

**PSYCHOLOGICAL SENSE OF COMMUNITY
IN HIGH SCHOOL STUDENTS**

**BY
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**Accepted in partial fulfillment of the requirements for
the degree of MASTER OF SCIENCE
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ISBN 0-315-63151-1

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Saint Mary's University
April
1991

ACKNOWLEDGEMENTS

I wish to express my sincerest gratitude to Dr. Grace Pretty for her encouragement, patience, and scholarly advice through the entirety of this research effort.

I would also like to thank the other members of my committee, Dr. K. Hill, Dr. J. Byrne, and Dr. L. Blood for their time and assistance.

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ABSTRACT

Psychological Sense of Community in High School Students

By

Lisa Andrewes

April, 1991

This research investigated psychological sense of community (SOC) in adolescents. Neighborhood and school oriented versions of the Sense of Community Index (SCI) were completed by 171 high school students. The construct validity of neighborhood SOC was supported by the neighborhood referenced SCI's significant inverse correlation with number of moves since grade one, and significant positive correlation with length of residency. Preliminary support for the discriminant validity of the SCI, as distinct from social support, was evidenced by the few significant correlational relationships between SOC and social support measures, including number of supports, satisfaction with supports, and concrete helping behaviors. Finally, school SOC was found to be significantly and negatively related to aspects of adolescents' distress, including depression, hostility, anxiety, and loneliness. The need to recognize SOC as related to but distinct from social support is discussed, along with the importance of SOC, and specifically school SOC, in the experiences of adolescents.

INTRODUCTION

Sense of Community

Sarason (1974) proposed that psychological sense of community (SOC) should be the overarching criterion by which to judge any community effort, and should serve as the conceptual centre for community psychology. He defined SOC as the "perception of similarity to others, a willingness to maintain this interdependence by giving to or doing for others what one expects of them, and the feeling that one is part of a larger dependable and stable structure" (p. 54). Sarason suggested that individuals want to feel a part of readily available, supportive, and dependable networks of relationships, and that achieving this will provide a source of purpose, usefulness, and belonging that transcends individualism. Sarason went on to suggest that the lack of SOC is frequent and destructive, and that community psychologists must foster its development.

McMillan and Chavis (1986) proposed a theoretical conceptualization of the SOC construct. They defined it as "a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members needs will be met through their commitment to be together." (p. 9).

Drawing on theory from sociology, political science, social psychology and community psychology, they detailed a four dimensional theory of SOC, which was applicable to both territorial and relational communities. The first dimension, membership, was described as including feelings of emotional safety and security, a sense of belonging and identification, personal investment and active participation in the group, a common symbol system, and boundaries that define the ingroup and provide emotional safety.

The second dimension was described as influence, a bidirectional concept involving the influence of a member on the group with simultaneous influence of the group on a member. Inherent in the influence concept are the following: members feel more attracted to a community in which they can be influential; there is a positive relationship between group cohesiveness and member conformity; and the pressure for conformity stems from both the individual's and group's needs for consensual validation.

The third component was defined as integration and fulfillment of needs. This refers to the reinforcements that are provided through group or community association which bind people together. The reinforcement needs are determined by individual values, and the ability of the community to organize and prioritize need fulfilling activities will be determined by the extent to which individual values are shared. Several reinforcers identified by the authors included the status of membership, the success of the community, and the competence of the group.

The fourth component was defined as shared emotional connection, which has several features, including: 1) contact-the more people interact, the more likely they are to be close; 2) quality of interaction-the more positive the relationship, the greater the bond; 3) closure to events-the more ambiguous or unresolved the group tasks are, the less cohesive the group will be; 4) shared valent event hypothesis-the more important a shared event is to those involved, the greater the bond among them; 5) investment-the amount of investment, eg. money, time, intimacy, will determine the importance of a community's history and status to a member; 6) effect of honor and humiliation on members has an impact on the attractiveness or aversiveness of a community to a member; and 7) spiritual bond. It is this affective component of SOC that is the definitive element of a true community (McMillan & Chavis, 1986).

In summary, "strong communities are those that offer members positive ways to interact, important events to share and ways to resolve them positively, opportunities to honor members, opportunities to invest in the community, and opportunities to experience a spiritual bond among members." (McMillan & Chavis, 1986, p. 4).

The authors suggested that the four components work together dynamically to create and maintain SOC in all types of communities, and that the components may vary in importance across individuals, groups, and situations. They went on to propose that SOC could provide a foundation for lawmakers, and public policy and program developers, for strengthening, preserving and understanding the nature of a community (McMillan & Chavis, 1986).

Chavis, Hogge, McMillan, and Wandersman (1986) drew on the theoretical work of McMillan and Chavis (1986) to develop the Sense of Community Index (SCI), in an effort to operationalize the SOC components, and to

demonstrate that SOC is a shared construct. Items were grouped into four components, thus deriving the four SCI scales of membership, influence, integration and fulfillment of needs, and shared emotional connection. Membership items were found to correlate most highly with the total SCI, and with influence items, suggesting that one's sense of membership, notably boundaries, contributes to one's sense of control. Influence items also correlated highly with total SCI. While SOC has been viewed by many as an emotional state, this influence-SOC relationship supports the idea that one's sense of participation, control, and ultimately empowerment contribute to one's overall sense of community. This idea is consistent with earlier findings by other researchers, including Chavis (1983; cited in Chavis et al., 1986) who found a causal relationship between influence over one's community and sense of community, and Unger and Wandersman (1985) who found that organization of block clubs increased participants neighboring over a period of time. In addition, Bachrach and Zautra (1985) found that a stronger sense of community led to problem-focused coping behaviors in response to a proposed waste facility in a rural community. Problem-focused coping has been negatively related to emotional and behavioral problems (Compas, Malcarne, & Fondacaro, 1988). Problem-focused coping contributed strongly to the level of an individual's community involvement, and Bachrach and Zautra concluded that stronger SOC may lead to a greater sense of purpose, perceived control, and empowerment.

Community satisfaction, within the realm of integration and reinforcement of needs, was related to SCI, as was the degree to which the block met the individual's needs. Items representing shared emotional connection were very important to overall SCI, especially those tapping neighbor relationships, length of residence, anticipated length of residence, and home ownership. McMillan and Chavis (1986) noted the importance of this affective component within the SOC construct by suggesting that we can help preserve our communities by understanding how such issues affect such issues as zoning laws, public housing, inflation, and relocation affect community formation and SOC.

The SCI was thus found to adequately tap the SOC construct and its four components, although McMillan and Chavis (1986) cautioned against its use as a measuring instrument. Subsequent research with the shortened version of the SCI has resulted in high subscale intercorrelations, thereby bringing

into question the validity of the four SCI subscales (McCarthy, Pretty, & Catano, 1990; Pretty 1990). For this reason, only the total SCI scores were calculated for this research.

Shinn (1987) proposed that community research activities be extended from traditional mental health settings to a broader array of referents, including schools, work sites, religious settings, government and volunteer organizations, to help advance the goals of empowerment and primary prevention. Although SOC has been established as a central construct within community psychology, there is a minimal research base with regard to its relationship with other community characteristics and to mental health criteria (McCarthy et al., 1990; Pretty, 1990). Recent research efforts have attempted to respond to Shinn's suggestion, in part through focusing on SOC and its relationship with social support (Collett, 1989), burnout (McCarthy et al., 1990), social climate factors (Pretty, 1990), political participation (Davidson & Cotter, 1989), and participation in neighborhood block associations (Chavis & Wandersman, 1990; Perkins, Florin, Rich, Wandersman, & Chavis, 1990).

Pretty (1990) empirically investigated the relationship between the SCI (short form) and the University Residence Environment Scale (Moos, 1974; 1987) as part of ongoing research to further the theoretical development of the SOC construct. The URES's ten components provided a measure of the psychosocial climate within a university residence setting. Pretty found a significant negative relationship between the SCI and the Independence subscale of the URES, a measure of the degree to which the social climate tolerates and encourages independent thought and behavior that may detract from perceptions of togetherness and cohesiveness. Support for the hypothesized negative relationship provided construct validity for the SCI. Significant positive relationships were found between the SCI and the URES components of Support and Involvement, contributing further to the construct validity of the SCI. In addition, Pretty found that 54% of the variance in SCI scores could be accounted for by the URES Involvement, Academic Achievement, and Support components. She concluded that the relationship between SOC and psychosocial climate extend beyond social networks and support, to encompass perceptions of environmental "press" for performance. This is consistent with Sarason's (1974) original notions of SOC which included perceptions of similarity, interdependence, and meeting community expectations. This finding also suggests the importance of

recognizing both patterns of social interaction and pressure for performance when attempting to impact on the SOC of a university residential setting (Pretty, 1990).

McCarthy et al. (1990) investigated the relationship between SOC and burnout, as a measure of mental health status in an undergraduate population. SCI (short form) scores were highly correlated with burnout, physical and psychological well being, and with type of residence. Highest SOC was found in students living in residence, followed next by those living in private homes, and finally by those in apartments. McCarthy et al. concluded that these results provided further evidence that the SCI is a sensitive measure that describes the SOC construct.

In an effort to further delineate the behavioral correlates of SOC, Davidson and Cotter (1989) investigated the relationship between SOC and political participation within the domain of a city. They developed a 17 item Sense of Community Scale, derived from SOC literature and literature pertaining to an understanding of people's connectedness within the sphere of the city. They found that SOC was significantly related to voting, contacting official, working on public problems, to local and nonlocal participation, and to an index of overall political participation. They concluded that SOC is a personal quality that empowers people politically in multilevel ways, and that interventions aimed at fostering SOC could have far reaching effects on citizens political participation. In addition, interventions aimed at stimulating greater political participation may foster greater SOC, thereby producing empowerments not yet discovered.

Chavis and Wandersman (1990) have developed and empirically tested a model that suggests that the elements of SOC are viable mechanisms that can serve as catalysts for change and development. Their research was conducted at the neighborhood block level, as it was believed that the neighborhood still plays a vital role in the lives of many people. Research has supported the importance of neighbors in the social, cognitive, and affective realms of an individual's functioning. Unger and Wandersman (1985) defined neighboring as "the social interaction, the symbolic interaction, and the attachment of individuals with the people around them and the place in which they live" (p. 141). Neighboring was described as able to shape individuals perceptions, influence social interaction or social isolation, affect problem solving, and affect neighborhood development. Unger and

Wandersman (1985) pointed out that with advancements in technology, transportation, and life styles, communities are becoming "smaller" and neighborhoods may be losing the importance they once had, as extensive social ties extend communities beyond geographical boundaries. However, informal social supports and social networks remain important resources for coping with stress, and promoting psychological adjustment. For example, research has demonstrated the effectiveness of neighborhood organizations for improving the quality of life, reducing crime, enhancing services, and improving housing (Florin, 1979; Mayer, 1984; Unger, Florin, & Chavis, in preparation; cited in Chavis & Wandersman, 1990). Research has also demonstrated that neighboring is an integral part of SOC. Glynn (1981) developed the Community Questionnaire which he administered to members of an Israeli kibbutz and two American towns. He found that the strongest predictors of SOC were expected length of residency, satisfaction with the community, and the number of neighbors one could identify by first name. The strongest predictors of a discrepancy between actual and ideal SOC were found to be the ability to name only a few neighbors, having changed residences within the community, being relatively young, and having a shorter anticipated length of residency. A greater discrepancy between actual and ideal SOC was associated with less competent functioning and lower community satisfaction, while actual levels of SOC were positively related to competent functioning. It was also found that those respondents who included "neighborhood" in their definition of community scored significantly higher on actual SOC, community satisfaction, and competence.

The model outlined by Chavis & Wandersman (1990) illustrates how SOC mobilizes three bidirectional determinants of participation in voluntary neighborhood organizations. The first determinant was described as perception of the environment, which involves judgements made about the environment (eg. satisfaction with the environment or problems in it), and judgements involving the degree to which the environment is positive or negative to the individual. Development of SOC, for example through the establishment of territorial markers or common symbols, can lead to feelings of safety and security, and can serve as an incentive to participate in change efforts (Chavis & Wandersman, 1990).

The second determinant, labelled social relations, refers to interactions among neighbors that provide emotional, instrumental, and informational

support. It was suggested that greater SOC may lead to increased interaction, which in turn will enhance a shared emotional connection which helps to maintain SOC. The third component was described as perceived control and empowerment. Locus of control, or generalized expectancies about outcomes being related to self or others, has been empirically related to participation (Florin & Wandersman, 1984; Zimmerman & Rappaport, 1988; cited in Chavis & Wandersman, 1990), while a positive relationship between SOC and empowerment has been theoretically (Chavis & Newbrough, 1986), and empirically (Bachrach & Zautra, 1985; Perkins et al., 1990) supported.

Chavis and Wandersman (1990) measured SOC by asking respondents whether or not they felt a sense of community with others on their block, and how important this perception was to them. Strong support for the model was found, in that SOC had a pervasive influence cross-sectionally and longitudinally on perceptions of the environment, social relations, and perceived control. SOC was positively related to the perceptions of personal and group power, block satisfaction, neighbor relations, evaluation of the block, and level of participation (ie. degree to which the respondent was actively involved in a block association). The strongest predictive path to participation was through SOC and neighbor relations. Chavis and Wandersman concluded that SOC is critical to neighborhood development, as it helps neighbors act collectively to meet shared needs. They noted that positive relationships between SOC and perceptions of group and personal power, and level of participation, support the influence and need-meeting elements of SOC as described by McMillan and Chavis (1986). Finally, Chavis and Wandersman (1990) pointed to the necessity of the development of human ecologies around the value and elements of SOC.

Perkins et al. (1990) researched the relationship between participation in New York City block associations and a range of block-level variables. They suggested that people's participation in collective action may be determined by the social and environmental context of the local community. They focused on five sets of predictor variables as contextual determinants of participation. These included demographic information, aspects of the built environment (eg. street width, lighting, real and symbolic barriers), crime rates and perception of crime, the transient physical environment (eg. incivilities such as graffiti, and territorial markers, or messages of ownership), and the social climate. SOC was measured using the SCI (short form), and

was included as one of the social climate variables, in addition to related concepts such as communitarianism, neighboring behavior, and community satisfaction.

Perkins et al. (1990) found that the social climate variables, and the permanent and transient physical environment factors, all correlated significantly with participation after controlling for demographics, while the crime-related factors were not significant. Multiple regression analyses revealed that participation could be predicted from a combination of catalysts in the physical environment (eg. property maintenance and barriers on properties), and in the social environment (eg. block satisfaction and neighboring). Similar to the results of other research (eg. Glynn, 1981; Chavis & Wandersman, 1990), SOC was found to be significantly related to neighboring behaviors, home ownership, length of residence, and participation when demographic influences were partialled out. These results are significant in suggesting SOC within the neighborhood is an important component in the collective empowering and participatory processes.

Only one study to date has examined SOC in adolescents (Collett, 1989). Collett investigated the relationship between SOC and social support, as measured by the Inventory of Socially Supportive Behaviors (ISSB) (Barrera, 1981), which asks respondents to rate the frequency of received concrete helping behaviors during the previous month. Collett hypothesized that SOC and social support differ only in name, and that SOC may act similarly to social support as a buffer between stressful life events and adaptive functioning. However, statistical analyses failed to find correlational or predictive relationships between the SCI and the ISSB, leading Collett to conclude that SOC and social support are two different phenomena among adolescents. This finding also provided some preliminary evidence of the discriminant validity of the SCI (short form) as a measure of SOC in adolescents.

Collett's results are in contradiction to the results found by Chavis & Wandersman (1990) and Perkins et al. (1990), in which positive relationships between SOC and the social support provided through neighbor interactions were found. Specifically, Perkins et al. (1990) utilized the SCI (short form) as did Collett (1989), and found a significant positive relationship between this measure and the receipt of supportive behaviors from neighbors over the

past year. It is hoped that this research effort will help clarify the relationship between the social support and SOC constructs in adolescents.

To summarize, research with adults has supported relationships between SOC and social climate factors (Pretty, 1990), political participation (Davidson & Cotter, 1989), burnout (McCarthy et al., 1990), and participation in block associations (Chavis & Wandersman, 1990; Perkins et al., 1990). SOC has been implicated in the process of empowerment, and is viewed as a mechanism through which the healthy development of the environment can be stimulated (Chavis & Wandersman, 1990). Collett (1989) found that SOC is evident during adolescence.

This research further investigated the SOC construct with adolescents. To determine the validity of the SCI (short form) as a measure with this age-group, the relationships between neighborhood SOC and transiency variables were explored. A negative relationship between SOC and the number of moves since grade 1, and positive relationships between SOC and both length of residency and anticipated length of residency, will support the convergent validity of the SCI.

A measure of school SOC was also included, in an attempt to uncover the importance of school relative to neighborhood, as a referent for the SOC construct in adolescents.

An investigation of the relationships between both the school and neighborhood versions of the SCI and a comprehensive assessment of social support was undertaken, to help clarify the distinction between these two constructs and to provide preliminary evidence of the discriminant validity of the SCI.

Finally, it was hypothesized that both neighborhood and school SOC would be negatively related to measures of psychological distress, including depression, hostility, anxiety, and loneliness. McCarthy et al. (1990) reported that higher levels of SOC were related to lower levels of burnout, thereby establishing a relationship between SOC and mental health in adults. It was proposed that such a relationship would also be found for adolescents.

Social Support

To investigate the validity of the SCI as a measure of SOC in adolescents, social support was used in this research as a comparative construct. Collett (1989) concluded that SOC and social support, as measured by the ISSB (Barrera, 1981), were distinct constructs. However, Collett's definition of social support was limited to a consideration of recently received concrete helping behaviors. Because of his limited operational definition of social support, his conclusion may have been premature. In this research, the definition of social support was extended to include the number of supports, or network factor, and satisfaction with supports, or affective component.

Intuitively, social support and SOC would appear to be very similar constructs with common features. Both are avenues for primary prevention, both involve the way in which an individual experiences their environment, and implicated in both constructs is the relationship between an individual and their network or community. Both constructs have also been related to aspects of mental health. McCarthy et al. (1990) found a direct relation between SOC and burnout, and physical and psychological well-being in an undergraduate population. Research has also supported a direct relationship between social support and psychological well-being in adolescents (Barrera, 1981; Caucé, Felner & Primavera, 1982; Compas, Slavin, Wagner & Vanatta, 1986; Sandler & Barrera, 1984). Additionally, support for social support as a mediator between stress and dysfunction in adolescents has been found (Barrera, 1981; Sarason, Sarason, Potter & Antoni, 1983).

Social support has been defined as the existence and availability of people on whom we can rely, people who let us know they care, value and love us (Sarason, Levine, Basham, & Sarason, 1983). Within this framework, numerous and diverse definitions have been proposed. Two basic themes tend to be consistent; the perception that there is a sufficient number of available others on whom one can turn to in times of need, and the degree of satisfaction with available supports (Sarason, Levine, et al., 1983).

DiMatteo and Hays (1981) have suggested that by embedding our social identities in a social network, the social network becomes a personal community that reflects an individual's values and choices, and which embeds and supports critical social identities, roles, and self-concept. The social network is particularly important during adolescence, due to the

importance that adolescents place on peers for social comparison and support in the development of a unique and integrated identity (Goswick, Jones, & Brown, 1981). For this research, the number of supports component was further divided into family, friend, and other supports, in an attempt to assess the relative importance of these types of network supports.

Heller and Swindle (1983) proposed a model of social support based on an integration of research findings and a clarification of concepts within the stress, support, and coping areas. Social networks were thought to consist of all those significant others with whom one has social interactions. The social network was described as having four dimensions, including: (a) structure: consisting of morphological variables including an individual's position in the social network, network size, and density; (b) interaction: referring to relationship variables such as reciprocity and directionality; (c) quality: referring to affective variables such as intimacy and friendship quality; and (d) function: referring to the functions served by network members such as problem-solving, companionship, material aid, information, and emotional support. Heller and Swindle described the second aspect of the social support construct as perceived social support, defined as the individual's cognitive appraisal that one's needs for support, information, and feedback are provided for adequately by network members, including family and friends. Perceived social support was thought to be dependent on personal characteristics such as social competence, and to be influenced by within-person factors such as temporal changes in mood or attitude. The two aspects of social support were not considered to be dependent on each other.

Barrera (1981) and Barrera and Ainlay (1983) have described what is perhaps the most comprehensive conceptualization of social support to date. Their discussions are especially pertinent to this thesis, as Barrera's (1981) scale development research was conducted with adolescents. Barrera concluded from a review of the literature that social support is an indistinctly defined variable that has a broad impact on well-being, and that few social support measures have been systematically developed or repeatedly used with different populations. Barrera (1981) noted the need for a multimethod approach to social support that would allow for the assignment of interrelationships between aspects of social support, and for a more precise adjustment for specific populations under certain life circumstances.

Barrera (1981) designed the Arizona Social Support Interview Schedule to assess social support network indices and subjective satisfaction with, and need for, support. The ASSIS also allowed for a distinction to be made between strictly supportive network members, and network members who are also sources of interpersonal conflict. Barrera (1981) also designed the Inventory of Socially Supportive Behaviors to assess social support provisions, including assisting others in mastering emotional distress, sharing tasks, giving advice, teaching skills, and providing material aid.

Barrera and Ainlay (1983) subsequently derived a rational typology of support functions. Categories were designed to reflect actions involved in resource provision rather than affective or cognitive responses. The motivation for organizing the content of supportive functions was partly so that the content validity of the ISSB could be assessed. The six social support categories were as follows: (a) material aid- tangible provisions such as money; (b) behavioral assistance- sharing of tasks through physical labour; (c) intimate interaction-nondirective counselling behaviors such as empathic listening; (d) guidance- offering advice or information; (e) feedback- providing feedback regarding behavior, thoughts, and feelings; and (f) positive social interaction- engaging in social interactions for fun. The delineation of this typology lead to some minor changes in the ISSB content. Subsequent factor analysis of the ISSB revealed four factors, namely directive guidance, nondirective support, positive social interaction, and tangible assistance. It was concluded that the distinctions between material aid and physical assistance were unnecessary, and that feedback was closely related to guidance, thus these categories were merged. Stokes and Wilson (1984) also found four factors, described as emotional support (acceptance and intimate interaction); tangible assistance and material aid; cognitive information, feedback, and clarification; and guidance. However, Walkey, Siegert, McCormick and Taylor (1987) found only three factors that could be replicated, each with high reliability. These were interpreted as nondirective support, directive guidance, and tangible assistance. McCormick, Siegert, and Walkey (1987) conducted confirmatory factor analysis with the ISSB and again found the three distinct subscales of the ISSB found by Walkey et al. (1987). These three subscales were utilized in this research.

The varied definitions of social support indicate that it may best be understood as a metaconstruct, with three subsidiary components including

social network resources, subjective appraisals of support, and supportive behaviors (Vaux, Riedel, & Stewart, 1987). In addition, social support may comprise different modes of assistance across these three components, for example companionship, advice, comfort, or task assistance. These three components were therefore tapped in this research, so as to provide as comprehensive an assessment as possible.

Distress

Sense of community has been found to impact on the psychological and physical manifestations of burnout in university students (McCarthy et al., 1990). This represents the only research to date that has investigated the potential affect that SOC might have on distress, although other investigators have alluded to this (eg. Chavis & Wandersman, 1990). In an effort to further explore the influence of SOC on distress, several affective domains were measured in this research. These included depression, hostility, and anxiety, as measured by the Multiple Affect Adjective Checklist (Zuckerman, Lubin, Vogel, & Valerius, 1964), and loneliness, as measured by the Revised UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980).

Loneliness is a distinct and unique subjective state that a person can self-label and report to others. It has been differentiated from other psychological states, including introversion (Russell, et al. 1980), depression (Weeks, Michela, Peplau, & Bragg, 1980), and alienation/anomie (Solano, 1980), although these and other states, such as anger and hostility (Mijuskovic, 1988), poor self esteem (Jones, Freemon, & Goswick, 1981), and restlessness and boredom (Perlman, Gerson, & Spinner, 1978) can exist concurrently.

Persistent and recurring loneliness fosters feelings of social inadequacy and alienation. This association with negative emotional tone can range from mild discomfort to intense pain (Solano, Batten, & Parish, 1982). Three points of agreement with regard to the definition of loneliness have emerged: (a) loneliness results from a deficiency in social relationships; (b) it is a subjective experience not synonymous with social isolation; and (c) it is an unpleasant and distressing state with behavioral, motivational, affective, and cognitive components (Peplau & Perlman, 1982).

Loneliness has been thought to reflect a breakdown in social interactions and has been viewed as a symptom of social decay (Peplau and Perlman, 1982). Fischer and Phillips (1982) have suggested that "When individuals are alone, they by definition do not benefit from a social life; when a society has many isolated members, it is prone to crumble" (p. 21).

Loneliness is of particular relevance to an adolescent population. While no Canadian statistics regarding the prevalence of loneliness in adolescents could be located, several studies have reported high rates of loneliness among youth from other countries. Ostrov and Offer (1978; cited in Ostrov & Offer,

1980) examined self-reported loneliness in adolescents ranging in age from 12-20 years in the United States, Australia and Ireland. They found that 22% of the boys and 20% of the girls between the ages of 12-16 years, and 14% of the boys and 12% of the girls between the ages of 16-20 years agreed with the statement "I am so very lonely". They also found that disturbed adolescents were more lonely than psychologically healthy adolescents, and that American boys were more lonely than boys from other countries. Ostrov and Offer concluded from this data that loneliness decreases with age, and that the mobility and competitiveness of American society may contribute to greater loneliness.

Brennan and Auslander (1979) measured social and emotional isolation, meaninglessness, and self-reported loneliness in 9000 adolescents, ages 10-18 years, in ten American cities. They found that 10-20% of these adolescents experience serious levels of loneliness, and over 50% experienced recurring loneliness. They did not find any age differences, but they did find more loneliness among those lower in socioeconomic status. Girls admitted lonely feelings more often, for example 61.3% of the girls as compared to 46.5% of the boys agreed with the statement "I often feel lonely".

Tanner (1973; cited in Williams, 1983) suggested that adolescents express their loneliness through delinquency, drugs, school failure and suicide. The rising incidence and prevalence rates of these problems indicate the need for a thorough examination of loneliness. For example, 40% of the vandalism, and 18% of the sex crimes that occur are committed by youths under age 18 (Nagle & Medway, 1982). Suicide among adolescents has increased threefold since 1960, and takes the most lives of those between the ages of 15-24 years after accidents and crime (Schleifer, 1988). Dobson, Campbell, and Dobson (1989) found significant relationships between loneliness, grade point average (GPA), satisfaction with school, commitment to classwork, and reactions to teachers in high school juniors. Dobson et al. suggest that high levels of loneliness may distract from academic and social experiences, and that loneliness may influence self-perceived intelligence and self-concept.

Rubenstein and Shaver (1979; cited in Rubenstein & Shaver, 1982) found that feelings of loneliness peak in late high school and college age adolescents, with a subsequent decrease with age. Medora and Woodward (1986) have conducted research on loneliness for over a decade with a range of age groups, and have concluded that high school girls are the loneliest group overall,

followed by rural adolescents. Saks (1974) found that loneliness, drug addiction, pregnancy, and family problems were the most frequently mentioned concerns of adolescents who called a crisis hotline. Thus, not only are there high rates of loneliness reported by adolescent samples, but these rates are higher than those of other age groups.

Irwin (1987) has suggested that strong ties within a supportive community must be developed, where both individuation and connectedness exist and support identity formation and exploration, rational competence, and self-regulation. The lack of such communal environments has been implicated in numerous adolescent problems, including suicide, delinquency, and cult membership (Uribe, 1986).

Mijuskovic (1988) has suggested the need to consider the growth of the organic community in striving for the perpetuation of nonindividualistic values, or the loneliness of adolescents will continue. Although Mijuskovic does not address sense of community as outlined by McMillan and Chavis (1986), he does state:

The solution to loneliness is ever the same, for adolescents as for everyone else. It consists in a sense of belonging to something- a value, a greater being, a special person, a group- beyond one's self; to belong without losing one's sense of personal identity; to unify with, to relate to another consciousness, without losing one's self-consciousness of principle individuation. (1988, p. 512)

Loneliness reflects a discrepancy between actual and desired levels of social interaction, and may result in part from a decline in primary group attachments and relations. As such, loneliness may represent the antithesis of SOC, or at least, a weakened SOC may set the stage for feelings of loneliness and alienation. For this reason, and because loneliness is so pertinent during adolescence, it was included as a distress variable in this research.

In summary, the relationship between SOC and distress variables were explored in this research. McCarthy et al., (1990) reported a significant negative relationship between SOC and the psychological and physical manifestations of burnout, thereby providing some evidence supporting the suggestion that SOC does effect levels of distress. In order to assess this in adolescents, the relationships between SOC and levels of depression, anxiety, hostility, and loneliness were investigated.

Transiency

To investigate the convergent validity of the SCI (short form), information with regard to the transiency of students, including inquiry as to number of moves since grade one and both actual and anticipated length of residency, was requested.

Most of the research on mobility and relocation stress comes from investigations of corporate families and studies with immigrants. With the latter group, the impact of geographic change is confounded by social and cultural change, making it difficult to draw conclusions from associations between relocation and morbidity (Brett, 1980). Overall, there has been very little research addressing the impact of transiency in children and adolescents.

It is commonly believed that relocation within our increasingly mobile society has a negative effect on children and adolescents (Brett, 1980). Relocation is a stressful event that may be accompanied by feelings of uncertainty, anxiety, loss, lack of control and disrupted identity, as daily routines and social networks are uprooted. He suggested that people will likely be motivated to reassert control and reduce uncertainty by reestablishing routines that provide valued outcomes, and that a difficult adjustment may be accompanied by feelings of helplessness which have been implicated in mental and physical illnesses and developmental problems

There has been some evidence to support the suggestion that relocation may affect the mental health of children and adolescents. Beall and Schmidt (1984) reported that a scrutiny of circumstances surrounding suicides by adolescents revealed the presence of certain events, including moving to a new community with the family in addition to the death of a close friend and changes in relationships with romantic partners.

Compas et al., (1986) found an increasingly stronger relationship between total negative life events and symptoms the farther that entering university students were moving away to college. However, they did not find a direct relationship between prior relocation (eg. moving to a new home or school) and symptomology. They suggested that the high degree of disruption, ie. moving farther away from home, may lead to an increased vulnerability to stress.

Mobility may have a negative impact on adolescent social relationships. Douvan and Adelson (1966) found that mobile adolescents had less well

developed peer relationships, had fewer close friends, were more likely to spend leisure time alone, and were less socially integrated. Brett and Werbel (1978) found that 42% of the teenage boys and 32% of the teenage girls reported difficulty in making friends after a recent move, and that 45% of the boys and 51% of the girls between the ages of 12-18 years reported trouble with overall adjustment. All children (ages 8 to 18 years) found the move to be easier when they found friends quickly. Barrett and Noble (1973) found that 31% of mobile teenagers in their sample had difficulty making friends in contrast to the 10% of younger children reporting difficulty. It may be that the disruption of peer relationships and sense of community during adolescence is more traumatic given the increased value adolescents place on their peers and the transitional nature of this stage of development in terms of identity (Kimmel & Weiner, 1985).

Sense of community has been theoretically implicated in the feelings of loneliness and rootlessness that characterize our society (Glynn, 1981; Sarason, 1986). These feelings have been thought to arise in part from high mobility rates (Gordon, 1976; Mijuskovic, 1988; Williams, 1983). Research has found that friendship formation, and establishing ties in a the new community, are significant predictors of post-move adjustment status in children and adolescents (Donohue & Gullota, 1985). These are both aspects of developing a sense of community. It may be that those individuals who are able to purposely develop a SOC also make a more satisfactory adjustment and are less upset during the transition. Those communities that have a well established SOC already in existence, may be conducive to new members' making a more rapid and satisfactory adjustment.

Both length of residency and anticipated length of residency were included as variables in this research, as research has found significant relationships between these variables and SOC. Glynn (1981) and Davidson and Cotter (1986) found that expected length of residency and home ownership were predictive of SOC, implicating transiency, or anticipated transiency, in perceptions of SOC. Collett (1989) found a relationship between length of residency and both total SCI score and the membership subscale of the SCI. A relationship was also found between length of residency and the ISSB, suggesting that transiency may be implicated in perceptions of both SOC and social support. As an additional transiency measure, the number of moves since grade 1, was also assessed.

Hypotheses

There were two objectives in this research:

1. To establish the construct validity of the SCI (short form) with an adolescent population, through an examination of the relationships between both neighborhood and school referenced versions of this measure, and transiency and social support variables. Specifically, it was hypothesized that:
 - a) Neighborhood and school sense of community would be inversely correlated with the number of moves since grade one, and positively correlated with length of residency and anticipated length of residency, thus supporting convergent validity.
 - b) Correlations between neighborhood and school sense of community, and social support variables including number of supports, satisfaction with support, nondirective support, directive guidance, and tangible assistance, would be low, thereby providing preliminary evidence in support of discriminant validity.
2. To investigate the relationship between neighborhood and school sense of community, and distress indicators including depression, anxiety, hostility, and loneliness. It was hypothesized that both the neighborhood and school referenced versions of the SCI (short form) would be inversely related to these measures of distress.

METHOD

Participants

One hundred and seventy one high school students (120 females and 51 males) participated in this study. Participants' ages were 15 years (16.4%), 16 years (28.7%), 17 years (37.4%), and 18 years (17.5%), with a mean age of 16.5 years. There were 2.9% in grade 9, 32.7% in grade 10, 39.2% in grade 11, and 25.1% in grade 12. Most students were enrolled in rural high schools (78.4%), and others were enrolled in urban high schools (21.6%). Thirty-one percent were attending private schools and 69% were attending public schools. Subjects indicated the location of their best friends as being within their neighborhood (11.8%), at school (67.6%, both within the neighborhood and at school (11.8%), and at some other location (8.8%).

Participation in this study was voluntary, and students received no remuneration. Eighty students at one of the rural high schools were offered extra credit, at the teacher's suggestion, for returning completed questionnaire packages. Two hundred of the 1,257 questionnaire packages distributed were returned. Twenty-nine of these could not be included in the analysis as they were filled out incompletely or incorrectly.

Procedure

Data was collected over a two month period from mid-April to mid-June of 1990. To obtain access to students in the public high schools, school board officials were contacted by phone and thesis proposals were sent by mail. Seven boards were approached altogether, including three covering urban districts and four covering rural districts. three rural boards agreed to allow further contact with school principals. Four school principals in these three districts agreed to participate. To obtain access to students in private schools, the principals of four private schools were approached on an individual basis, and all agreed to participate.

Within three of the public high schools, the classes were preselected by the school principals. The classes were selected based on teachers' consent, availability, and class size. The principal of the fourth public school arranged to have all the grade 10 classes, and subsequently all the grade 11 and grade 12

classes, gather in the auditorium where the questionnaires were distributed. In the remainder of the schools, the principals gathered all the students together at one time, and the questionnaires were distributed to these combined grade level groups. All the principals agreed to keep additional questionnaires to give to students that were absent.

A brief explanation of the purpose of the research and an overview of the questionnaire instructions were given to the students by the researcher, except in one of the rural public high schools where, at the suggestion of three of the teachers, the same overview was given by the teachers.

Each questionnaire package included a consent form which students were told must be signed by their parents/guardians before the results of their questionnaires could be used. For students at a private boarding school, phone consent was acceptable. Only those questionnaire packages that were returned with signed or verbal consent were included in this research.

The teachers collected the surveys as the students completed them. Some schools also provided a drop-off box located in a central area of the school. The questionnaires were picked up from the schools two to three weeks after they had been distributed.

Measures

Questionnaire instructions and sample questions can be found in Appendix A.

Sense of Community Index (SCI)-Short Form

The short form of the SCI (Perkins et al., 1990; Pretty, 1990), consists of 12 items to which participants indicate true or false responses. Two versions of the short form were given to students, including the original neighborhood referenced version, and a school referenced version. The latter differed only in that the word "block" was replaced by the word "school", and the word "neighbor" was replaced by the word "student".

Four subscale scores can be derived from the SCI, however the validity of these subscales remains questionable (McCarthy et al., 1990; Pretty, 1990). Recent research efforts have utilized only the total SCI score (Pretty &

McCarthy, 1990; Perkins et al., 1990). Similarly, only the total neighborhood and school SCI scores were used in this research.

The short form has been found to have satisfactory reliability. Chavis (personal communication, August 18, 1988; cited in Pretty, 1990) reported a coefficient alpha of .71, and Perkins et al., (1990) reported a coefficient alpha of .80.

Validity for the use of the short form was provided by Chavis et al. (1987; cited in Pretty, 1990), who found that the short form was able to discriminate the potential success of neighborhood programs. Pretty's (1990) research finding that SCI scores were significantly related to social climate factors provided additional construct validity for the SCI. Perkins et al. (1991) reported that SCI scores were significantly correlated with residence years, home ownership, neighboring, block satisfaction, social control, and communitarianism, further supporting the construct validity of this measure.

The Social Support Questionnaire (SSQ6)

The SSQ6 (Sarason, Sarason, Shearin & Pierce, 1987) was derived from the full-scale Social Support Questionnaire, a 27 item questionnaire designed by Sarason, Levine, et al. (1983) to measure two aspects of social support, namely network size and satisfaction with support. For each item, respondents list up to nine people to whom they can turn to or rely on for support, and indicate the degree of satisfaction with this support on a scale from one to six. The number score (SSQN) was calculated by adding the total number of supports and dividing by the number of items, and the satisfaction score (SSQS) was calculated by adding the satisfaction ratings and dividing by the number of items. Additionally, the number of supports was further divided into the average number of family, friend, and "other" supports.

The SSQ6, which includes six of the original 27 items, was found to have high internal reliability ranging from .90 to .93 for both the SSQN and SSQS scores across three samples (Sarason, Sarason, et al., 1987). The number and satisfaction SSQ6 scores of the full-scale SSQ across the three samples, ranging from .95 to .97. There was also a high degree of correspondence between the SSQ6 and the SSQ in their correlations with numerous personality and social competence variables, including depression, anxiety,

shyness, loneliness, social skill, parental bonding and self-esteem. Sarason, Sarason, et al. (1987) concluded that the SSQ6 is psychometrically sound and can be used as a substitute for the SSQ when time of administration is a consideration, as it was in this research.

Factor analysis with the full-scale SSQ revealed that the SSQN and the SSQS were measuring one strong factor each (Sarason, Levine, et al., 1983). The correlation between the two scores was .34, confirming that the SSQN and the SSQS are separate constructs within the meta-construct of social support. Confirmatory factor analysis (McCormick et al., 1987) found that the SSQ consisted of two distinct factors, namely network size and satisfaction, and principal components analysis with both the SSQ and the ISSB revealed large loadings on the first factor, indicating both instruments were measuring the overall construct of social support. McCormick et al. (1987) concluded that the five subscales provided by these two instruments, including network size, satisfaction with support, nondirective support, directive guidance, and tangible assistance yield a comprehensive measure of the dimensions of social support, therefore both were included in this research.

The Inventory of Socially Supportive Behaviors (ISSB)

The ISSB (Barrera, 1981) is a 40 item scale designed to assess naturally occurring and behaviorally oriented support. Respondents rate the frequency of item occurrence over the previous four weeks on 5-point scales ranging from "not at all" to "about every day". Scoring involves summing the frequency ratings across items.

Three subscales can be derived, including nondirective support, directive guidance and tangible assistance (McCormick, Siegert & Walkey, 1987; Walkey, Siegert, McCormick & Taylor, 1987). Walkey et al. (1987) reported test-retest correlations for the three subscales ranging from .70 to .82, split-half reliabilities ranging from .67 to .94, and coefficient alphas ranging from .80 to .93.

The full-scale ISSB was reported to have excellent reliability (Barrera, 1981). The test-retest correlation was .88, and alpha coefficients of .92 and .94 were reported. Individual item test-retest correlations ranged from .44 to .91.

The validity of the ISSB was evidenced by a significant correlation of .35 with the Cohesion subscale of the Family Environment Scale (Moos et al.,

1974), which measures perceived supportiveness among family members (Barrera, 1981). The ISSB was strongly correlated with stressful life events and with total symptom score in pregnant adolescents (Barrera, 1981).

The Revised UCLA Loneliness Scale (RULS)

The RULS (Russell et al., 1980) is a 20 item self-report measure that was designed to overcome some of the problems inherent in the original UCLA Loneliness Scale (Russell, Peplau & Ferguson, 1978), including response bias and social desirability response set. Items are rated on a 4-point scale which reflects the frequency of item occurrence. The range of possible scores is from 20 to 80, with higher scores indicating greater loneliness.

Initial research with college students found that the RULS had excellent internal reliability, with a coefficient alpha of .94 (Russell et al., 1980). Concurrent validity was evidenced by significant positive correlations between the RULS and the Beck Depression Inventory (Beck et al., 1961), and the Costello-Comrey Depression and Anxiety Scales (Costello & Comrey, 1967), and with self-reported feelings of abandonment, depression, emptiness, hopelessness, isolation, self-enclosure, dissatisfaction, and low sociability. No significant correlations were found between the RULS and conceptually unrelated affects such as feeling creative, embarrassed, sensitive, surprised, or thoughtful.

Concurrent validity was further supported by correlations between the RULS and measures of social relationships and activities. Significant relationships were found between the RULS and time spent alone each day, the number of social activities an individual was involved in with friends, and the number of times one ate dinner alone. Students who were not dating had significantly higher loneliness scores than those who were dating casually or who were seriously involved. The RULS was also found to relate significantly with a self-labelling loneliness index, and RULS scores were not confounded by social desirability as measured by the Marlowe-Crowne Social Desirability Inventory (Crowne & Marlowe, 1964).

The RULS has been used extensively with older adolescents (Booth, 1985; Hogland & Collison, 1989; Russell et al., 1980; Williams & Solano, 1983), and has also been found to be an appropriate measure for use with middle adolescents (Dobson, Campbell, & Dobson, 1987; Goswick & Jones, 1982).

The Multiple Affect Adjective Checklist (MAACL)

The MAACL (Zuckerman et al., 1964) provides a measure of an individual's level of negative affect. Respondents indicate which of 132 emotions are currently felt. Three scales, including anxiety, depression, and hostility, can be derived. Scoring involves a count of the relevant emotions that are either checked or not checked within each scale. For example, a score of +1 would be given for checking "afraid", and for not checking "calm" within the anxiety scale.

Split half reliabilities were reported to be .79 for anxiety, .92 for depression, and .90 for hostility (Zuckerman et al., 1964). The checklist was found to be sensitive to transitory mood states in research with undergraduates (Polivy & Doyle, 1980), and the scales have been validated in several experimental situations (Zuckerman & Lubin, 1965). A significant inverse relationship has been found between the MAACL and social support in college students, with stronger correlations found for women (Sarason, Levine et al., 1983; Sarason, Sarason, & Shearin, 1986; Sarason, Sarason et al., 1987). The MAACL was used in this research as a measure of current affective distress level.

While no studies were located in which the MAACL was administered to middle adolescents, the authors have indicated that the words contained on the three scales do not require a reading level beyond the 8th grade (Zuckerman & Lubin, 1965).

Participant Characteristics

Students reported their age, gender, grade level, school name, and location of most of their best friends.

RESULTS

Descriptive Analyses

The means and standard deviations of student's responses to the questionnaires are reported in Table 1 (Appendix B). Students' questionnaire scores were compared to scores reported for other adolescent samples, and to normative data, where this information was available.

Sense of Community

The mean SCI score representing school sense of community was significantly higher than the mean score representing neighborhood sense of community ($t_{(165)}=-2.45$, $p<.05$). Students who indicated that their best friends were mostly at school had significantly higher school versus neighborhood SCI scores than students who indicated their best friends were in their neighborhoods ($t_{(109)}=3.06$, $p<.01$). There were no significant differences between levels of neighborhood and school SOC among students who indicated that their best friends were either in their neighborhoods, or both at school and in their neighborhoods.

There were no significant relationships between neighborhood or school sense of community, and age, grade or gender.

A correlation of .31 ($p<.01$) between neighborhood SCI and school SCI scores was found.

Transiency

Transiency was measured by requesting information regarding the number of address changes since grade 1, length of residency, and anticipated length of residency. This sample was not highly transient. Students had moved between 0 and 16 times, with a mean number of moves of 1.29. The mean length of residency was 10.4 years, and the mean length of anticipated residency was 2.25 years. There were no gender differences on the transiency variables.

Social Support

SSQ6. The mean number of people students could turn to for support (3.90) and the mean level of satisfaction with support (4.99), were similar to the means found by Sarason, Levine, et al., (1983) and Compas et al., (1988). Sarason, Levine et al. reported a mean number of supports of 4.3, and a mean satisfaction with support of 5.4, and Compas et al. reported means of 3.3 and 5.0 respectively. Females reported a higher number of supports ($t_{(161)}=2.52$, $p<.05$), but there was no gender difference with regard to satisfaction with support.

ISSB. Students reported significantly more nondirective guidance than both directive support ($t_{(171)}=13.62$, $p<.001$) and tangible assistance ($t_{(171)}=21.85$, $p<.001$). They also experienced significantly more directive support than tangible assistance ($t_{(171)}=13.24$, $p<.001$). Females reported significantly more nondirective support ($t_{(169)}=3.87$, $p<.001$); other gender differences were not significant.

Table 2 (Appendix B) lists the intercorrelations of the support measures. The significant positive relationships, ranging from .09 to .67, suggest that while these indices were related, they discriminated different aspects of social support. This is discussed in more detail below.

Distress

RULS. The mean loneliness score for females (30.36) and for males (40.19) were consistent with the norms reported by Russell et al. (1980), who reported means of 36.06 and 37.06 for females and males respectively. The gender difference for this sample was not significant.

MAACL. The current means for depression (16.01 for females and 15.19 for males), hostility (9.67 for females and 10.49 for males), and anxiety (8.05 for females and 8.62 for males) were consistent with the non-clinical normative scores reported by Zuckerman and Lubin (1965). Their normative means were as follows: depression (13.60 for females and 14.70 for males), hostility (7.20 for females and 6.90 for males), and anxiety (6.30 for females and 6.90 for males). No significant gender differences were found for the current sample.

These results demonstrate that this sample's scores did not deviate from comparable sample scores that have been reported in other research. Given the disproportionate ratio of females to males, and the few significant gender differences that were found, subsequent statistical analyses were conducted on the sample as a whole.

Construct Validation of the SCI

Sense of Community and Transiency

Convergent validation of the SCI was investigated by assessing the relationship between both neighborhood and school SCI scores, and transiency. Neighborhood SCI scores were significantly correlated with number of moves ($r = -.32, p < .01$), and with length of residency ($r = .34, p < .01$), thus providing construct validation for the neighborhood SCI. Neighborhood SCI scores were not significantly correlated with anticipated length of residency. School SCI scores were positively correlated with anticipated length of residency ($r = .19, p < .01$), but not with number of moves or length of residency. These results provide evidence that the two versions of the SCI were able to discriminate between settings.

Sense of Community and Social Support

Preliminary investigation of the discriminant validity of the SCI was accomplished through an analysis of the relationship between neighborhood and school SCI scores, and measures of aspects of social support. To assess whether the sense of community and social support measures were describing distinct constructs, correlational analyses were conducted. Table 3 (Appendix B) summarizes the results of these analyses. Few significant correlations were found. Those correlations that were significant were weak, ranging from .14 to .27. It is noteworthy that different aspects of social support correlated with neighborhood versus school SOC. Specifically, the neighborhood SCI was significantly correlated with number of supports, satisfaction, and nondirective support, while the school SCI was significantly

correlated with number of supports and tangible assistance. This indicates that there may be different characteristics of neighborhood and school SOC.

Stepwise multiple regression analyses were conducted to investigate the existence of a predictive relationship between the social support and sense of community measures. The social support subscale scores, including number of supports, satisfaction with support, nondirective support, directive guidance, and tangible assistance, were regressed on both neighborhood and school SCI scores. The results of these analyses are summarized in Table 4 (Appendix B). The social support variables that entered into the regression equations accounted for only a minimal amount of the variance in SCI scores; the R^2 for neighborhood SCI was .07, and for school SCI was .03. These results provide initial evidence of the discriminant validity of the SCI, in demonstrating that sense of community and social support are related but distinct constructs as measured by the SCI, the SSQ6, and the ISSB.

Sense of Community and Distress

The correlations between the sense of community and distress measures are summarized in Table 5 (Appendix B). An inspection of this data reveals that school SCI scores were significantly and negatively correlated with all the distress indicators, while neighborhood SCI scores were only correlated with depression and loneliness. Additionally, school SCI scores were more strongly correlated with the distress indicators than were neighborhood SCI scores. Correlations between school SCI scores and distress ranged from -.25 to -.42, and correlations between neighborhood SCI scores and distress ranged from -.11 to -.31.

A two-way factorial multivariate analysis of variance (MANOVA) was conducted to explore the potential relationship between sense of community and aspects of adolescent's distress. Neighborhood and school SCI scores were split at the median to form high and low groups, and the four distress indicators served jointly as dependent variables. Cell means are presented in Table 6 (Appendix B). Hotelling's T^2 , which considers multiple dependent variables simultaneously and adjusts for the interrelationships between the dependent variables (Norusis, 1985), revealed a nonsignificant neighborhood SOC x school SOC interaction effect, suggesting that neighborhood and school

SOC are not additive in their effects. The school SOC main effect was significant ($T^2_{(4,158)}=.20$, $p<.001$), but the neighborhood SOC main effect was not. Univariate main effect test results are presented in Table 7 (Appendix B). From this table, it can be seen that significant differences between high and low school SOC groups occurred on all four distress variables, while a significant difference on loneliness, but not the other distress variables, occurred between neighborhood SOC groups.

When using multivariate interaction designs, each effect is "adjusted" for the other effects in the model (Norusis, 1985). Differences between factor means are contaminated by the effects of other factors. For this reason, individual MANCOVA (multivariate analyses of covariance) analyses were conducted for the neighborhood and school referenced versions of the SCI. The first design considered the differences between high and low neighborhood SCI groups when the covariance attributable to school SCI scores was removed, and the second design considered the differences between high and low school SCI scores when the variance contributed by neighborhood SCI scores was removed. Cell means resulting from these analyses are presented in Tables 8 and 9 (Appendix B) respectively. Hotelling's T^2 was significant for school sense of community ($T^2_{(4,162)}=.22$, $p<.001$), but not for neighborhood sense of community, indicating that the significant difference on loneliness under conditions of high and low neighborhood SOC resulting from the univariate tests in the two-way design were likely attributable to a confounding with school SCI scores. Univariate F test results, reported in Table 10 (Appendix B), reveal that significant differences between high and low school SOC groups were found for all four distress variables, while no significant differences between neighborhood SOC groups were found. It is noteworthy however, that differences between neighborhood SOC group means were in the expected direction on all four distress variables (see Table 8, Appendix B).

Sense of Community, Social Support, and Distress

Analyses were conducted to enable a comparison of the relationships between sense of community and distress measures, and social support and distress measures. The correlations between the sense of community, social support, and distress measures are summarized in Table 5 (Appendix B). An

inspection of this data reveals that school SCI scores were significantly and negatively correlated with all the distress indicators, and additionally that they were more strongly correlated with the distress indicators than either the neighborhood SCI measure or the social support measures. Correlations between school SCI scores and distress ranged from -.25 to -.42, and correlations between neighborhood SCI scores and distress ranged from -.11 to -.31. The number of supports measure was more strongly correlated with distress measures, with correlations ranging from -.13 to -.35, than were the other social support measures. The differential relationships between sense of community and social support measures, and distress indicators, suggest that these are unique but related constructs.

Multivariate analyses of covariance were conducted to assess whether school sense of community would maintain its significant relationships with distress measures when the variances attributable to social support measures were removed. Five separate MANCOVA procedures were conducted, with each of the social support indicators independently serving as covariates. School sense of community maintained significant effects, even when the variances contributed by number of supports ($T^2(4,160)=.17$, $p<.001$), satisfaction with support ($T^2(4,161)=.28$, $p<.001$), nondirective support ($T^2(4,161)=.22$, $p<.001$), directive guidance ($T^2(4,161)=.21$, $p<.001$), and tangible assistance ($T^2(4,161)=.20$, $p<.001$), were removed. The results of the univariate analyses are summarized in Table 12 (Appendix B). Inspection of this table reveals that significant differences between high and low school SOC groups occurred for all four distress measures, even with the social support covariates removed.

To summarize, school SOC was found to be significantly related to levels of adolescent distress. Furthermore, this relationship was still evident even when the variances attributable to the five social support variables were removed. Relationships between high and low levels of neighborhood SOC and levels of distress were not evident. Results also suggest that the significant main univariate neighborhood SOC factor effect on loneliness was likely due to a confounding with school SCI scores.

DISCUSSION

The purpose of this investigation was to further our understanding of psychological sense of community in an adolescent population. This was accomplished by examining both neighborhood and school SOC in relationship to transiency, social support, and distress variables. Convergent validity of the Sense of Community Index (Perkins et al., 1990; Pretty, 1990) was assessed by comparing SCI scores with transiency variables, and preliminary support for discriminant validity was examined by comparing both versions of the SCI with social support measures. The relationship between SCI scores and distress variables was examined, to determine whether SOC is related to aspects of adolescents' mental health status.

Construct Validation

Sense of Community and Transiency

The hypothesis that neighborhood SOC would be inversely related to transiency was supported. Specifically, neighborhood SOC was inversely related to the number of prior moves, and positively related to length of residency, supporting the convergent validity of the SCI. Collett (1989) also found a neighborhood SOC-transiency relationship in adolescents.

School SOC was unrelated to number of moves since grade 1 and length of residency. Students may have changed residences without changing schools, which could account for these nonsignificant school SOC-transiency relationships. Future research that considers transiency in conjunction with school SOC must tap school transiency specifically. A small but significant positive relationship was found between anticipated length of residency and school SOC. One can only speculate as to why anticipated length of residency was related to school, but not neighborhood SOC. Perhaps students are more aware of the length of time they will continue to attend their schools than they are the length of time they will live in their present neighborhoods. This is consistent with the finding that school SOC was more salient than neighborhood SOC in the perceptions of this group of students, and reflects the impact of the school environment upon adolescents.

The differential relationships between neighborhood and school SOC, and transiency, suggest that the two versions of the SCI were indeed measuring setting-specific aspects of SOC.

Sense of Community and Social Support

Further support for the construct validity of the SCI was found through an analysis of the relationship between SCI scores and measures of social support. While social support and SOC share similar features, this research suggests that they do represent different constructs as was hypothesized.

Collett (1989) found no relationship between ISSB (Barrera, 1981) and SCI scores, leading him to conclude that social support and SOC were unrelated. However, his definition of social support was limited to an undifferentiated measure of concrete helping behaviors that had been received over the past four weeks. This research therefore extended Collett's operational definition of social support to include an assessment of network features, satisfaction with support, and differentiated helping behaviors, including nondirective support, directive guidance, and tangible assistance. Even with a more comprehensive assessment of social support, it was found that SOC was distinct from social support.

The correlations between SOC and social support variables were weak. However, it is important to note that neighborhood and school SOC were related to different aspects of social support, suggesting that each has unique characteristics. Both were related to the number of supports, which suggests that the perception that one has other people in one's life with whom to share a feeling of community is important to SOC. Chavis et al. (1986) reported that the mean level of neighbor interactions was particularly important to SOC, and suggested that knowledge of, and interaction with one's neighbors, and a simple sharing with them, contribute to a sense of belonging and safety. This relationship appears to exist in adolescents as well. A greater number of supportive individuals, which implies a greater number of potential interactions, was related to higher levels of SOC within the neighborhood and school settings.

However, neighborhood and school SOC differed in their relationships with the other social support dimensions. Neighborhood SOC was correlated with satisfaction with support received, and with nondirective support,

which includes empathic and non-judgmental feedback and interaction. Alternatively, school SOC was related to tangible assistance, which encompasses material aid and supportive behaviors, eg. the provision of transportation, assistance in taking action for a problem, or help in completing something that needed to be done. These behaviors can be understood as school-related, in that students may require assistance with homework or support in approaching teachers, and as such may be more important to school SOC than other forms of support.

Regression analyses revealed that the variances contributed by the social support variables accounted for only small portions of the variances in neighborhood and school SCI scores. These results provide preliminary evidence of the discriminant validity of the SCI, in that the two versions of this measure were found to be tapping a construct, namely SOC, that is distinct from social support. More precise statistical techniques, such as factor analytic investigations, should be conducted in order to further investigate the discriminant validity of the SCI.

Given that these constructs are unique, it is important to discern what qualitative differences exist between them. Sarason, Shearin, Pierce, and Sarason (1987) investigated the comparative relationships between a number of social support measures and a variety of individual difference variables, including depression, loneliness, shyness, social anxiety, parental bonding, and social desirability. They found that those measures that reflected the degree to which individuals felt loved, accepted, and cared for correlated more strongly with personality measures than those scales that reflected the specific functions of social support that are either perceived to be available or have actually been received. Respondents whose social support could be characterized by these general qualities indicated lower levels of loneliness and depression, and higher levels of satisfaction with current relationships. SOC and social support both consider an individual's sense of belongingness and acceptance, however SOC also considers one's perceptions of influence, shared emotional connection, and fulfillment of needs within a larger social context.

While social support includes what, or whom, and individual perceives to be available or received, SOC considers what the individual personally invests in others and in the group. Need fulfillment rests in the reciprocal influence and concurrent interaction between group and individual

determination. SOC involves a sense of membership, of belongingness and emotional safety, that arises from group affiliation, and therefore goes beyond a satisfaction with tangible support. As well, SOC has been linked with perceptions of the physical environment. SOC has been found to moderate negative environmental factors such as litter and other incivilities (Aiello & Baum, 1979; Freedman, 1975; cited in Chavis & Wandersman, 1990), which have been linked with a fear of crime and social withdrawal (Perkins et al., 1990).

Perhaps most importantly, SOC extends beyond social support through its implication as a causal factor in the political and emotional empowerment processes. Relationships have been found between SOC and perceived individual and collective control (Chavis & Wandersman, 1990), political participation within the community (Chavis & Wandersman, 1990; Perkins et al., 1990), and perceived block association efficacy (Perkins et al., 1990). SOC is a mechanism through which important changes in the environment can be effected, which in turn enhances the lives and the SOC of those involved in this process.

Sense of Community and Distress

It was hypothesized that SOC would impact on aspects of adolescents' mental health, as was found in research with an adult population (McCarthy et al., 1990). This was found to be true for school SOC, but not neighborhood SOC. Specifically, correlational analyses revealed that while both neighborhood and school SOC were inversely related to depression, anxiety, and loneliness, these relationships were consistently stronger for school SOC, and school SOC was related to hostility while neighborhood SOC was not. Additionally, it was found that there were significant differences between high versus low scoring groups on the school, but not the neighborhood, version of the SCI, with regard to all four distress indicators. School and neighborhood SOC did not interact ie. there were no additive effects, suggesting that a consideration of both factors together is not necessarily better than considering school SOC alone with reference to relationships with mental health variables. School SOC maintained significant relationships with distress levels even when the variances contributed by neighborhood SOC and the social support variables were removed.

These findings support several suggestions. Firstly, this and earlier research (McCarthy et al., 1990) have established a definitive relationship between mental health criteria and SOC. Secondly, school SOC was related to distress levels while neighborhood SOC was not, suggesting that the school may be a more appropriate setting in which to further investigate the relationship between SOC and adolescents' well-being. Thirdly, relationships between school SOC and distress were not attributable to social support influences, which further supports the suggestion that SOC and social support are indeed unique constructs, although SOC acts similarly to social support in relating to aspects of psychological distress.

A heightened SOC in adolescents may lead to more effective coping and empowering behaviors, which may in turn positively influence mental health. The significant relationships found between school SOC and distress in this research support this suggestion. Research with adults has found that a strong SOC can empower people towards taking effective action (Bachrach & Zautra, 1985; Maton & Rappaport, 1984; cited in Chavis & Wandersman, 1990). For example, Bachrach and Zautra (1985) found that an increased sense of community lead to an increase in problem-focused behaviors in adults (Bachrach & Zautra, 1985). Problem-focused coping has been found to be psychologically healthier than other forms of coping (Compas et al., 1988), suggesting that empowering people through the development of SOC may lead to increased psychological well-being. Empowerment, defined as the process of becoming able to take active control of one's own life and the democratic participation in the life of one's community (Rappaport, 1987), and the provision of environments that enhance it, become all the more significant when one considers the developmental stage of adolescence. Important changes occur during adolescence, including separation from parents, cognitive development, maturation, developing autonomy, disruption of self-concept, and the struggle for significance (Brennan, 1982). Furthermore, critical social processes, including inadequate and marginal social roles, excessive provision of failure roles, prolonged dependency status, adult ambivalence regarding youths' independence, and unrealistic social expectations may impinge on the development of adolescent attachments and the search for a meaningful place in society. When the developmental challenges of adolescence can occur within empowering institutional and social contexts, provided through the intentional development of SOC, it is

not unlikely that many of the problems apparent during adolescence might be avoided and the effects of negative social processes circumvented.

Neighborhood versus School Sense of Community

The students surveyed in this research reported higher levels of school SOC than neighborhood SOC. It was also found that school SOC was more strongly correlated with distress indicators than was neighborhood SOC, and that there were significant differences between high and low school, but not neighborhood, SCI groups on distress indicators.

These results not only provide additional construct validity for the SCI as an instrument that is able to discriminate between settings, but also that school SOC may be more salient than neighborhood SOC during the developmental stage of middle adolescence. Given that adolescents spend the majority of their time at school, that most of their friends are at school, and that peers are of prime importance during adolescence (Goswick et al., 1981; Russell et al., 1980), it is not surprising that school SOC was found to be more relevant. Nagle and Medway (1982) have suggested that by fostering student participation in school government, the impersonalization of the high school, and the concomitant problems currently found in the high schools, may be decreased. Student participation, and ultimately empowerment, might be achieved through the purposeful development of school SOC in high schools. Chavis and Wandersman's (1990) research supports this suggestion, in that SOC was found to mobilize three essential components, including perceptions of the environment, social relations, and sense of control, which influence participation in voluntary neighborhood organizations.

The theoretical and empirical research to date has implied that environments can be engineered towards the enhancement of SOC. The fact that school SOC was found to be most salient in this sample of adolescents suggests that attention might be focused on the development of SOC in the school environment. An analysis of the SOC components as outlined by McMillan & Chavis (1986) offers concrete ways in which to accomplish this enhancement. Schools should provide students with opportunities for membership, influence, integration and fulfillment of needs, and shared emotional support. For example, providing a common symbol system

through school uniforms or mascots and identifying territorial markers, should serve to increase the sense of membership. Students must perceive that they are able to effect changes within the school, through the provision of participatory structures that are receptive to student involvement. Organizing student activities around a common goal which has meaning and significance to the students themselves, might serve to increase opportunities for positive social interaction and feelings of influence, which in turn will enhance SOC. Finally, providing opportunities for positive social interaction (eg. dances, sports events), providing opportunities to honor students, and providing positive and effective ways of resolving conflict (eg. through student controlled disciplinary committees), might serve as additional ways of stimulating the development of SOC within the school.

Gender Differences

Although gender differences were not a major focus of this research, several interesting differences were observed. Gender means on loneliness revealed that males scored higher than females, as has been found in other studies using the RULS (Borys & Perlman, 1985). Borys and Perlman have suggested that the RULS is more likely to uncover actual levels of loneliness in males, as this instrument assesses loneliness indirectly rather than overtly. Studies in which a self-labelling index or direct assessment procedure were used, generally have found that females are more lonely than males (Medora & Woodward, 1986; Sundberg, 1988; Woodward & Frank, 1988), or that there were no significant gender differences (Booth, 1985); Hogland & Collison, 1989; Kaiser & Berndt, 1985).

It has been suggested that fear of social rejection renders males more reluctant to admit loneliness to themselves or others (Borys & Perlman, 1985). Sundberg (1988) pointed out that admitting loneliness may be considered a sign of weakness or failure by males. Borys and Perlman (1985) have suggested that cultural bias and gender stereotypes must be challenged, so that lonely male youth will be more likely to acknowledge loneliness and seek help for it.

Several reasons have been suggested to explain why males may be lonelier than females. Males typically have less intimate, less satisfying, and less mutually self-disclosing relationships, which may engender greater feelings

of loneliness (Borys & Perlman, 1985; Gilligan, 1982; cited in Sundberg, 1988). Males also tend to be more group oriented, which may inhibit the development of intimate peer relationships (Stokes & Levin, 1986). The items included on the RULS examine qualitative aspects of relationships, adding support to the idea that a perceived qualitative deficiency in close relationships may contribute to higher levels of loneliness in males. Although not statistically significant, the males in this study reported less satisfaction with social support than females. Sarason, Sarason, Hacker, and Basham (1985) also found that females reported a greater degree of satisfaction with perceived social support. This suggests that the nature of culturally affirmed male relationships may be perceived as less satisfying, and that this may contribute to higher levels of loneliness in males.

Gender differences were also found on several of the social support variables. Females tended to report a higher number of supports than males, and a division of these supports into family members, friends, and others found that females listed significantly more family members as supportive than did males. At least for the students in this study, females turned to their families for support more so than males. Other researchers have also found that females reported a greater number of perceived social supports (Sarason et al., 1985; Sarason & Sarason, 1986). Sarason and Sarason (1986) found that the females in their study were rated as more socially skilled, and showed a greater knowledge of socially skilled responses, which may account for the fact that the females reported a higher number of satisfying supports. The females in this research also reported significantly higher levels of nondirective support and total support as measured by the ISSB, which encompass intimate interaction and conversation, supportive and esteem-building feedback, and empathic understanding. As female relationships typically tend to be qualified by these types of behaviors (Borys & Perlman, 1985), it is not surprising that females reported higher levels of nondirective support.

Limitations and Suggestions for Future Research

There are several limitations with regard to this research that warrant mention. The small sample size that was obtained raises several issues. Score variability was limited thereby reducing the strength of the correlations

and the power of the statistical findings. The small sample size also limits any interpretations that may be deduced from gender comparisons.

The fact that this research was conducted just before final exams may have contributed to the poor rate of return, and may have lead students to respond to the questionnaires quickly or carelessly. This may be especially important with reference to the MAACL, in that the scores derived from this measure may have been elevated in reflection of the fact that students were entering into the stress of final exams. In the future, it would be advisable to contact adolescents during a less demanding time of the year, and to arrange to be present while the questionnaires are being completed.

This sample was heterogeneous, in that students were surveyed from both public and private schools in both rural and urban settings. This undoubtedly introduced a significant level of error variance which was not controlled for. In addition, such variables as socioeconomic status, family structure, and academic achievement were not considered, and yet may be significantly related to levels of SOC.

The relative importance of school SOC found in this research may have resulted in part from the fact that only those adolescents currently in school were surveyed. Future research might investigate this construct with adolescents who are no longer in school. It may be that different relational communities are of significance with these adolescents. As well, it is suggested that neighborhood SOC be tapped within the neighborhood environment, which may reveal more accurate levels of a perceived SOC in the neighborhood. Different types of neighborhoods might be considered in an effort to uncover what qualitative aspects of territorial communities impact on adolescents' perceptions of SOC.

In addition to the suggestions that have been raised throughout this discussion, there are several viable avenues for future investigations that may be undertaken. Sense of community is obviously an important construct for adolescents, as it has been found to be related to levels of distress, and has been differentiated from social support. Replication of this research is suggested, to determine if the relationships between sense of community, social support, and distress will be found with other more homogeneous samples. The impact of sense of community on adolescents from well-defined cultural or religious backgrounds should be investigated, including the extent to which it has a positive or negative influence on these groups.

Initially, it was hoped that comparisons between the degree of SOC perceived by students living in urban versus rural environments would be possible, however access to students in urban public schools was denied. It is recommended that such an investigation be pursued in the future. Research which investigates both neighborhood and school SOC at different developmental stages, from preschool through late adolescence, would also be of importance, in an effort to ascertain how this perception develops.

The relationships between the school SCI and other measures tapping school environments, such as the Classroom Environment Scale (Moos & Trickett, 1974) should be assessed, in an effort to provide further validation for the school SOC construct, and to help elucidate which aspects of school SOC are most beneficial to mental health. The relationships between sense of community and other variables or criteria, in addition to those investigated in this research, are justified. For example, the impact of stressful life events and stressful family processes in the perceptions of sense of community might be addressed. Study with regard to the potential for sense of community to mediate stress, as has been found for social support, is also suggested.

A method for tapping school SOC at the collective level versus the individual level might be designed, in order to assess whether students in the high SOC settings are exhibiting more healthful or empowering behaviors, and whether these students fare better academically, socially, physically, and emotionally. The interaction between sense of community and individual difference variables should be investigated to determine whether certain personality characteristics predispose or enable an individual to experience a sense of community.

Finally, uncovering ways to develop and enhance a strong sense of community at the high school level is strongly encouraged, through educating adolescents and those working with adolescents, as to the potential for this powerful construct to enhance the well-being of this age group.

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APPENDIX A

The following contains the questionnaire instructions and sample questions.

Neighborhood Sense of Community Index-Short Form

The following statements are things people might say about their "block" where they live. If you live in an apartment building or a house, "block" refers to the people who live near you, and your neighborhood.

Please circle TRUE or FALSE after each statement if it is either mostly true or mostly false about your "block".

- | | |
|---|-------|
| 1. I think my block is a good place for me to live. | T F |
| 2. People on this block do not share the same values. | T F |
| 3. My neighbors and I want the same things from this block. | T F |

School Sense of Community Index-Short Form

The following statements are things people might say about their school. Please circle TRUE or FALSE after each statement if it is mostly true or mostly false about your school.

- | | |
|--|-------|
| 1. I think my school is a good school for me to go to. | T F |
| 2. Students at this school do not share the same values. | T F |
| 3. My fellow students and I want the same things from this school. | T F |

The Social Support Questionnaire (6)

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 persons's initials, and their relationship to you. Do not list more than one person next to each.

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

If you had 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 the best you can.

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

___ No one	1)	4)	7)
	2)	5)	8)
	3)	6)	9)

How Satisfied?

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

The Inventory of Socially Supportive Behaviors

On the following pages, you will find a list of activities that other people may 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 in the past FOUR weeks.

Use the following scale to make your ratings:

- A. Not at all
- B. Once or twice
- C. About once a week
- D. Several times a week
- E. About every day

Start: How often did other people do these activities for you, with you or to you, in the past FOUR weeks ...

- | | | | | | |
|--|---|---|---|---|---|
| 1. Looked after a family member while you were away. | A | B | C | D | E |
| 2. Was right there with you during a stressful situation. | A | B | C | D | E |
| 3. Provided you with a place you could get away to for awhile. | A | B | C | D | E |

The Multiple Affect Adjective Checklist

Please check off adjectives that describe how you are presently feeling.

- _____ active
- _____ adventurous
- _____ affectionate

The Revised UCLA Loneliness Scale

Indicate how often you have felt the way described in each statement using the following scale:

4 = "I have felt this way often"

3 = "I have felt this way sometimes"

2 = "I have felt this way rarely"

1= "I have never felt this way"

___ 1. I feel in tune with the people around me.

___ 2. I lack companionship.

___ 3. There is no one I can turn to.

APPENDIX B

Table 1

Means and Standard Deviations of Sense of Community, Social Support and Distress Measures

	Total Sample			Females			Males		
	n	Mean	sd	n	Mean	sd	n	Mean	sd
SOC									
Neighborhood	167	7.30	2.84	119	7.51	2.79	48	6.77	2.92
School	167	7.91	2.57	117	7.95	2.68	50	7.82	2.31
Social Support									
No. of Supports	170	3.90	1.84	120	4.26	1.75	51	3.05	1.77
Satisfaction	171	4.99	0.80	120	5.04	0.73	51	4.86	0.95
Nondirective	171	40.49	10.86	120	42.47	9.77	51	35.84	11.32
Directive	171	32.14	8.57	120	32.83	8.55	51	30.51	8.49
Tangible	171	24.95	6.18	120	25.03	6.29	51	31.13	22.61
Distress									
Depression	171	15.77	6.81	120	16.01	6.98	51	15.19	6.41
Hostility	171	9.91	4.31	120	9.67	4.49	51	10.49	3.82
Anxiety	171	8.82	3.87	120	8.05	4.13	51	8.62	3.16
Loneliness	171	34.08	10.41	120	33.97	4.07	51	34.33	11.47

Table 2

Intercorrelations Between Social Support Measures

	2	3	4	5
1. Number of Supports	.40**	.35**	.21**	.12
2. Satisfaction with Support	----	.38**	.09	.16
3. Nondirective Support		----	.67**	.49*
4. Directive Guidance			----	.57
5. Tangible Assistance				----

*p<.05

**p<.01

Table 3

Intercorrelations Between Sense of Community and Social Support Measures

Social Support	Sense of Community	
	Neighborhood	School
Numbers of Supports	.27**	.15
Satisfaction with Supports	.21**	.03
Nondirective Support	.14*	.12
Directive Guidance	.06	.11
Tangible Assistance	-.01	.18**

*p<.05

**p<.01

Table 4

Regression Results Demonstrating Relationship Between Number of Supports, Satisfaction With Supports, Nondirective Support, Directive Guidance, and Tangible Assistance, and Sense of Community Measures

Variables in Regression Equation		R ² step	Beta	Ta
Neighborhood Sense of Community	Number of Supports	.07	.27	3.61**
School Sense of Community	Tangible Assistance	.03	.19	2.53*

*p<.05

**p<.01

a T value is for a variable's beta weight in the final equation after all variables have been entered.

Table 5

Intercorrelations Between Sense of Community, Social Support, and Distress Variables

	Depression	Hostility	Anxiety	Loneliness
Sense of Community				
Neighborhood	-.20**	-.11	-.15	-.31**
School	-.31**	-.25**	-.25**	-.42**
Social Support				
No. of Supports	-.13*	-.13*	-.18*	-.35*
Satisfaction	-.12*	-.09	-.18*	-.35**
Nondirective Support	-.11	-.08	-.06	-.33**
Directive Guidance	-.07	-.01	-.02	-.20**
Tangible Assistance	-.05	-.03	-.03	-.21**

*p<.05

**p<.01

Table 6

Distress Variable Means Under Conditions of Low and High Neighborhood
and School Sense of Community

		School Sense of Community	
		Low	High
Low	Depression	18.46	14.03
	Hostility	10.87	8.76
	Anxiety	9.22	7.30
	Loneliness	45.49	35.76
Neighborhood Sense of Community			
High	Depression	15.82	14.04
	Hostility	10.35	9.19
	Anxiety	8.94	7.06
	Loneliness	40.66	34.53

Table 7

Univariate Test Results Demonstrating Neighborhood and School Sense of Community Main Effects on Distress Variables

		F			
	df	Depression	Hostility	Anxiety	Loneliness
Neighborhood					
Sense of Community	1,161	1.60	.004	.17	4.22*
School					
Sense of Community	1,161	8.90**	5.88**	9.76**	28.35**

*p<.05

**p<.01

Table 8

Cell Means Under Low and High Neighborhood Sense of Community
Conditions with School Sense of Community Covariation Removed

Distress	Neighborhood Sense of Community	
	Low	High

Depression	16.78	14.84
Hostility	10.07	9.72
Anxiety	8.49	7.91
Loneliness	41.86	37.31

Table 9

Cell Means Under Low and High School Sense of Community Conditions
with Neighborhood Sense of Community Covariation Removed

Distress	School Sense of Community	
	Low	High

Depression	17.29	14.03
Hostility	10.64	9.02
Anxiety	9.10	7.15
Loneliness	43.40	35.01

Table 10

Univariate Test Results Demonstrating Neighborhood and School Sense of Community Effects on Distress Variables with Specified Covariate Effects Removed

		F				
Effect	Covariate	df	Depression	Hostility	Anxiety	Loneliness
Neighborhood SOC	School SOC	1,162	.82	.09	.88	.09
School SOC	Neighborhood SOC	1,162	7.56**	4.87**	8.69**	25.53**

*p<.05

**p<.01

Table 11

Univariate Test Results Demonstrating School Sense of Community Effects on Distress Measures with Social Support Covariates Removed

Covariates	df	F			
		Depression	Hostility	Anxiety	Loneliness
No. of Supports	1,163	9.18**	4.38*	7.82*	23.71**
Satisfaction	1,164	11.09**	6.02*	10.75*	41.11**
Nondirective Support	1,164	9.97**	5.43*	10.08*	31.54**
Directive Support	1,164	10.16**	5.81*	10.37**	30.84**
Tangible Assistance	1,164	26.68**	5.59*	10.28**	26.68**

*p<.05

**p<.01