSECT2	-0.08737	0.02018	0.83225	-0.16080	0.04388	0.15914	-0.10532	-0.08435	-0.05425
EPRSECT3	-0.09839	0.05953	-0.07884	0.88459	-0.00870	-0.10763	0.00818	-0.03452	-0.27957
SFREQ	0.07149	0.11635	-0.12976	-0.09786	0.86215	-0.11274	-0.03252	0.01352	-0.00138
SBAL	-0.02899	0.37081	0.03210	-0.06826	0.31888	-0.16871	-0.03459	0.42086	-0.01508
SCLOSE	0.08830	0.72388	0.03014	0.03150	0.09750	-0.21889	-0.07577	0.05144	-0.03889
SCOMPL	0.07768	0.85110	0.01783	0.05739	-0.02201	-0.08561	-0.08886	-0.04578	-0.05542
SPRSEX	-0.02239	-0.03692	-0.11502	0.02539	-0.13438	-0.11119	-0.07533	0.78192	-0.08542
SKNOW	0.88903	0.18878	-0.03081	-0.07784	-0.14067	-0.04345	0.00946	0.15510	0.05538
SPRREL	-0.02122	0.26559	-0.38798	-0.08184	0.33499	-0.01237	-0.13868	-0.13493	-0.04368
SPRSECT1	-0.10375	-0.02404	-0.07053	-0.04440	-0.00692	0.06257	-0.85886	-0.00071	-0.06430
SPRSECT2	-0.17204	0.04297	0.78814	-0.15492	0.00137	0.04055	-0.16529	0.05088	0.02337
SPRSECT3	0.00526	0.07514	-0.13524	0.88813	0.03681	-0.01837	-0.08042	0.05567	0.00005
PFREQ	0.11869	0.01770	-0.09053	0.03004	0.84805	-0.04609	-0.01846	-0.02945	-0.07438
PBAL	-0.01697	0.20086	0.01309	0.05931	0.31270	0.27131	0.08026	0.39443	0.03314
PCLOSE	0.15482	0.81326	0.03339	0.04202	-0.02822	0.22312	0.00734	0.11339	-0.00688
PCOMPL	0.14758	0.75203	0.02585	0.09005	-0.09592	0.28580	-0.00022	-0.01884	-0.13883
PPRSEX	-0.00891	-0.00346	0.11160	0.10875	0.00028	-0.07729	0.05593	0.78084	0.04353
PKNOW	0.88684	0.11323	-0.20552	-0.05570	-0.03566	0.01816	0.04099	0.19120	0.06893
PPRREL	-0.06158	0.19985	-0.82370	-0.18784	0.05183	0.31951	-0.15267	-0.00440	-0.08325
PPRSECT1	-0.09903	-0.04532	-0.07138	0.07183	0.04097	0.04525	-0.04447	0.05709	0.02174
PPRSECT2	-0.10207	0.08721	0.85034	-0.13812	-0.00862	0.02869	-0.06474	0.00641	-0.02344
PPRSECT3	-0.08031	0.05471	-0.10827	0.95228	-0.01577	0.28736	0.00570	-0.15895	0.03319
PFREQ	0.12394	-0.31703	-0.00277	0.10259	0.88169	0.85527	0.04305	0.07531	0.05518
PBAL	-0.00392	-0.22048	0.13173	0.06788	0.08250	0.77881	0.04377	-0.07490	0.01144
PCLOSE	0.11078	0.15111	0.08895	0.02708	-0.11907	0.70889	0.01096	-0.23032	-0.16741
PCOMPL	0.18547	0.39547	0.05644	0.06772	-0.22959	0.21585	-0.04656	0.57888	-0.07487
PPRSEX	0.19125	-0.20608	0.16381	0.11001	-0.14235	0.21585	-0.01395	0.01598	0.03288
PKNOW	0.89379	-0.06307	-0.16937	-0.12487	-0.06957	0.28585	-0.15249	-0.05512	-0.04650
PPRREL	-0.14482	-0.12478	-0.36461	-0.18103	-0.04542	0.88487	-0.15249	-0.00505	-0.01981
PPRSECT1	0.08088	-0.01053	0.00166	0.05541	-0.04553	-0.00609	0.70488	0.04456	-0.02154
PPRSECT2	-0.00104	0.10875	0.73715	-0.07752	-0.00270	-0.04135	0.02040	0.04182	0.01159
PPRSECT3	-0.08263	-0.03738	-0.06222	0.84745	0.01045	0.11845	-0.04076	-0.02073	-0.03712
CFREQ	0.18072	-0.04075	0.03780	0.05452	0.83161	0.03508	-0.04441	-0.04182	0.10531
CBAL	-0.09159	0.15501	0.11945	0.06305	0.38030	0.30614	0.07890	0.34035	-0.13661
CCLOSE	0.00110	0.82208	0.07149	0.01377	0.13072	0.28355	0.07605	0.76609	0.01022
CCOMPL	0.07231	0.85740	0.05333	0.06954	0.01327	0.30901	0.08425	-0.03508	-0.08248
CPRSEX	0.15827	-0.05137	0.07871	-0.00478	-0.01447	0.03888	0.00088	0.76898	-0.03534
CKNOW	0.66133	0.07386	-0.18240	-0.13521	0.00133	0.11085	0.05595	0.20160	0.13534
CPRREL	-0.25667	0.19516	-0.39060	-0.16273	0.17798	0.28288	-0.05473	0.10343	0.13058
CPRSECT1	0.02195	0.02330	-0.04590	-0.06792	-0.00619	-0.02300	0.83109	-0.02933	-0.08318
CPRSECT2	-0.03710	0.11038	0.81721	-0.13920	-0.03002	0.06307	-0.02696	0.01184	-0.04784
CPRSECT3	-0.08935	0.09079	-0.07082	0.81883	0.03785	0.02709	0.01175	0.08825	-0.01708
ESATISF	0.15737	0.11895	-0.13985	0.02052	-0.08342	-0.10636	0.00980	-0.21237	0.87326
SSATISF	0.18479	0.09581	-0.10185	0.00232	-0.14707	-0.10108	-0.04462	-0.02095	0.88858
PSATISF	0.09582	-0.04426	-0.04056	0.02451	-0.12450	0.03360	-0.02260	-0.03798	0.78851
FSATISF	-0.14149	-0.10402	-0.02389	-0.03825	-0.03215	0.08209	-0.14976	0.08080	0.70825
GSATISF	0.13406	-0.00248	0.00457	-0.04962	-0.03595	0.00182	-0.00787	-0.15828	0.78277
ENETWORK	0.78328	-0.08022	0.03773	-0.05716	0.14990	-0.09092	-0.09366	-0.05147	-0.06812
SNETWORK	0.82643	0.10772	0.17326	-0.04829	0.22959	-0.09597	-0.01257	0.00196	-0.01087
PNETWORK	0.70721	0.00754	0.07331	0.02205	0.24860	0.02783	0.00652	0.02921	0.04386
FNETWORK	0.67019	-0.09301	0.09306	0.18080	0.24877	0.12059	0.02164	-0.13955	0.03131
GNETWORK	0.68132	0.04899	0.11377	0.03375	0.22515	0.02058	-0.02042	-0.00240	0.06154

FACTOR STRUCTURE (CORRELATIONS)

	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8	FACTOR9
EFREQ	0.14582	-0.12981	0.07847	0.07094	0.55115	-0.17177	0.02444	-0.02449	-0.11105
EBAL	0.01587	0.24100	0.07822	0.02105	0.33312	0.03230	0.13694	0.36093	0.24918
ECLOSE	0.06944	0.62177	-0.06820	-0.15440	-0.03148	0.02368	0.10994	0.01443	0.27860
ECOMPL	0.03844	0.76127	-0.06226	-0.09511	-0.12011	0.13768	0.03158	-0.07042	0.22769
EPRIEX	0.17078	-0.13385	0.00636	0.00198	-0.06099	-0.02461	-0.01709	0.48626	-0.20049
EKNOW	0.68087	0.27603	-0.20715	-0.06352	0.01852	0.05366	0.06091	0.13737	0.23855
EPRIEL	-0.16180	0.34300	-0.54521	-0.30752	0.12280	0.25414	-0.03770	0.04737	0.11815
EPRIECT1	0.09295	0.03753	0.00639	-0.00478	-0.06809	-0.08707	0.78846	0.01437	-0.02629
EPRIECT2	-0.05987	-0.02934	0.78141	-0.11162	0.11053	0.11768	-0.11133	0.05345	-0.09021
EPRIECT3	-0.00221	-0.10446	0.00543	0.87021	0.03607	-0.16184	0.05806	0.04976	-0.08780
SPREQ	0.11712	0.11974	-0.05346	-0.03639	0.84129	0.07025	-0.02923	0.17955	-0.19309
SBAL	0.16217	0.46394	0.09723	-0.06021	0.48446	0.13039	0.02783	0.54921	0.16387
SCLOSE	0.25728	0.69884	0.01228	-0.02984	0.20566	0.04778	-0.00855	0.20488	0.28950
SCOMPL	0.21850	0.78392	-0.04400	-0.04234	0.08780	0.04778	-0.04476	0.08246	0.28477
SPRIEX	0.05493	0.05688	-0.00889	0.08938	0.08097	0.05350	-0.00687	0.67225	-0.02385
EKNOW	0.68084	0.35075	0.00055	-0.04885	0.02260	0.09255	0.08647	0.24577	0.27126
SPRIEL	0.00484	0.31785	-0.40805	-0.15548	0.28238	0.13791	-0.16262	-0.05345	0.08162
EPRIECT1	-0.02845	0.02044	-0.05487	-0.01234	-0.01984	0.03813	0.83636	0.05845	-0.03543
EPRIECT2	-0.10804	0.03828	0.73312	-0.12130	0.07458	0.06922	-0.15883	0.13506	-0.00746
EPRIECT3	0.11008	-0.02730	-0.04474	0.87028	0.12357	-0.03673	-0.02743	0.11533	-0.02311
PPREQ	0.24010	0.13205	0.01034	0.08178	0.84307	0.14562	-0.00489	0.22927	-0.01508
PBAL	0.20421	0.42811	0.08180	0.05526	0.53270	0.50039	0.12604	0.82117	0.18843
PCLOSE	0.32683	0.72481	0.00884	-0.03439	0.19040	0.44382	0.06627	0.33843	0.28868
PCOMPL	0.28096	0.78284	-0.02805	-0.01852	0.11582	0.48301	0.04886	0.22379	0.20089
PPRIEX	0.16232	0.13825	0.23556	0.17923	0.23914	0.11056	0.14142	0.77012	0.07640
EKNOW	0.74871	0.36285	-0.14189	-0.01087	0.14615	0.17841	0.13580	0.31640	0.30131
PPRIEL	-0.07835	0.31306	-0.57066	-0.27781	0.07004	0.42078	-0.16840	0.02105	0.04089
PPRIECT1	-0.01211	0.01882	-0.05134	-0.03332	0.04217	0.01175	0.81800	0.05456	0.00741
PPRIECT2	-0.01262	0.05615	0.82695	-0.08210	0.11043	0.05575	-0.02553	0.18331	0.00901
PPRIECT3	0.03124	-0.08544	-0.02874	0.92258	0.05465	-0.03590	-0.01608	0.05354	-0.07554
FFREQ	0.19439	-0.12846	0.07448	0.17942	0.67647	0.30532	-0.01262	0.09044	-0.03011
FBAL	0.08540	0.07818	0.13474	0.05129	0.28115	0.81965	0.01978	0.31261	0.04538
FCLOSE	0.18704	0.37313	0.03289	-0.05114	0.08576	0.77943	0.03847	0.16886	0.15174
FCOMPL	0.22490	0.48648	-0.03285	-0.04391	-0.04013	0.71219	0.00781	0.01245	0.08196
FPRIEX	0.26394	-0.05237	0.26618	-0.18733	0.10867	0.26966	0.01988	0.00180	-0.07211
EKNOW	0.67855	0.20888	-0.13855	-0.09084	0.09729	0.35446	0.04042	0.16030	0.20913
FPRIEL	-0.20355	0.06173	-0.43257	-0.28445	-0.01305	0.84134	-0.22912	-0.02720	-0.04701
FPRIECT1	0.16009	0.02067	0.03389	0.10409	-0.02805	-0.04304	0.71618	0.06209	0.01293
FPRIECT2	0.07509	0.06454	0.73138	-0.01262	0.08952	-0.02661	0.05177	0.15907	-0.00849
FPRIECT3	0.02094	-0.12835	0.00772	0.82842	0.07836	0.03295	-0.00831	0.04134	-0.06389
GRREQ	0.28081	0.10210	0.13882	0.14500	0.85551	0.20316	-0.02828	0.24870	0.00549
GBAL	0.15237	0.40564	0.17905	0.07028	0.56612	0.51944	0.11158	0.59574	0.20611
GCLOSE	0.23388	0.71864	0.04007	-0.06637	0.31778	0.80356	0.11422	0.34114	0.28899
GCOMPL	0.25971	0.75785	0.01198	-0.02975	0.20403	0.80111	0.12289	0.23505	0.30846
GPRIEX	0.27841	0.12291	0.20893	0.08278	0.25732	0.22717	0.08717	0.79886	-0.07176
EKNOW	0.72347	0.37745	-0.12776	-0.09485	0.19063	0.27776	0.14001	0.34948	0.35720
GPRIEL	-0.16583	0.38286	-0.43064	-0.28747	0.20687	0.43285	-0.09045	0.16367	0.21583
GPRIECT1	0.08657	0.04859	-0.02516	-0.02138	-0.02122	-0.04844	0.82512	0.03639	-0.01768
GPRIECT2	0.02689	0.08858	0.78957	-0.08485	0.07119	0.08086	-0.00808	0.14007	-0.03741
GPRIECT3	0.04003	-0.02500	0.01767	0.89880	0.13348	-0.00181	0.06286	0.14502	-0.05277
ESATISF	0.26386	0.32740	-0.18933	-0.06095	-0.11540	-0.08481	0.03695	-0.16071	0.73330
SSATISF	0.30609	0.32884	-0.08088	-0.03848	-0.08706	-0.03582	0.00780	0.01855	0.73839
PSATISF	0.22771	0.28210	-0.08489	-0.02416	-0.08426	0.08312	0.00788	-0.00976	0.78973
FSATISF	-0.00477	0.17873	-0.06293	-0.08828	-0.00989	0.12703	-0.14401	0.08272	0.64680
GSATISF	0.26416	0.28300	-0.05120	-0.10074	-0.03916	0.03582	0.01637	-0.08432	0.77308
ENETWORK	0.78909	0.08559	0.11274	0.04422	0.24059	-0.01621	-0.01381	0.09389	0.08299
SNETWORK	0.65641	0.23815	0.24057	0.04724	0.38143	0.04244	0.07150	0.20952	0.18849
PNETWORK	0.78019	0.22020	0.15978	0.12085	0.40186	0.15758	0.09524	0.28441	0.21717
FNETWORK	0.71370	0.07778	0.18837	0.25336	0.38889	0.15672	0.08957	0.10336	0.14360
GNETWORK	0.78711	0.24370	0.18854	0.12282	0.37808	0.14688	0.08643	0.23383	0.23911

VARIANCE EXPLAINED BY EACH FACTOR IGNORING OTHER FACTORS

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8	FACTOR9
6.842030	7.016889	4.764921	4.634193	9.138263	4.808385	3.585508	4.878071	4.441928

FINAL COMMUNALITY ESTIMATES TOTAL = 37.886153

INTER-FACTOR CORRELATIONS

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8	FACTOR9
FACTOR1	1.00000	0.20959	0.08150	0.10555	0.17788	0.08295	0.11295	0.18825
FACTOR2	0.20959*	1.00000	-0.07361	-0.13893	0.16225	0.30718	0.05676	0.22412
FACTOR3	0.08150	-0.07361	1.00000	0.09620	0.10490	-0.04556	0.03385	0.14541
FACTOR4	0.10555	-0.13893*	0.09620	1.00000	0.08442	-0.08289	0.05604	0.07046
FACTOR5	0.17788*	0.16225*	0.10490	0.08442	1.00000	0.22231	0.00504	0.30979
FACTOR6	0.08295	0.30718*	-0.04556	-0.08289	0.22231*	1.00000	-0.03307	0.28521
FACTOR7	0.11295	0.05676	0.03385	0.05604	0.00504	-0.03307	1.00000	0.09546
FACTOR8	0.18825*	0.22412*	0.14541*	0.07046	0.30979*	0.28521*	0.09546	1.00000
FACTOR9	0.22900*	0.38806*	-0.04645	-0.06809	0.03419	0.08047	0.03495	0.07109

*significant (n=273, p<.05)

6. 9 factor solution: principal components extraction, varimax rotation, negatively skewed items removed.

ROTATED FACTOR PATTERN									
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8	FACTOR9
EFREQ	0.04160	0.02005	0.00393	0.73137	-0.00800	-0.28290	0.02361	-0.12748	-0.04881
ECLOSE	0.18197	-0.02181	-0.10046	-0.10581	0.60101	0.00627	0.05918	0.07212	-0.11335
EOMPL	0.01052	0.01884	-0.00448	-0.14846	0.71838	0.28478	0.03758	0.12588	-0.13101
EPRSEX	0.08101	-0.04187	-0.04808	-0.03113	-0.11122	-0.07222	-0.01358	-0.08881	0.67242
EKNOW	0.78206	-0.17835	-0.04377	0.00702	0.21928	-0.06332	0.00153	0.05325	0.03350
EPRREL	-0.03795	-0.48323	-0.24324	0.07319	0.26085	0.31302	-0.02852	-0.08448	-0.04101
EPRSECT1	0.00946	-0.01094	-0.02653	-0.04455	0.02250	-0.06520	0.80284	0.03106	0.02035
EPRSECT2	-0.10120	0.81825	-0.13038	0.07284	-0.01848	0.08657	-0.10733	-0.08185	-0.01738
EPRSECT3	-0.04899	-0.05652	0.88501	0.00567	0.01781	-0.15588	0.02272	-0.04658	0.03878
SFRFO	-0.02421	-0.08705	-0.06272	0.88384	0.72758	-0.04460	-0.00406	-0.13923	0.12681
SCLOSE	0.19280	0.02555	0.00537	0.08054	0.08170	-0.00574	-0.04798	0.14161	0.07718
SCOMPL	0.08703	0.00587	0.02585	0.08054	0.72758	-0.00574	-0.04798	0.14161	0.07718
SPRSEX	-0.01876	-0.06795	0.03618	-0.00147	0.08170	0.21624	-0.04163	0.23320	0.00628
SKNOW	0.74304	0.02724	-0.03233	-0.08599	0.28184	-0.04542	-0.02014	-0.02754	0.78042
SPRREL	0.01120	-0.37725	-0.11184	0.28201	0.27452	0.16823	-0.01611	0.00819	0.05839
SPRSECT1	-0.02932	-0.08080	-0.02830	-0.02583	-0.00114	0.04842	-0.14088	-0.00822	-0.13842
SPRSECT2	-0.13810	0.78424	-0.13475	0.01870	0.05815	0.03690	-0.18188	-0.08510	0.01893
SPRSECT3	0.03554	-0.10000	0.67407	0.07853	0.01315	-0.04254	-0.05634	0.00885	0.08871
PFREQ	0.09808	-0.03388	0.06232	0.85811	0.08271	0.02470	-0.01475	-0.02048	0.18838
PCLOSE	0.25183	0.06022	0.01937	0.08403	0.55788	0.42034	0.03688	0.13857	0.18838
PCOMPL	0.16367	0.04847	0.06082	0.05822	0.56178	0.54733	0.05887	0.16181	0.12212
PPRSEX	0.08580	0.16887	0.12936	0.12182	0.11675	-0.01234	0.09284	0.03703	0.73718
PKNOW	0.81448	-0.11872	-0.00403	0.08329	0.18302	0.05733	0.06107	0.12658	0.14334
PPRREL	-0.05318	-0.50285	-0.20415	0.05470	0.11038	0.53560	-0.14714	0.00548	0.00705
PPRSECT1	-0.03136	-0.06551	-0.05854	0.04412	0.01531	-0.00039	0.82323	-0.02458	0.01214
PPRSECT2	-0.03593	0.83873	-0.10731	0.02870	0.09645	-0.01804	-0.04754	-0.05530	0.07024
PPRSECT3	-0.03834	-0.07790	0.82832	0.03637	-0.01138	-0.02873	-0.04126	-0.02718	0.04418
PFREQ	0.10845	0.03488	0.12810	0.70418	-0.17286	0.11782	-0.02298	-0.04717	-0.01224
PCLOSE	0.22675	0.10115	0.00273	0.00380	0.15559	0.58073	0.02271	-0.01653	0.04815
PCOMPL	0.16022	0.07089	0.04288	-0.06382	0.20378	0.78853	0.03710	0.04826	-0.05052
PPRSEX	0.18365	0.22805	0.14748	0.03122	-0.15916	0.18418	-0.01185	-0.04047	0.81285
PKNOW	0.80397	-0.08164	-0.07083	0.06355	-0.00570	0.24503	-0.01357	0.02808	-0.00045
PPRREL	-0.09276	-0.38815	-0.23073	-0.03238	-0.10271	0.83253	-0.18704	-0.15047	-0.03172
PPRSECT1	0.11126	0.02908	0.08588	-0.01837	-0.03067	-0.00450	0.71489	0.04087	0.02488
PPRSECT2	-0.01357	0.74123	-0.03818	0.04260	0.05975	-0.03880	0.03378	0.00299	0.08207
PPRSECT3	-0.01777	-0.02588	0.83453	0.04327	-0.10386	0.04706	-0.02982	-0.04255	0.00186
GFREQ	0.13677	0.08915	0.08979	0.85850	0.03807	0.04605	-0.04410	-0.01213	0.10582
GCOMPL	0.16772	0.07088	0.03875	0.08903	0.50281	0.55414	0.10785	0.18585	0.07843
GPRSEX	0.17838	0.15177	0.03153	0.15042	0.18071	0.08920	0.04675	-0.03714	0.78462
GKNOW	0.78308	-0.09735	-0.08755	0.11044	0.18071	0.18823	0.08326	0.15827	0.15137
GPRREL	-0.08721	-0.38528	-0.22888	0.11470	0.18597	0.47305	-0.08532	0.04711	0.05449
GPRSECT1	0.06888	-0.03017	-0.04202	-0.00488	0.04192	-0.03838	0.82788	-0.02581	-0.00225
GPRSECT2	-0.03733	0.80858	-0.10481	0.01111	0.04851	0.04855	-0.01827	-0.03247	0.08548
GPRSECT3	-0.02473	-0.03589	0.80336	0.07834	0.02824	-0.00432	0.03061	-0.05125	0.09225
ESATISF	0.16012	-0.18573	-0.03155	-0.08344	0.26221	-0.04328	0.00783	0.70216	-0.17340
SSATISF	0.18903	0.06200	-0.03714	-0.12785	0.24198	-0.06185	-0.04494	0.71638	-0.00542
PSATISF	0.08816	-0.08020	-0.02570	-0.11057	0.08962	0.09028	-0.01773	0.80788	0.00143
GSATISF	0.09040	-0.04211	-0.08607	-0.02332	0.14254	0.05901	-0.00417	0.80628	-0.07791
PNETWORK	0.55780	0.14701	0.09253	0.39458	-0.05708	0.13761	0.06163	0.34218	0.16374
FNETWORK	0.53480	0.15295	0.22625	0.38853	-0.16100	0.13828	0.06203	0.27742	0.02140
GNETWORK	0.53245	0.17937	0.09294	0.38952	-0.00928	0.12810	0.03742	0.38440	0.16336

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8	FACTOR9
4.621171	4.438532	4.367942	3.761723	3.726870	3.448512	3.425387	2.980107	2.912016

FINAL COMMUNALITY ESTIMATES: TOTAL = 33.580080

7. 9 factor solution: principal components extraction, varimax rotation, positively skewed items removed.

ROTATED FACTOR PATTERN									
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8	FACTOR9
EPREO	-0.11541	0.08175	0.07504	0.78220	-0.10288	-0.06330	-0.11412	-0.18593	0.08552
EBAL	0.08310	-0.04704	0.15318	0.11933	0.09051	0.02346	-0.02874	-0.00418	0.72268
ECLOSE	0.54880	-0.24585	0.32851	-0.04843	-0.17641	0.18132	-0.02414	-0.04780	0.34888
ECDMPL	0.77758	-0.04551	0.04826	-0.18894	-0.17837	0.08266	-0.00788	0.07820	0.07888
EPRSEK	-0.08707	-0.06908	0.17214	0.02077	0.85285	-0.08021	-0.02187	-0.08755	-0.32484
EKNOW	0.12227	0.18457	0.78870	0.04857	0.03248	0.13025	-0.02818	0.04083	-0.07855
EPREEL	0.12241	-0.18219	0.18384	0.01085	-0.12780	-0.00980	-0.01789	0.88527	0.18518
SFREO	0.12445	0.10100	0.00810	0.88248	0.12743	-0.17585	-0.08844	0.18842	-0.08358
SBAL	0.35738	0.04574	0.10804	0.32540	0.41351	0.03527	-0.05544	0.07848	0.30265
SCLOSE	0.88175	-0.04427	0.24512	0.20051	0.10414	0.18201	-0.04164	-0.11970	0.11100
SCOMPL	0.81332	0.04171	0.08571	0.08407	0.04271	0.20481	-0.01748	0.01620	-0.08273
SPRSEK	0.06098	-0.11348	0.08940	0.08185	0.74888	0.01223	-0.04488	0.03875	-0.07835
SKNOW	0.20216	0.15894	0.72310	-0.03823	0.08341	0.08403	0.01780	-0.07124	0.15185
PFREO	0.08777	0.24555	0.01551	0.81806	0.10783	-0.04332	0.01118	0.13801	0.09472
PBAL	0.26037	0.25493	0.01778	0.25573	0.44510	0.01048	0.23911	0.31410	0.32711
PCLOSE	0.54803	0.18223	0.20092	0.08033	0.21285	0.13740	0.21727	0.18528	0.08017
PCOMPL	0.78178	0.28333	0.04912	-0.02925	0.13501	0.08892	0.22147	0.28177	-0.08088
PPRSEK	0.07264	0.15283	-0.01718	0.03778	0.73387	0.00431	0.01868	-0.07814	0.27408
PKNOW	0.15578	0.34542	0.73780	0.05079	0.15801	0.13380	0.02785	0.10345	0.07518
PPREEL	0.14825	-0.04788	0.05248	0.02338	-0.00985	0.04108	0.08878	0.82532	-0.23751
FFREO	-0.15510	0.11720	0.03856	0.70848	-0.00152	-0.00773	0.40538	-0.10874	0.05947
FBAL	-0.01483	0.06016	0.04081	0.12133	0.18524	-0.04720	-0.85300	0.08127	0.20824
FCLOSE	0.34078	-0.01857	0.17854	0.02185	0.05555	0.08230	0.80889	0.02234	0.00581
FCOMPL	0.50728	0.18034	0.05175	-0.13273	-0.05008	-0.01811	0.83822	-0.15843	-0.18805
FFRSEK	-0.08788	0.25371	0.03835	-0.08805	0.57534	-0.12009	-0.28441	-0.15280	0.01412
FKNOW	0.01833	0.25831	0.74743	0.03331	-0.00352	0.08745	0.28380	0.10587	0.01412
PPREEL	-0.00878	-0.31248	0.06078	0.05733	-0.01555	0.01658	0.54279	0.53588	-0.28874
GFREO	0.04867	0.31448	-0.00418	0.78891	0.10781	-0.03535	0.13094	0.01480	0.15827
GBAL	0.23023	0.28140	-0.05413	0.24073	0.33432	-0.01871	0.31888	0.21474	0.57813
GCLOSE	0.55308	0.21112	0.10522	0.04889	0.08037	0.17788	0.27757	0.24205	0.43527
GCOMPL	0.88818	0.32628	0.01294	-0.05108	0.03589	0.08847	0.24755	0.27268	0.22851
GPRSEK	0.05248	0.22700	0.08820	0.05946	0.78567	-0.08303	0.10697	-0.00535	0.14844
GKNOW	0.13188	0.38870	0.71502	0.04088	0.14466	0.15111	0.08038	0.20414	0.15188
CPREEL	0.14422	-0.02893	-0.01557	0.01234	-0.01702	0.08258	0.07801	0.81823	0.21570
ESATISF	0.20783	0.04595	0.20340	-0.03852	-0.18539	0.74127	-0.08512	0.02224	-0.06880
SSATISF	0.21047	0.16010	0.13372	-0.13891	-0.00358	0.70289	-0.03355	-0.13747	0.09883
PSATISF	0.09884	0.18408	0.03857	-0.13167	-0.00023	0.80854	-0.00514	0.11157	-0.01475
FSATISF	0.01004	-0.17285	0.08757	-0.00217	0.04875	0.84432	0.10518	0.05578	0.15281
GSATISF	0.18288	0.15788	0.05574	-0.01732	-0.07510	0.80884	0.00880	0.01625	-0.08011
ENETWORK	0.02114	0.84821	0.35138	0.19000	0.07182	0.05893	-0.04570	-0.13034	-0.19708
SNETWORK	0.16271	0.85180	0.25147	0.19515	0.10214	0.08316	-0.04810	-0.12055	0.07193
PNETWORK	0.09531	0.78880	0.25482	0.18774	0.13780	0.10428	0.02754	0.00158	0.05995
FNETWORK	-0.00504	0.73817	0.23512	0.18778	-0.02312	0.04641	0.14447	-0.12483	0.06705
GNETWORK	0.13823	0.78452	0.23475	0.18083	0.12815	0.14384	0.03407	-0.03917	0.01751

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8	FACTOR9
4.835124	4.124705	3.808578	3.475952	3.329365	3.145778	2.945305	2.855108	2.203182

FINAL COMMUNALITY ESTIMATES: TOTAL = 30.528208

8. 9 factor solution: principal components extraction, varimax rotation,
items with $\geq 10\%$ missing values removed.

ROTATED FACTOR PATTERN									
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8	FACTOR9
EFREQ	-0.12559	0.04225	0.02747	0.15780	0.72417	-0.21308	0.03587	-0.10982	0.01783
EBAL	0.10237	0.10297	0.08933	0.05231	0.09783	-0.12299	0.08917	0.08955	0.86770
ECLOSE	0.58879	0.00182	-0.08178	-0.01948	-0.14489	-0.10585	0.06884	-0.15873	0.33708
ECOMPL	0.78874	-0.01384	-0.02980	-0.04907	-0.18127	0.04184	0.01765	-0.16616	0.08850
EPRSEX	-0.08616	-0.05476	-0.05742	-0.04882	0.00535	-0.03485	-0.00125	0.87781	-0.28230
EPRREL	0.17313	-0.47687	-0.22788	-0.15389	0.00431	0.14215	-0.05598	-0.08509	0.52083
EPRSECT1	0.05048	-0.02125	-0.04125	0.04754	-0.03039	-0.06921	0.78983	-0.02888	-0.09889
EPRSECT2	0.00334	0.82752	-0.12149	-0.05125	0.11475	0.13240	-0.10338	-0.01252	-0.09850
EPRSECT3	-0.03208	-0.03972	0.87723	-0.00668	-0.00094	-0.13411	0.02832	0.02552	-0.00351
SFREQ	0.10109	-0.08089	-0.06348	0.03692	0.73013	0.00249	-0.01117	0.14576	-0.05307
SBAL	0.40372	0.09067	-0.04152	0.04624	0.35780	-0.04395	-0.01208	0.40014	0.27820
SCLOSE	0.72806	0.01287	-0.00482	0.12520	0.13508	-0.11354	-0.04322	0.08888	0.08956
SCOMPL	0.84380	-0.03721	-0.00981	0.05838	0.07774	0.01704	-0.05430	0.02071	-0.10484
SPRSEX	0.07407	-0.05067	0.04389	-0.08685	0.04018	-0.02584	-0.01734	0.78072	-0.04831
SPRREL	0.23004	-0.38572	-0.11833	-0.00275	0.24869	0.05317	-0.15747	-0.14333	0.24505
SPRSECT1	-0.02418	-0.05045	-0.01974	-0.07018	-0.01721	0.06763	0.84378	-0.01209	0.08199
SPRSECT2	0.05767	0.78199	-0.11602	-0.10425	0.04600	0.02820	-0.18532	0.06370	0.01547
SPRSECT3	0.01433	-0.10480	0.87143	0.09862	0.05133	-0.02825	-0.05816	0.07337	0.02599
PFREQ	0.07732	-0.03187	0.07769	0.18144	0.84021	0.05420	-0.01287	0.08338	0.10764
PBAL	0.28956	0.05913	0.07748	0.12370	0.33326	0.35850	0.07816	0.40019	0.36888
PCLOSE	0.88421	0.01045	-0.00561	0.17737	0.05470	0.30630	0.03310	0.16766	0.09932
PCOMPL	0.76267	-0.03322	0.00935	0.14827	0.02243	0.37861	0.03493	0.11741	-0.04668
PPRSEX	0.07434	0.17216	0.14424	0.11768	0.06612	0.00846	0.08254	0.71005	0.22211
PPRREL	0.21530	-0.52857	-0.22185	-0.13245	0.05938	0.36579	-0.17473	0.00742	0.11853
PPRSECT1	-0.00589	-0.04447	-0.04261	-0.08611	0.08232	0.03406	0.82984	0.01439	0.03499
PPRSECT2	0.05110	0.88045	-0.08978	0.00677	0.02929	0.03704	-0.04359	0.06582	0.08095
PPRSECT3	-0.00470	-0.07404	0.83186	-0.01267	0.04987	0.00689	-0.03846	0.04415	-0.09451
FFREQ	-0.19096	0.03287	0.14513	0.20332	0.88658	0.29142	-0.01022	-0.03259	0.05639
PBAL	-0.08454	0.15340	0.07600	0.05867	0.14651	0.80364	0.00740	0.13087	0.20055
ECLOSE	0.30198	0.05539	-0.01735	0.10277	-0.01846	0.74247	0.03396	0.04189	0.01411
ECOMPL	0.44849	-0.02736	-0.01655	0.13285	-0.09832	0.70495	0.02099	-0.05405	-0.16335
EPRSEX	-0.14655	0.17807	0.13318	0.28978	-0.10461	0.22512	-0.02387	0.57289	0.16217
EPRREL	0.00293	-0.35445	-0.22867	-0.30985	0.07995	0.88685	-0.17876	-0.00073	-0.09566
EPRSECT1	0.00435	0.00485	0.07538	0.12293	-0.08217	-0.03080	0.70813	0.01806	0.03532
EPRSECT2	0.01754	0.72387	-0.03784	0.15711	-0.05472	-0.05366	0.01675	0.04609	0.17043
EPRSECT3	-0.08255	-0.03160	0.83783	0.01235	0.03555	0.07370	-0.03149	-0.00094	-0.00919
GFREQ	0.04488	0.08063	0.10266	0.29344	0.79898	0.10779	-0.04300	0.07875	0.12265
GBAL	0.23376	0.18955	0.08813	0.16057	0.30473	0.36400	0.04779	0.30194	0.52248
GCLOSE	0.58377	0.05277	-0.02148	0.20462	0.04682	0.33818	0.05075	0.08095	0.44880
GCOMPL	0.86358	0.00974	0.00506	0.20867	-0.00219	0.37567	0.08155	0.02818	0.23312
GPRSEX	0.04344	0.13688	0.03522	0.21236	0.09060	0.12393	0.04527	0.78352	0.14970
GPRREL	0.20891	-0.37103	-0.21119	-0.14121	0.04510	0.31628	-0.11537	0.00043	0.50173
GPRSECT1	0.03875	-0.03185	-0.04049	0.01280	0.00486	-0.03296	0.83059	0.00865	-0.00248
GPRSECT2	0.05555	0.80803	-0.10358	0.05488	0.00103	0.05812	-0.02340	0.05299	0.01221
GPRSECT3	0.02109	-0.02735	0.81122	0.00925	0.06918	0.00886	0.02990	0.08188	0.03883
ENETWORK	0.05739	-0.02447	-0.06580	0.78841	0.13993	-0.04904	-0.04535	0.08116	-0.15755
SNETWORK	0.19008	0.12039	-0.04006	0.88560	0.21019	-0.02641	0.02383	0.10730	0.00261
FNETWORK	0.14290	0.01222	0.02119	0.84267	0.17474	0.07185	0.03198	0.13497	0.08148
FNETWORK	0.01007	0.01994	0.15920	0.82868	0.13285	0.09882	0.03195	-0.01911	0.08896
GNETWORK	0.18685	0.04226	0.02601	0.82974	0.15688	0.05866	0.00711	0.12177	0.04061

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8	FACTOR9
5.020833	4.383374	4.356228	4.015091	3.578080	3.487642	3.437184	3.167897	2.348622

FINAL COMMUNALITY ESTIMATES: TOTAL = 33.775951

APPENDIX 0

Secondary Factor Analyses for the Authors' Test Scores

Secondary Factor Analyses for the Authors' Test Scores

1. 6 factor solution: principal components extraction, varimax rotation.

ROTATED FACTOR PATTERN						
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6
TOTNET	0.77190	0.02451	0.03914	0.19435	-0.10626	0.09899
ENETWORK	0.77758	0.17526	0.04970	-0.04328	-0.11627	-0.05747
SNETWORK	0.77488	0.10712	-0.10360	0.18854	-0.18368	-0.02855
PNETWORK	0.87089	0.10908	0.04215	-0.02882	0.01869	0.01457
FNETWORK	0.81485	0.05315	0.02074	-0.08837	0.11789	0.12435
GNETWORK	0.84740	0.17018	0.00113	-0.08239	0.05027	-0.00759
TOTFREO	0.28645	-0.25655	0.20551	0.28090	0.12796	0.21293
TOTCLOSE	-0.03280	0.80444	-0.01203	-0.88140	0.18325	-0.15087
TOTBAL	0.09517	-0.18008	0.00174	-0.24533	0.14328	0.23780
TOTCOMPL	-0.02215	0.48087	0.01197	-0.37664	0.22126	-0.17491
PRSEX	-0.02282	-0.14282	0.01292	-0.15939	-0.58334	0.18188
PRREL1	-0.31089	0.30795	0.31453	0.20429	0.01471	0.12808
PRREL2	-0.17351	-0.10252	0.43735	-0.21508	0.55755	-0.34250
PRREL3	0.24030	0.11186	0.48177	0.03415	0.01857	0.00608
PRREL4	-0.00211	0.08541	-0.08475	-0.25151	0.01571	0.02001
PRREL5	0.01675	0.07671	-0.58475	-0.55534	-0.32579	0.03543
PRREL6	0.11333	-0.05919	-0.20114	0.81787	0.05472	-0.07740
PRREL7	-0.02026	-0.21199	0.24729	0.13148	-0.24104	0.46354
PRSECT1	-0.00829	0.18208	-0.28914	0.28422	0.13207	0.07105
PRSECT2	0.06541	-0.18067	-0.71848	0.03631	-0.01737	-0.22861
PRSECT3	0.05970	0.04195	-0.11108	-0.08133	-0.01793	0.83426
PRSECT4	-0.12709	-0.13403	-0.13089	-0.10557	0.70225	0.23079
PRSECT5	-0.05737	0.08152	0.78284	-0.04514	-0.26478	-0.42558
ISSB	0.13456	0.58116	-0.09173	-0.04327	0.08513	-0.09131
PSSFR	0.18675	0.72009	-0.00254	-0.08134	-0.13059	0.03055
PSSFA	0.03650	0.88200	0.17477	-0.00350	-0.03820	-0.00898
SSON	0.27635	0.61099	0.08517	-0.21816	0.01344	-0.14159
SSOS	-0.07188	-0.70785	-0.15723	-0.00497	0.02730	-0.08552

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6
4.405049	3.182135	2.324524	2.016193	1.618927	1.588775

FINAL COMMUNITY ESTIMATES TOTAL = 15.136604

2. 10 factor solution: principal components extraction, varimax rotation.

ROTATED FACTOR PATTERN										
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8	FACTOR9	FACTOR10
TOTNET	0.75463	-0.00765	-0.07057	0.19452	0.12318	-0.11810	-0.02830	-0.09545	0.06584	-0.03131
ENETWORK	0.78812	0.17847	0.00557	-0.06270	-0.05048	-0.08884	0.04957	-0.08737	-0.07818	-0.07541
SNETWORK	0.75886	0.08789	0.04852	0.19055	0.03704	-0.22832	-0.17513	-0.02628	0.05807	0.01018
PNETWORK	0.87443	0.12222	-0.00797	-0.00547	-0.01219	0.02020	0.08439	0.01863	0.02326	0.04073
FNETWORK	0.81501	0.04156	-0.05170	-0.03432	0.13742	0.13175	-0.01853	0.02035	0.03743	-0.00547
GNETWORK	0.84805	0.18071	0.05656	-0.02209	-0.01677	0.05778	0.07781	0.03516	0.00264	0.01774
TOTFREO	0.25482	-0.18929	-0.08146	0.21034	0.04022	0.08460	0.09173	-0.46288	0.48359	-0.14063
TOTCLOSE	-0.03322	0.85826	0.08771	-0.51265	-0.12883	0.15800	-0.08643	0.10747	0.08713	-0.07813
TOTBAL	0.04457	-0.08888	0.12051	-0.15719	-0.00494	0.02031	0.07270	0.17071	0.82836	0.05878
TOTCOMPL	-0.01041	0.51370	0.10250	-0.24650	-0.11411	0.25085	0.06640	0.27772	-0.12336	-0.19585
TOTKNOW	0.41226	0.27749	-0.18916	-0.11097	-0.17165	-0.15224	-0.22190	0.15515	0.00934	0.04308
PRSEX	0.00525	-0.16646	-0.08273	-0.29593	0.12934	-0.52811	0.18834	-0.03683	-0.13418	0.21381
PRREL1	-0.34421	0.34369	-0.20267	0.21409	0.02294	-0.02112	0.17799	-0.15965	0.28985	-0.15026
PRREL2	-0.13652	-0.02641	-0.28027	-0.21703	-0.53508	0.58782	0.17507	0.02728	-0.06289	0.08899
PRREL3	0.21468	0.07804	-0.53913	0.13857	0.04533	0.01985	-0.19036	0.08825	0.11075	-0.37446
PRREL4	-0.01200	0.02595	-0.04084	0.00697	0.09964	-0.04542	-0.09088	0.85962	0.14384	-0.03823
PRREL5	0.00755	0.05981	0.38530	-0.61382	0.26676	-0.29147	-0.45731	-0.11664	-0.07100	0.05368
PRREL6	0.09882	-0.12385	0.15284	0.83141	-0.00558	-0.02820	-0.04178	-0.04771	-0.10194	0.13152
PRREL7	0.00668	-0.14247	-0.01038	0.01758	0.15049	0.20894	0.78461	-0.13768	0.11772	-0.03215
PRSECT1	0.02592	0.08831	0.02543	0.13231	0.01932	0.02305	-0.05871	0.00293	0.03509	0.85988
PRSECT2	0.02593	-0.11804	0.88834	0.10588	-0.09679	-0.07095	-0.10198	0.02041	0.11272	-0.16670
PRSECT3	0.07881	-0.03289	-0.07607	-0.07810	0.85288	0.04279	0.18090	0.09209	-0.01686	-0.00019
PRSECT4	-0.12080	-0.13957	0.02106	-0.08947	0.28103	0.74731	-0.14648	-0.12389	-0.01784	0.12634
PRSECT5	-0.05400	0.12688	-0.86080	-0.05631	-0.53782	-0.23437	0.04132	-0.03642	-0.08937	-0.23609
TOTSATIS	0.11158	0.86545	-0.02294	-0.05371	-0.11754	0.03515	-0.31632	-0.02744	0.05760	0.03517
ISSB	0.14846	0.55074	0.13485	0.04042	0.03555	0.08200	0.05471	0.14722	-0.24963	-0.14472
PSSFR	0.18524	0.89710	-0.05527	-0.02744	0.13103	-0.13168	-0.08482	0.05419	-0.11085	0.01547
PSSFA	0.03803	0.72388	-0.10732	0.00039	-0.05160	-0.04565	-0.14263	-0.02274	0.08774	0.08774
SSON	0.28033	0.64702	-0.03306	-0.15879	-0.15614	-0.01131	-0.00713	0.09873	0.02338	0.08943
SSOS	-0.05783	-0.70825	0.23302	-0.03454	-0.11597	0.05779	0.15828	0.09009	-0.07258	-0.04126

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8	FACTOR9	FACTOR10
4.528284	3.706104	2.014964	1.832779	1.575880	1.428621	1.314172	1.252888	1.200861	1.193575

FINAL COMMUNITY ESTIMATES TOTAL = 20.346564

3. 8 factor solution: principal components extraction, varimax rotation.

ROTATED FACTOR PATTERN								
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8
TOTNET	0.78130	0.00190	-0.03604	0.19999	-0.11077	0.09010	0.08857	0.00585
ENETWORK	0.78385	0.17672	-0.02435	-0.06290	-0.11866	-0.06957	0.03345	-0.05288
SNETWORK	0.78871	0.10903	0.10616	0.21105	-0.19331	-0.00505	-0.03422	0.03522
PNETWORK	0.86738	0.12677	-0.01765	-0.01552	0.02882	0.01210	0.04287	-0.01454
GNETWORK	0.81369	0.05319	-0.03463	-0.03698	0.12852	0.14917	0.01467	0.03417
CHETWORK	0.83882	0.19305	0.03359	-0.03527	0.05928	0.00690	0.03660	-0.00828
TOTFREE	0.27803	-0.20085	-0.00547	0.16690	0.08558	-0.04249	0.07886	-0.08049
TOTCLOSE	-0.03941	0.88240	0.10121	-0.53024	0.16750	-0.11211	-0.04332	0.10490
TOTBAL	0.05779	-0.05829	0.28375	-0.27491	0.12867	0.03061	0.48117	0.30917
TOTCOMPL	-0.03760	0.80868	0.03161	-0.27426	-0.22492	-0.07844	-0.10791	0.21531
TOTKNOW	0.41889	0.30261	-0.12074	-0.08523	-0.11063	-0.15558	-0.19875	0.12363
PRSEX	0.00460	-0.17983	-0.09956	0.26076	-0.56858	0.16133	-0.05114	-0.19349
PRREL1	-0.34140	0.32587	-0.17171	0.18917	-0.02182	-0.01362	0.43885	0.06480
PRREL2	-0.15023	-0.04484	-0.37872	0.27143	0.58899	-0.41868	-0.00488	-0.10710
PRREL3	0.23086	0.09798	-0.45862	0.12949	0.02401	-0.00582	0.04678	0.41076
PRREL4	-0.02851	0.06222	0.02648	-0.00464	0.03209	0.20306	-0.27906	0.88751
PRREL5	0.03138	0.08660	0.47871	-0.53288	-0.30749	0.18200	-0.34445	-0.11734
PRREL6	0.09687	-0.11869	0.12910	-0.84293	0.01229	-0.02853	-0.02518	-0.11378
PRREL7	-0.02140	-0.20287	-0.11523	-0.04526	-0.27158	0.19258	0.68875	-0.12705
PRSECT1	0.03038	0.08297	0.08016	0.18703	0.09891	0.15721	-0.19626	-0.81236
PRSECT2	0.01999	-0.11704	0.88078	0.09970	-0.03414	-0.18411	0.02582	0.09134
PRSECT3	0.07004	-0.03643	-0.04941	-0.05934	-0.03499	0.88533	0.08957	0.05832
PRSECT4	-0.11541	-0.13121	0.02945	-0.09679	0.71855	0.28764	-0.07717	-0.18646
PRSECT5	-0.04646	0.12194	-0.70484	-0.07771	-0.23371	-0.53793	0.03779	0.15207
TOTSATIS	0.12100	0.88743	0.03536	-0.04029	0.06717	-0.14448	-0.12261	-0.00461
ISSB	0.12280	0.84498	0.05407	0.03797	0.04266	0.03462	-0.12365	0.07668
PSSFA	0.18804	0.70471	-0.05049	-0.00740	-0.14784	0.12194	-0.10993	-0.00056
PSSFA	0.02513	0.70960	-0.14268	-0.01396	-0.06204	-0.03111	0.11465	-0.14661
SSON	0.26984	0.85082	-0.03903	-0.17127	0.00405	-0.11998	-0.03446	0.00808
SSOS	-0.06598	-0.71666	0.17183	-0.04630	0.05531	-0.09195	-0.02828	0.03593

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6	FACTOR7	FACTOR8
4.527463	3.787049	2.113466	1.810414	1.848486	1.635113	1.498665	1.278468

FINAL COMMUNITY ESTIMATES TOTAL : 18.300102

4. 6 factor solution: principal components extraction, promax rotation.

ROTATED FACTOR PATTERN (STD REG COEFS)						
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6
TOTNET	0.78548	-0.03622	0.06174	0.17805	-0.07571	0.09211
ENETWORK	0.77323	0.07040	0.08392	-0.04875	-0.10112	-0.03886
SNETWORK	0.74183	0.06042	-0.10612	0.17826	-0.18508	-0.08897
PNETWORK	0.87636	0.03016	0.04539	-0.02427	0.05089	0.02211
GNETWORK	0.83878	-0.02100	0.03317	-0.08082	0.14953	0.13281
CHETWORK	0.84123	0.09567	-0.00089	-0.04145	0.08553	0.01168
TOTFREE	0.32901	-0.23573	0.20829	0.26166	0.18929	0.18239
TOTCLOSE	-0.03979	0.44427	-0.01619	-0.82639	0.16365	-0.04659
TOTBAL	0.14361	-0.17033	0.00679	-0.26322	0.19891	0.23023
TOTCOMPL	-0.03662	0.43763	0.00700	-0.31818	0.21145	-0.08534
TOTKNOW	0.40094	0.21234	0.10066	-0.13847	-0.13188	-0.20033
PRSEX	-0.04218	-0.18240	0.08109	-0.24766	-0.57829	0.21298
PRREL1	-0.38434	0.38904	0.31264	0.21715	0.02238	0.18818
PRREL2	-0.08130	-0.13784	0.38949	-0.17817	0.84188	-0.32887
PRREL3	0.28912	0.05305	-0.48244	0.00108	0.01183	0.03219
PRREL4	0.01263	0.04080	-0.04832	-0.28846	0.00048	0.03670
PRREL5	-0.01826	0.04112	-0.54188	-0.85875	-0.33240	0.06706
PRREL6	0.04731	0.04033	-0.24064	0.87263	0.05866	-0.18267
PRREL7	-0.01218	-0.19956	0.30071	0.02366	-0.21832	0.46291
PRSECT1	-0.04978	0.21285	-0.27052	0.28480	0.11267	0.03289
PRSECT2	0.03280	-0.15707	-0.74800	0.10780	0.00111	-0.27897
PRSECT3	0.04530	0.08865	-0.04674	-0.18367	0.00165	0.85023
PRSECT4	-0.08558	-0.05676	-0.15377	-0.07239	0.72019	0.20534
PRSECT5	-0.02662	0.00218	0.78274	-0.08059	-0.28949	-0.37202
TOTSATIS	0.06898	0.88082	-0.06465	-0.01199	0.07439	-0.17533
ISSB	0.06651	0.85366	-0.09589	0.01289	0.05609	-0.03014
PSSFA	0.09003	0.72387	-0.01125	-0.02046	-0.13035	0.09166
PSSFA	-0.06265	0.72295	0.15488	0.06759	-0.03297	0.08586
SSON	0.22084	0.67885	0.06634	-0.14893	0.01191	-0.08322
SSOS	0.02376	-0.78277	-0.13802	-0.08700	0.02949	-0.12954

FACTOR STRUCTURE (CORRELATIONS)						
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6
TOTNET	0.78731	0.06047	-0.00388	0.28605	-0.18281	0.16607
ENETWORK	0.79304	0.26227	0.01870	-0.01872	-0.19361	-0.04342
SNETWORK	0.79088	0.19331	-0.13733	0.20171	-0.27900	0.00776
PNETWORK	0.87174	0.21951	-0.00881	0.02600	-0.06711	0.02885
FNETWORK	0.81033	0.14734	-0.03434	-0.00670	0.04920	0.13309
GNETWORK	0.84686	0.27820	-0.04813	-0.01680	0.02743	0.00741
TOTFREO	0.28584	-0.24359	0.17099	0.38256	0.11629	0.26773
TOTCLOSE	0.00440	0.64712	0.00124	-0.84857	0.17743	-0.24611
TOTBAL	0.07839	-0.13117	-0.08044	-0.17881	0.17285	0.19819
TOTCOMPL	0.01007	0.50225	0.03914	-0.44803	0.22131	-0.24146
TOTKNOW	0.44288	0.37595	0.10116	-0.19036	-0.17042	-0.26633
PRSEX	-0.02083	-0.14264	-0.02281	-0.11823	-0.64802	0.19642
PRREL1	-0.26951	0.23300	0.38064	0.17635	0.04605	0.12335
PRREL2	-0.20388	-0.08168	0.46872	-0.24310	0.60142	-0.41448
PRREL3	0.24913	0.13879	0.47684	0.04084	0.00116	-0.03309
PRREL4	0.00949	0.09070	-0.08789	-0.27048	0.01364	-0.02241
PRREL5	0.03631	0.12238	-0.58728	-0.56657	-0.32147	0.01343
PRREL6	0.11020	0.12172	-0.18193	0.80485	-0.02557	0.02881
PRREL7	-0.03101	0.28860	0.21438	0.20913	-0.20764	0.48988
PRSECT1	0.01633	0.11141	-0.23388	0.21945	-0.07083	0.09100
PRSECT2	0.04426	-0.17721	-0.71866	0.03442	-0.03825	-0.13011
PRSECT3	0.08041	-0.01128	-0.16281	-0.01071	-0.02232	0.80026
PRSECT4	-0.15731	-0.13712	-0.14679	-0.08164	0.72223	-0.18536
PRSECT5	-0.05286	0.14268	0.81321	-0.07924	-0.22751	-0.47846
TOTSATIS	0.18670	0.88801	0.01422	-0.19781	0.03773	-0.28551
ISSB	0.18392	0.58078	-0.05330	-0.11759	0.01404	-0.11007
PSSFR	0.26348	0.73743	0.01362	-0.13817	-0.17921	-0.02987
PSSFA	0.09241	0.69628	0.20306	-0.08356	-0.06837	-0.08433
SSOM	0.32782	0.67677	0.08593	-0.27287	-0.02712	-0.21903
SSOS	-0.14001	-0.72228	-0.17678	0.06495	0.06498	0.00288

VARIANCE EXPLAINED BY EACH FACTOR IGNORING OTHER FACTORS

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6
4.784692	4.122985	2.419955	2.323783	1.741476	1.888671

FINAL COMMUNALITY ESTIMATES TOTAL = 15.872807

INTER-FACTOR CORRELATIONS						
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6
FACTOR1	1.00000	0.21401	-0.06285	0.05933	-0.12800	0.02835
FACTOR2	0.21401*	1.00000	0.07006	-0.21287	-0.04935	-0.17248
FACTOR3	-0.06285	0.07006	1.00000	0.08824	0.08500	-0.12828
FACTOR4	0.05933	-0.21287*	0.08824	1.00000	-0.07839	0.22863
FACTOR5	-0.12800*	-0.04935	0.08500	-0.07839	1.00000	-0.02888
FACTOR6	0.02835	-0.17248*	-0.12828*	0.22863	-0.02888	1.00000

* significant (n=273, $p < .05$)

5. 6 factor solution: principal components extraction, varimax rotation, common logarithm transformation.

ROTATED FACTOR PATTERN						
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6
TOTNET	0.78402	0.09343	0.02126	0.20472	-0.02744	-0.17834
ENETWORK	0.70312	0.28518	-0.00730	-0.05834	-0.07915	-0.21276
SNETWORK	0.78886	0.14788	0.09504	0.21593	-0.01880	-0.18229
PNETWORK	0.85881	0.09248	-0.05777	-0.03250	0.06008	0.06352
FNETWORK	0.78183	0.01480	-0.05079	-0.07781	0.11687	0.15217
GNETWORK	0.84812	0.15629	0.00790	-0.05658	0.05818	0.05861
TOTFREO	0.28304	-0.28030	-0.22368	0.24902	0.13986	0.03810
TOTCLOSE	-0.05064	0.68524	0.08498	-0.49811	-0.03601	0.17627
TOTBAL	0.12616	-0.11711	0.02163	-0.24838	0.23493	0.08391
TOTCOMPL	-0.02003	0.52184	-0.00069	-0.30362	-0.04500	0.24941
TOTKNOW	0.40043	0.42334	-0.00836	-0.08881	-0.20885	-0.07743
PRSEX	0.01162	-0.10500	0.01813	-0.18489	0.08037	-0.80128
PRREL1	-0.29421	0.22983	-0.42810	0.17744	0.08910	-0.00762
PRREL2	-0.06361	-0.10745	-0.34143	-0.34457	-0.39514	-0.54831
PRREL3	0.24454	0.10864	-0.49343	-0.01783	0.04118	0.02118
PRREL4	0.01952	0.12087	0.08077	-0.23298	0.05190	0.03486
PRREL5	-0.03869	0.23370	0.85133	-0.40118	0.10125	-0.32932
PRREL6	0.13754	-0.12014	0.08205	-0.84128	-0.03376	0.10279
PRREL7	0.02705	-0.32781	-0.31403	0.02669	0.27461	-0.35329
PRSECT1	0.00890	0.12742	0.15889	0.30325	0.13290	0.12431
PRSECT2	0.08595	-0.13807	0.73143	0.14071	-0.04806	0.04794
PRSECT3	0.02895	-0.01899	-0.08439	-0.05540	0.81342	-0.14601
PRSECT4	-0.17699	-0.13544	0.07631	-0.09973	0.37449	-0.63746
PRSECT5	-0.00336	0.10620	-0.83387	-0.13645	-0.84481	-0.21294
TOTSATIS	0.12276	0.86705	0.04134	-0.02047	-0.10508	0.18003
ISSB	0.18789	0.50800	0.06097	0.02604	-0.19341	-0.08847
PSSFR	0.20088	0.86388	-0.04889	-0.01683	0.15144	-0.12582
PSSFA	0.04732	0.84062	-0.17614	0.03330	0.04882	-0.12787
SSOM	0.30868	0.84245	-0.06125	-0.14828	-0.10784	0.04170
SSOS	-0.00776	-0.70036	0.22317	-0.07183	-0.08608	0.01382

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5	FACTOR6
4.420628	3.933870	2.715492	1.842708	1.742234	1.724316

FINAL COMMUNALITY ESTIMATES TOTAL = 15.879750

APPENDIX P

Secondary Factor Analyses for the Weighted Factor Scores

Secondary Factor Analyses for the Weighted Factor Scores

1. 5 factor solution: principal components extraction, varimax rotation.

ROTATED FACTOR PATTERN					
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
PSSRFA1	0.73806	0.24441	0.05833	0.22474	0.17682
PSSRFA2	0.78273	0.18110	0.11042	0.09217	0.07391
PSSRFA3	0.74851	-0.10840	0.17234	-0.05783	-0.24705
PSSRFA4	0.16231	0.20959	0.75468	0.21710	-0.08484
PSSRFA5	0.38005	0.14553	0.53394	0.20444	0.00353
PSSRFA6	0.28300	0.12097	0.75067	0.05008	-0.22459
ISSRFA1	0.28179	0.83011	0.18485	0.01873	0.05614
ISSRFA2	0.13940	0.86046	0.00259	0.05366	0.18088
ISSRFA3	0.26509	0.83122	0.14506	0.05945	-0.06707
ISSRFA4	-0.14738	0.86013	0.01238	0.03900	-0.30082
SSOFA1	-0.83011	-0.17795	-0.35802	-0.05631	-0.02399
SSOFA2	0.48428	0.20551	0.31366	0.37861	-0.12130
SSRFA1	0.27182	0.11109	0.01200	0.78403	-0.02299
SSRFA2	0.28160	0.16678	0.18434	0.88466	-0.10212
SSRFA3	0.02757	0.09420	-0.86558	0.14949	-0.16984
SSRFA4	-0.01023	-0.00791	-0.02136	0.03166	0.80080
SSRFA5	-0.26506	-0.18284	-0.02147	0.75472	0.19555

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
2.898635	2.808109	2.220159	1.802512	1.213167

FINAL COMMUNITY ESTIMATES TOTAL = 10.943771

2. 4 factor solution: principal components extraction, varimax rotation.

ROTATED FACTOR PATTERN				
	FACTOR1	FACTOR2	FACTOR3	FACTOR4
PSSRFA1	0.75571	0.22708	-0.04830	0.23419
PSSRFA2	0.79839	0.16455	0.03808	0.08536
PSSRFA3	0.74180	-0.12084	0.23775	-0.13632
PSSRFA4	0.21373	0.23080	0.71787	0.26346
PSSRFA5	0.41838	0.15383	0.47408	0.23304
PSSRFA6	0.33179	0.13809	0.78384	0.05387
ISSRFA1	0.32479	0.82818	0.12120	0.03438
ISSRFA2	0.16852	0.85557	-0.10194	0.08776
ISSRFA3	0.28118	0.82916	0.12164	0.04128
ISSRFA4	-0.14373	0.85503	0.10843	-0.02934
SSOFA1	-0.85528	-0.17610	-0.28653	-0.07214
SSOFA2	0.51081	0.20444	0.30892	0.34472
SSRFA1	0.28220	0.10582	0.00348	0.72270
SSRFA2	0.30419	0.16521	0.17224	0.87485
SSRFA3	-0.01344	0.07245	-0.86893	0.04000
SSRFA4	0.02624	-0.01180	-0.35089	0.24222
SSRFA5	-0.23311	-0.17656	-0.07735	0.78438

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4
3.124251	2.787036	2.091168	1.810729

FINAL COMMUNITY ESTIMATES TOTAL = 9.822183

3. 5 factor solution: principal components extraction, promax rotation.

ROTATED FACTOR PATTERN (STD REG COEFFS)					
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
PSSFRFA1	0.77202	0.10626	-0.10631	0.13446	0.19463
PSSFRFA2	0.83387	0.03289	-0.05660	-0.00760	0.10767
PSSFRFA3	0.83316	-0.26774	0.01900	-0.12581	-0.24377
PSSFAFA1	-0.03013	0.12224	0.76692	0.14988	0.03648
PSSFAFA2	0.26180	0.02968	0.46316	0.13059	0.04595
PSSFAFA3	0.14462	0.01359	0.72811	-0.02419	-0.16658
ISSBFA1	0.13188	0.82728	0.08870	-0.07658	0.04188
ISSBFA2	0.00551	0.90134	-0.06154	-0.02243	0.17740
ISSBFA3	0.06853	0.83724	0.02838	-0.02625	-0.08956
ISSBFA4	-0.30872	0.66508	-0.03239	0.02581	-0.32613
SSOFA1	-0.48844	-0.06023	0.26542	0.07676	-0.04328
SSOFA2	0.40880	0.08162	0.18417	0.13377	-0.10189
SSRFA1	0.21816	0.01723	-0.08719	0.76534	-0.04352
SSRFA2	-0.18242	0.07723	0.06728	0.53888	-0.10626
SSRFA3	0.12107	0.14067	-0.78863	0.18433	-0.22661
SSRFA4	0.04486	-0.01114	0.05841	0.00224	0.01347
SSRFA5	-0.30760	-0.19847	0.02004	0.81144	0.18541

FACTOR STRUCTURE (CORRELATIONS)					
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
PSSFRFA1	0.77803	0.40837	0.23436	0.32838	0.12045
PSSFRFA2	0.81027	0.34814	0.28336	0.19780	0.08803
PSSFRFA3	0.73389	0.06180	0.31833	0.01636	-0.34746
PSSFAFA1	0.37617	0.33771	0.80967	0.30237	-0.16410
PSSFAFA2	0.52171	0.28283	0.62440	0.28326	-0.07013
PSSFAFA3	0.46868	0.26054	0.81817	0.13823	-0.31421
ISSBFA1	0.47406	0.88838	0.33513	0.13467	0.00677
ISSBFA2	0.29390	0.88813	0.11542	0.14571	0.16956
ISSBFA3	0.43847	0.87705	0.28216	0.16422	-0.10746
ISSBFA4	-0.01068	0.64576	0.07313	0.08846	-0.29673
SSOFA1	-0.61738	-0.32105	-0.47365	-0.15284	0.04730
SSOFA2	0.61156	0.36054	0.48155	0.45943	-0.17738
SSRFA1	0.36952	0.22888	0.14223	0.79289	-0.02688
SSRFA2	0.40103	0.28366	0.28703	0.61029	-0.12568
SSRFA3	-0.06880	0.03367	-0.60368	0.10464	-0.10686
SSRFA4	-0.04898	0.00005	-0.08650	0.05340	0.89800
SSRFA5	-0.20438	-0.16118	-0.04311	0.70764	0.23306

VARIANCE EXPLAINED BY EACH FACTOR IGNORING OTHER FACTORS

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
4.038317	3.560174	3.081350	2.184242	1.318426

FINAL COMMUNALITY ESTIMATES TOTAL = 10.843771

INTER-FACTOR CORRELATIONS

	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
FACTOR1	1.00000	0.40025	0.41881	0.24034	-0.12302
FACTOR2	0.40025*	1.00000	0.26031	0.18748	-0.02454
FACTOR3	0.41881*	0.26031*	1.00000	0.18082	-0.17846
FACTOR4	0.24034*	0.18748*	0.18082*	1.00000	0.03505
FACTOR5	-0.12302	-0.02454	-0.17846*	0.03505	1.00000

* significant (n=273, p<.05)

4. 5 factor solution: principal components extraction, varimax rotation, common logarithm transformation.

ROTATED FACTOR PATTERN					
	FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
PSSFRFA1	0.70767	0.27889	0.01806	0.20854	0.26328
PSSFRFA2	0.77062	0.22138	0.07761	0.11571	0.08904
PSSFRFA3	0.74885	-0.12208	0.13879	-0.02280	-0.33421
PSSFAFA1	0.18580	0.21481	0.76786	0.16940	0.10542
PSSFAFA2	0.40011	0.12238	0.82582	0.17876	0.16456
PSSFAFA3	0.32183	0.13732	0.72686	0.01729	-0.11130
ISSBFA1	0.31843	0.80002	0.18892	0.05455	-0.01810
ISSBFA2	0.13063	0.85722	0.00816	0.04708	0.16836
ISSBFA3	0.24405	0.84139	0.14596	0.06411	-0.04856
ISSBFA4	-0.12211	0.54230	0.00153	0.06544	-0.34876
SSOFA1	-0.64271	-0.17151	-0.35791	0.00165	0.02687
SSOFA2	0.48714	0.28935	0.24185	0.34825	-0.18702
SSRFA1	0.28404	0.18557	-0.03276	0.78564	-0.07654
SSRFA2	0.21663	0.15277	0.18187	0.70910	-0.07787
SSRFA3	0.11206	0.08417	-0.64782	0.06344	0.15783
SSRFA4	-0.03721	0.03416	-0.06331	0.00665	0.88613
SSRFA5	-0.19836	-0.15719	-0.01786	0.80879	0.18259

VARIANCE EXPLAINED BY EACH FACTOR

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
2.857533	2.609267	2.137207	2.038423	1.239396

FINAL COMMUNALITY ESTIMATES TOTAL = 11.081845