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## ABSTRACT

### DEVELOPMENT OF AN ASSESSMENT SCALE TO MEASURE PSYCHOLOGICAL SENSE OF COMMUNITY IN ADOLESCENTS

Orly Rumstein

July, 1996

The purpose of this research was to develop a scale to measure adolescent psychological sense of community in the school and neighbourhood environments. This involved three studies. In study 1, adolescents were interviewed to obtain their opinions on their school and neighbourhood environments. Males and females in grades 7, 9, and 11 ( $N = 179$ ) were asked five open-ended questions based on McMillan and Chavis' (1986) model of sense of community. From the interview responses, two 100-item scales, one scale for the school environment and one for the neighbourhood environment were created. In study 2, these 100-item scales were administered to a second group of adolescents in grades 7, 9, and 11 ( $N = 745$ ). Factor analyses resulted in an 18-item measure of school environment ( $\alpha = .61$  for grade 7,  $\alpha = .72$  for grade 9, and  $\alpha = .71$  for grade 11) and a 14-item measure of neighbourhood environment ( $\alpha = .86$  for grade 7,  $\alpha = .83$  for grade 9, and  $\alpha = .86$  for grade 11). In study 3, factor analyses were conducted on the final set of items and the highest-loading items on each factor were retained. Results

indicated a 15-item measure of Adolescent Sense of Community for the school ( $\alpha = .65$  for all grades,  $\alpha = .68$  for grade 7, and  $\alpha = .59$  for grade 9) and a 14-item measure of Adolescent Sense of Community for the neighbourhood ( $\alpha = .89$  for all grades,  $\alpha = .90$  for grade 7, and  $\alpha = .87$  for grade 9). Validity ( $N = 244$ ) was established for the ASCI-S and the ASCI-N through correlations with measures of mental health, school and neighbourhood environment and a measure of social desirability. The new measures correlated low to moderately with the measures of mental health and moderately with the measures of environment. Results suggest that the ASCI-S and the ASCI-N are valid. Two-week test-retest reliability ( $N = 114$ ) was established. Reliability results were good for the ASCI-S and moderate for the ASCI-N. The ASCI-S and the ASCI-N reflect elements of the McMillan and Chavis model, suggesting the model extends to an adolescent population.

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# DEVELOPMENT OF AN ASSESSMENT SCALE TO MEASURE PSYCHOLOGICAL SENSE OF COMMUNITY IN ADOLESCENTS

Sense of community is 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 (McMillan, 1976). Over the years, various studies have examined the relationships between sense of community and constructs such as coping (e.g., Bachrach & Zautra, 1985; Coleman & Iso-Ahola, 1993), empowerment and competency (e.g., Chavis & Wandersman, 1990; Davidson & Cotter, 1989), participation (e.g., Chavis & Wandersman, 1990; Davidson & Cotter, 1993) social support (e.g., Felton & Shinn, 1992; Pretty, Andrewes & Collett, 1994), quality of life and subjective well-being (e.g., Davidson & Cotter, 1986, 1991), community satisfaction (e.g., Chavis & Wandersman, 1990; Glynn, 1981), and loneliness (Pretty et al., 1994; Pretty, Dugay & Fowler, in press; Pretty, Conroy, Dugay, Fowler & Williamson, in press).

In these studies, both psychometric and non-psychometric approaches have been used to measure the sense of community construct. Scales have the advantage of measuring sense of community objectively (Buckner, 1988; Chavis, Hogge, McMillan & Wandersman, 1986; Davidson &



Cotter, 1986; Glynn, 1981). All of the existing scales used to measure sense of community were developed on an adult population. These scales are also used to assess sense of community in adolescents. There is reason to believe that the adults scales are inappropriate for adolescents and that there is a need for a scale which assesses sense of community in adolescents. The purpose of this study is to develop a scale to measure adolescent sense of community and to assess its construct validity and psychometric value.

#### Defining Sense of Community

Sarason (1974) defined sense of community as a feeling of being part of a supportive, dependable structure; where one is willing to do for others what one expects from others. Sense of community was also defined as a feeling of having a common bond with other people (cited in Glynn, 1981). It describes the relationship between the individual and the social structure. The way in which individuals perceive and feel with respect to their psychological environment determines their experience of sense of community.

The most comprehensive definition of sense of community, introduced by McMillan and Chavis (1986), comprises four elements: Membership, Influence, Integration and Fulfilment of Needs and Shared Emotional Connection. Membership is the feeling of belonging or of sharing a sense of personal relatedness. Influence is the sense of

matter, of making a difference to a group and of the group mattering to its members. Integration and Fulfilment of Needs is the feeling that the individual's needs will be met by environmental resources through group membership. Finally, Shared Emotional Connection involves the commitment and the belief that members have shared and will share history, common places, time together, and similar experiences.

Social support is essential to any definition of psychological sense of community. The two concepts may be confused because there are only subtle differences in their definitions. Social support includes only interactions with other individuals; it is support at the individual level (Felton & Shinn, 1992). In contrast, sense of community involves both individual level and extra-individual levels of support (Felton & Shinn, 1992). Experiences involving others on an individual basis (individual level) as well as experiences involving larger groups of people (extra-individual level) both contribute to the development of a sense of community. Separate and unique assessment tools measure each of these constructs (Felton & Shinn, 1992). Social support indices ask participants about experiences with other individuals. Sense of community indices ask about observations, of and experiences with, a social group as a whole (cited in Pretty et al., 1994). Low correlations between these measures in studies with both adults (Felton &

Shinn, 1992) and adolescents (Pretty et al., 1994) suggest that these two constructs are distinct.

#### Defining the "Community" and Its Members

A community is defined as any set of social relations that are bound together by a feeling of belongingness (Chavis & Newbrough, 1986). The term "community" has two major uses (Gusfield, 1975). The first is territorial or geographical such as neighbourhood, school or place of work; the second refers to the quality of human relationships. These are not mutually exclusive. The "community" can have different geographical and psychological boundaries for different individuals (McMillan & Chavis, 1986). Also, an individual can simultaneously experience a sense of community within more than one setting. This is similar to Glynn's (1986) concept that a loss of sense of community is the result of a conflict between local and centralized levels of interaction. It is a conflict between the community of place (e.g., a particular community or neighbourhood) and the community of interest (e.g., a professional organization or a network of friends).

Individuals have varying levels of attachment to their neighbourhoods depending on the role it plays in their lives (Unger & Wandersman, 1985). Attachment to a neighbourhood may vary according to the costs and benefits of neighbourhood participation and the ability of the neighbourhood to meet individuals' needs. Neighbours are

defined by proximity and can serve as a support system for each other. They foster a sense of identification and buffer feelings of isolation (Unger & Wandersman, 1985).

Social relations consist of interactions among neighbours such as borrowing tools, informal visiting and, asking for help in an emergency. The social relations provide emotional/personal, instrumental and informational support. These forms of support are important to developing and maintaining a sense of community (Chavis & Wandersman, 1990). When a sense of community exists within a community, individuals are more apt to interact with others in the neighbourhood. Those who interact socially with neighbours are more likely to be aware of, and to become involved in, local voluntary organizations. Social networks, then, help to regulate social behaviour through informal social control. Although more research needs to be conducted, there is evidence that as informal social control increases, crime rates decrease. Neighbourhood organizations can increase this form of social control, resulting in a reduced incidence of crime.

Informal social supports and social networks are important resources for coping with stressors, promoting adjustment and improving the quality of life (Unger & Wandersman, 1985). As technology, communication, transportation and life styles evolve, neighbourhoods are losing the importance they once had. The community of place

seems to be loosing its ability to serve as a focus for sense of community. A local social setting can foster sense of community but the neighbourhood is potentially the most effective community-enhancing structure (Glynn, 1986). However, there appears to be a need for modern reference points within these communities.

### The Construct of Sense of Community

How do we know whether sense of community is high or low within a given environment and why do we need to know? Increased feelings of sense of community may result in positive effects such as strong attachment and coping. Decreased feelings of sense of community may result in experiences of loneliness and alienation.

Sense of community is experienced as a strong attachment that people have toward others based on factors such as where they live, work, go to school, or with which groups they affiliate (Davidson & Cotter, 1993). Sense of community is not a static feeling. It is affected by time through changing values and external forces such as the media and employment factors. The greater the sense of community, the greater the sense of purpose and perceived control individuals have in dealing with external threats (McMillan & Chavis, 1986). As levels of sense of community increase, the ability for adults to function competently within their community increases as well (Glynn, 1981).

A sense of community allows for territorial markers and

the creation of defensible space which deters neighbourhood crime and facilitates social interaction (Newman, 1972; cited in Chavis & Wandersman, 1990). When residents feel safer and more secure in their community, they are likely to interact more with neighbours, leading to increased feelings of sense of community and increased levels of participation (Chavis & Wandersman, 1990). For these reasons, programs that are built around developing a sense of community may be a starting point for human development and quality of life (Chavis & Newbrough, 1986).

Increased sense of community is associated with (a) increased length of stay in the community, (b) increased community satisfaction, (c) greater social support, (d) greater community involvement, and (e) more informal social control characteristics (Chipuer et al., 1995). Low levels of sense of community are related to high levels of burnout, loneliness, and fear of crime (Chipuer, Pretty & Catano, 1995).

As sense of community increases, the incidence of mental illness decreases. Research that began more than fifty years ago starting with Faris and Dunham (1939), suggests that, depending on the level, sense of community may either prevent or contribute to the incidence of child abuse, the quality of child rearing, and the strength of a residential community (Garbarino & Sherman, 1980; Unger & Powell, 1980; cited in Chavis & Newbrough, 1986).

Negative signs in an environment, such as litter, gangs and abandoned cars, lead to fear of crime, lower property values and, social withdrawal (Perkins, Florin, Rich, Wandersman & Chavis, 1990). Perceptions of problems such as these can motivate individuals to take action. Most neighbourhood organizations are formed in response to the threat or reality of physical deterioration (Crenson, 1978). One's perception of the environment can influence an individual's participation in an organization formed to improve the community (Florin & Wandersman, 1984; cited in Chavis & Wandersman, 1990). Sense of community or social cohesion moderates negative environmental factors by changing individuals' perceptions of their environment (e.g., Pol, Guy, & Bush, 1982; cited in Chavis & Wandersman, 1990).

Neighbourhood deterioration is becoming increasingly more common and it's effects on adolescents more apparent. As parents spend more time at work and in community settings, adolescents may turn towards their peers to fill the parental void and become more dependent on those relationships (Bronfenbrenner, 1979). Adolescents are more prone to the effects of peer pressure, and they may become connected with peers that they do not necessarily like or want to be with. This, however, may be more acceptable to the adolescent than isolation and alienation. Feelings of isolation and alienation may lead the adolescent to become

pessimistic and to engage in antisocial behaviour.

Further consequences of declining psychological sense of community within neighbourhoods are related to loneliness, alienation, rootlessness and feelings of not belonging (Glynn, 1981). The cost of not pursuing integration of adolescents into adaptive communities may include an increase in gang communities and its related violence (Pretty et al., in press). It is important to promote sense of community in the neighbourhood. The benefits will include more involvement and interest by residents in the ecological and collective needs of their home surroundings. These findings apply to adults and are suspected to be similar for adolescents (Pretty et al., in press). However, suspicions are not sufficient and this further emphasizes the need for research with adolescents.

#### Specific Research Findings Involving Sense of Community

Sense of community has been studied in relation to coping (Bachrach & Zautra, 1985; Coleman & Iso-Ahola, 1993), empowerment and competency (Chavis & Newbrough, 1986; Chavis & Wandersman, 1990; Davidson & Cotter, 1989), participation (Chavis & Wandersman, 1990; Davidson & Cotter, 1986; Davidson & Cotter, 1993; Wandersman & Giamartino, 1980), subjective well-being (Davidson & Cotter, 1991), satisfaction (Glynn, 1981; Perkins et al., 1990), and loneliness (Pretty et al., in press; Pretty et al., 1994), all of which contribute to good mental health. These



studies have taken place in the work (Catano, Pretty, Southwell, & Cole, 1993; McCarthy, Pretty, & Catano, 1990; Pretty & McCarthy, 1991; Prett/, McCarthy, & Catano, 1992; Seidman, 1991) and university settings (McCarthy et al., 1990; Pretty, 1990) as well as in school and neighbourhood environments (Blyth & Leffert, 1995; Pretty et al., in press; Pretty et al., in press).

#### Coping and Self-Efficacy

Research on coping and sense of community has been limited to adults. Coping is a response to stress and is defined as efforts to manage (e.g., master, tolerate, reduce, minimize) environmental and internal demands, which exceed an individual's resources (cited in Bachrach & Zautra, 1985). Coping plays an important role in facing community stressors such as problems which affect a large number of people in a given area and require collective action for a solution. Problem-focused coping involves directly altering or addressing a situation that is perceived as a threat and is used when individuals believe that they can change the situation (Bachrach & Zautra, 1985). Emotion-focused coping involves efforts to regulate one's own emotional response to a stressor; it is the individual's appraisal of what can be accomplished in a situation (Bachrach & Zautra, 1985). As sense of community increased, so did problem-focused coping; sense of community was unrelated to emotion-focused coping (Bachrach & Zautra,

1985). The stronger the sense of community, the more people want to take action to alleviate the community stressor. High levels of self-efficacy, combined with high levels of sense of community, led to increased community involvement (Bachrach & Zautra, 1985).

Involvement in leisure activities helps individuals to resist stress or to cope with stress before it has a negative impact on their health (Coleman & Iso-Ahola, 1993). Stress can induce both physical and mental illness. However, it can be moderated by coping techniques, such as participation in leisure activities. Leisure can lead to companionship and perceived social support, and the benefits from new friends and closer relationships. Simply knowing that support is available may be sufficient to reduce stress levels (Coleman & Iso-Ahola, 1993). Involvement in leisure activities enhances a sense of competence, mastery, control and self-esteem (Coleman & Iso-Ahola, 1993). It fosters a sense of self-determination and serves as a coping mechanism in stressful situations. Leisure provides feelings of support, promotes positive moods and may help to overcome loneliness, all of which contribute to an individual's sense of well-being. Both participation and loneliness are related to sense of community. As participation increases, sense of community increases (Chavis & Wandersman, 1990), and feelings of loneliness decrease (Pretty et al., in press).

Empowerment and Competency

Empowerment is being able or allowed to take active control of specific aspects of one's life (Davidson & Cotter, 1989). Sense of community is important for neighbourhood development because it promotes a sense of individual and group empowerment that helps neighbours to act together to meet their shared needs (Chavis & Wandersman, 1990; McMillan & Chavis, 1986). A strong shared sense of community motivates and empowers individuals to deal with problems they face (Chavis & Wandersman, 1990). Sense of community is positively related to changes in one's sense of group or personal power (Chavis & Wandersman, 1990). When people share a strong sense of community they are motivated and empowered to change problems they face; they are better able to mediate the negative effects of things over which they have no control (Chavis & Wandersman, 1990).

Sense of community stimulates the development of a healthy community whose residents can resist social, psychological and physiological problems (Chavis & Newbrough, 1986). It enables individuals and their collectivity to grow to their maximum potential. The participation of community members in collective problem-solving results in feelings of empowerment (Chavis & Newbrough, 1986). Feelings of empowerment and competency leave individuals feeling satisfied and good about

themselves.

### Participation and Involvement

According to McMillan and Chavis' (1986) model, the third element of sense of community, integration and fulfilment of needs, is bidirectional and based on reinforcement. This is relevant to reports that increased levels of sense of community lead to increased levels of participation (Hutcheson & Frather, 1988) and that increased levels of participation lead to increased levels of sense of community (Chavis & Wandersman, 1990).

Participation is an important component in the development of a sense of community. Increased community participation is linked to increased satisfaction with the environment (Corbett, 1973; cited in Wandersman, 1981), feelings of control in one's environment (Halprin, 1977; Sanoff, 1975; cited in Wandersman, 1981) and positive behaviours such as positive neighbouring relationships (Becker, 1977; Sharp, 1978; cited in Wandersman, 1981). Vacancies, incidents of vandalism, and feelings of mistrust, apathy and alienation decrease as participation increases.

As sense of community increased, leaders of neighbourhood groups reported changes in attitudes towards the neighbourhood, increased feelings of control over the environment and an increase in social interaction and support with neighbours who participated in neighbourhood organizations (Cassidy, 1975; cited in Wandersman &

Giamartino, 1980). Participation by neighbourhood residents improves the quality of a residential environment, increases resident satisfaction and creates positive psychological effects.

Sense of community may be a catalyst for community change. The requirements for developing a sense of community overlap with those for becoming involved in community improvement (Davidson & Cotter, 1993). To create change within a community, individuals must become involved; with increased community involvement, sense of community increases. Individuals are more likely to get involved in neighbourhood development and experience feelings of control and empowerment when they possess a high sense of community (Chavis & Wandersman, 1990).

Participation in urban communities declines as a result of an inability of individuals to identify their personal interests with those of the community (Hutcheson & Prather, 1988). As members feel a sense of attachment and belonging to a community, they become involved. Feelings of sense of community may lead to participation (Chavis & Wandersman, 1990). As residents increase their levels of community participation, they begin to value their community. As a result, a communitarian climate develops and subsequently encourages greater collective participation.

#### Subjective Well-Being

Sense of community is related to psychological health

(Davidson & Cotter, 1991). In earlier studies psychological health has been understood in terms of "subjective well-being" (SWB) which has three facets 1) positive effects, 2) negative effects and 3) perceived efficacy (e.g., Bryant & Verlooff, 1982; Diener, 1984). Individuals with high SWB experienced feelings of happiness, excitement, cheerfulness and pleasure (positive effects). They were free of excessive worry, sadness, anger and guilt (negative effects). They also believed that they were competent in handling their lives (perceived efficacy). Individuals with high SWB were in good health, experienced many positive qualities and experienced fewer negative ones.

A positive relationship exists between sense of community and SWB (Davidson and Cotter, 1991). People with high amounts of sense of community also experienced increased feelings of SWB. The strongest and most reliable finding was the relationship between sense of community and happiness. Sense of community contributed to people's happiness (Davidson & Cotter, 1991).

#### Community Satisfaction

Satisfaction with the community is one of the strongest predictors of sense of community (Glynn, 1981). Community satisfaction may encourage participation by enhancing resident's sense of community (Perkins et al., 1990). Sense of community plays an important role in stimulating satisfaction within one's residential environment,

encouraging neighbouring relations and enhancing one's perceptions of personal and group empowerment to influence what goes on in the neighbourhood (Chavis & Wandersman, 1990). Sense of community also mediates the perception of block problems, leading to greater satisfaction with the community (Chavis & Wandersman, 1990). More positive impressions of one's community can lead to neighbourhood stability and growth.

Hughey and Bardo (1987) studied the relationship between community satisfaction and quality of life. Two factors significantly predicted quality of life: care for the community by other residents and by community institutions and appraisals of belongingness and generalized evaluation of community. Belongingness is a component of the Membership element of McMillan and Chavis' (1986) model of sense of community. This allows for the conclusion that sense of community, or at least one element of sense of community predicts quality of life.

#### Loneliness

In contrast with other research loneliness, in relation to sense of community, has been examined primarily among adolescents. Loneliness has been defined in terms of two elements, one based on individual differences and the other based on environmental differences. When defined by individual differences, loneliness is a result of adolescents failing to acquire resources to fulfil their

needs for intimacy (Pretty et al., in press). This suggests that the adolescent's personality is the reason for the experience of loneliness. When loneliness is defined by environmental factors, it is related to social contexts. This suggests that the social environment, such as the community, is responsible for adolescents' feelings of loneliness.

Sense of community is significantly related to experiences of loneliness in adolescents (Pretty et al., in press). Adolescents with increased feelings of sense of community reported less feelings of loneliness than adolescents with lower feelings of sense of community. Adolescents with increased feelings of sense of community within the school environment reported less loneliness than adolescents with increased feelings of sense of community in the neighbourhood environment (Pretty et al., 1994). These results indicate that adolescent loneliness had a stronger relationship with feelings of sense of community within the school than within the neighbourhood. Sense of community predicted adolescent loneliness more effectively than did social support networks. Adolescents with higher levels of sense of community were significantly less lonely than those with lower levels of sense of community (Pretty et al., 1994).

#### Adolescents and Sense of Community

Adult and adolescent levels of sense of community have



been assessed by a variety of measures, for the most part those which have been developed on adult populations. Adolescent sense of community has generally been assessed by using modified adult scales. Research has not yet explored the effectiveness or appropriateness of doing this. Since developmental research suggests that adolescents are socially, emotionally and developmentally different from adults (Bukowski, Hoza & Bovin, 1993), this practice may be very questionable.

Adolescence is a stage of life when emotional well-being is largely dependent on peer relations (Bukowski et al., 1993). Peer relations involve interactions between equals. They provide opportunities to experience acceptance, validation and closeness. All of these factors are associated with adolescent adjustment. Adolescents who do not establish good peer relations are more likely to have behavioural and emotional problems during adulthood. Those who experience good peer relations are more likely to become adults who feel competent and have a sense of well-being (Bukowski et al., 1993). Sense of community involves connecting with others and involvement within a social environment. For adolescents, the majority of their social environment consists of peers. Two components of peer relations are friendship and popularity (Bukowski et al., 1993).

Friendship is considered bilateral because it is a

mutual relationship between two people. Popularity is unilateral: the view of the group toward the individual. Closeness to peers and security in relationships are important in the friendships of early adolescents (Bukowski et al., 1993). Being considered popular can create a sense of inclusion and increase feelings of well-being. Exclusion from a group can be devastating to an adolescent's well-being (Bukowski et al., 1993).

Adolescents who are not integrated into peer groups are likely to experience feelings of isolation which can result in loneliness (Bukowski, Hoza & Bovin, 1993). Having a close friend can protect an adolescent from the loneliness of not being popular. Adolescents who do not have a friend are at risk for loneliness.

The three primary arenas for adolescent social environments are the family, the school and the community (Price, Cioci, Penner & Trautlein, 1993). While the family is an important social context for adolescents, the school and the community environments are the settings in which adolescents spend most of their time and which may have an impact on their sense of community.

It is important for adolescents to develop a sense of acceptance and belonging within their environment and to develop feelings of self-worth, personal identity and mastery over their environment in order to increase the likelihood that they will develop into emotionally healthy

adults (Bukowski et al., 1993). This can be achieved by interacting with peers in activities. Peer activities provide a context for sociability, enhancement of relationships and a sense of belonging. They also promote concern for achievement and integrity of the self. Finally, peer activities provide opportunities for instruction and learning. All three functions serve to support the process of self-discovery that is ongoing in adolescence. Non-competitive activities provide opportunities for socializing and enhancing relationships while competitive activities allow for an adolescent to identify with unique aspects of the self.

Some of the negative psychological changes associated with adolescent development result from a mismatch between the needs of the adolescent and the opportunities available in their social environment (Eccles, Midgley, Wigfield, Buchanan, Reuman, Flanagan & MacIver, 1993). The person-environment fit theory states that behaviour, motivation and mental health are influenced by the fit between the characteristics of the individual and the characteristics of the social environment. If an environment such as the school or neighbourhood does not meet the psychological needs of adolescents, a decline in adolescent motivation, interest, performance and behaviour will ensue. Adolescents need a safe, intellectually challenging environment that provides new opportunities for growth.

Adolescents must deal with a wide range of social, emotional and developmental changes no longer experienced by adults. Adolescents' experiences of sense of community and the issues that are relevant to them may be very different from those of adults. The different experiences bring into question the validity of using modified adult sense of community scales to measure adolescent sense of community.

#### School and Neighbourhood Environments

Adolescents acquire social skills from interacting with others within their social networks. They develop social networks by seeking supportive others. This can occur within the community setting adolescents occupy, e.g., where they live and attend school (Pretty et al., in press).

The school and neighbourhood environments are places in which adolescents spend a large portion of their lives. Time adolescents spend in school could be paralleled with the amount of time adults spend at work. For this reason, it is crucial to have an understanding of these social contexts.

Blyth and Leffert (1995) explored the nature and strength of communities as a context for adolescent development. The level of problem behaviours in which adolescents engaged and the community strengths adolescents experienced varied across environments. Community health was most affected when the majority of adolescents experienced community strength. Environments in which a

majority of adolescents perceived their school as caring and supportive were more likely to be among the healthiest than the least healthy environments. In contrast, environments in which there was not a majority of motivated and committed students, were among the least healthy environments.

Adolescents in the healthiest communities were more likely to attend religious services, to feel their schools were caring and encouraging places, to be involved in structured activities.

Similar types of adolescents who live in different types of neighbourhoods were affected by the overall health of a community. Vulnerable adolescents, especially those with fewer personal assets, benefit most from living in healthier neighbourhoods. Also, the types of benefits adolescents obtained from living in the healthiest neighbourhoods appeared to be directly related to community strengths (e.g., involvement in structured activities) and norms, rather than largely to self-perceptions (self-esteem). Adolescents in the least healthy environments tended to have more problem behaviours which began at lower grade levels. These differences decreased in higher grade levels. This trend was especially strong for problem behaviours, such as alcohol use and sexual behaviour, that become normative as young people get older. Differences among adolescents in different types of environments disappeared in the higher grades. In the least healthy

environments, less frequently occurring, more serious problem behaviours (i.e., drugs and delinquency) tended to start at younger ages. These problems did not seem to diminish with age. They may have even increased with grade level. Furthermore, in the least healthy communities adolescents' problem behaviours generally started at earlier ages. The more serious problem behaviours remained higher longer than for youths in the healthiest communities (Blyth & Leffert, 1995).

Adolescent sense of community was examined in school and neighbourhood environments by Pretty et al. (in press). Higher levels of adolescent sense of community were found in schools than in neighbourhoods (Pretty et al., in press). This may be explained by the different aspects of social support which were related to each of these environments. A separate study indicated that school and neighbourhood sense of community were significantly related to each other (Pretty et al., in press). However, this may have been due to the fact that 41% of participants' school friends lived in their neighbourhoods.

The relationship between adolescent sense of community and loneliness has also been examined within the school and neighbourhood environments. School and neighbourhood feelings of sense of community decreased as feelings of loneliness increased. Neighbourhood sense of community was most important to adolescent loneliness. A relationship

between school sense of community and loneliness was established only through its relationship with neighbourhood sense of community (Pretty et al., in press). However, results with respect to sense of community and loneliness in different settings have varied across studies (Pretty et al., 1994).

School feelings of sense of community varied with age. Both neighbourhood and school feelings of sense of community were lower in younger adolescents (Pretty et al., in press). Neighbourhood feelings of sense of community increased with the age of adolescents. Pretty et al. (in press) hypothesized that older adolescents find neighbourhood sense of community less important than school sense of community. As adolescents get older, they may tend to undergo a social progression away from family and neighbourhood centered settings. They may become more independent, increasingly mobile, and seek social settings away from the neighbourhood. Therefore, neighbourhood sense of community may be less important to older adolescents' than to younger adolescents. However, to date, there have been no consistent findings that older adolescents have consistently lower feelings of sense of community (Pretty et al., in press). Adolescent sense of community needs must be met within the school setting rather than in the neighbourhood. When these needs are not met, students may choose to satisfy them through "goofing off". "Goofing off" is a way for

adolescents to maintain their adolescent community within the school and classroom boundaries (Everhart, 1982). From a student's perspective, school may be oppressive. "Goofing off" is a way of taking initiative and establishing group consensus within the school. It entails directly or indirectly involving someone other than another student (i.e. a teacher) and is socially or individually initiated. This is an ingenious way of maintaining cultural separateness. It demonstrates that adolescents will preserve their community within the school when their needs for sense of community are not being met otherwise.

Sense of community is important to adolescents. Currently, the measures being used to assess adolescent sense of community are questionable because they were developed for adults. There is a need to establish an adolescent sense of community measure that is relevant to school and neighbourhood environments. This scale should assess sense of community in adolescents in the same way that the existing scales measure the same construct in adults.

#### Measures of Sense of Community

Four scales are currently being used to measure sense of community in adults. Glynn's (1981) psychological sense of community measure; the 17-Item-Sense-of-Community Scale (SCS; Davidson & Cotter, 1986), and its short form (Davidson & Cotter, 1993); the Neighbourhood Cohesion Instrument (NCI;



Buckner, 1988); and the Sense of Community Index (SCI; Chavis et al., 1986), and its short form (Perkins et al., 1990).

### Glynn's Scale

Using behaviours and subconcepts associated with psychological sense of community, as well as a sentence completion test, Glynn (1981) generated 178 attitude and opinion items. These items were reviewed by 83 members randomly selected from the Community Psychology section of the American Psychological Association (APA) who rated the items based on the perceived strength of their contribution to an individual's sense of community. This rating process led to the retention of 115 items.

Glynn's scale consisted of demographic items, the 115 attitude and behaviour statements and several open-ended items tapping the respondent's community participation, awareness, and competence. The scale was designed to take approximately 25 minutes to complete and to provide an accurate assessment of sense of community without overly taxing the participants.

The scale was tested in three communities chosen on the basis of geography, patterns of interaction, history, function and degree of autonomy. Respondents, 18 years and older ( $N = 171$ ), were selected from each community to represent gender, age and occupation.

The scale had good reliability ( $r = .92$ ). As well, the

level of measured sense of community varied with the perceived level of sense of community and with each location. That is, communities with different characteristics had different levels of sense of community. Therefore, the scale appeared to measure what it was supposed to measure. This scale has been used in at least two studies (Glynn, 1981, 1986).

#### 17-Item Sense-of-Community Scale (SCS)

The SCS was developed by Davidson and Cotter (1986) to measure sense of community in the city. The scale items were intended to measure constructs such as person-environment congruence, alienation, quality of life, attachment and social interaction, social support and social networks, and environmental concern/satisfaction. The SCS was administered by telephone to three groups of adults (18 years and older), two from Alabama and one from the University of South Carolina ( $N = 1,523$ ).

Cronbach's alpha for these two studies ranged from .81 to .85, demonstrating high internal consistency. The scale was unidimensional. Factor analysis showed that the measure had one general factor and three other factors that were inconsequential. The scale measured sense of community in a consistent manner across the two samples. As expected, the scale differentiated between whites and blacks, with whites scoring higher than blacks. Older residents scored significantly higher than younger residents. Individuals

who earned above their city's mean income scored higher than those who earned less. Age and gender did not differ significantly. These results were replicated, supporting the scale's reliability.

The SCS was intended to tap a broad spectrum of attitudes, feelings and social bindings connected with sense of community. Although the SCS was developed before the SCI, it includes elements which reflect Membership, Influence, Integration and Fulfilment of Needs, and Shared Emotional Connection. Each element is represented by the following SCS items, respectively: "I feel like I belong here," "I feel I can contribute to city politics if I want to," "If I need help, this city has many excellent services available to meet my needs," and "When I travel I am proud to tell others where I live" (Davidson & Cotter, 1991)

The length of the SCS was a concern. In response, Davidson and Cotter (1993) developed a short, 5-item, form of the SCS. The short version correlated well with the full scale in two samples: .80 and .87. This suggests that the short version adequately approximates the longer scale and that it may be used in place of the long version. The short version of the SCS had a Cronbach alpha of .84, which was similar to the alpha coefficient reported for the full scale ( $\alpha = .83$ ).

#### The Neighbourhood Cohesion Instrument (NCI)

The NCI is another measure developed to assess

neighbourhood sense of cohesion (Buckner, 1988). Cohesion is defined as a psychological state which allows a group of people to experience a feeling of unity. It provides a reason for individuals to work together toward a common goal (Buckner, 1988). Cohesion consists of three factors: attraction, neighbouring, and psychological sense of community.

Forty items were selected from an initial item pool, evaluated by five independent judges and then pilot tested to insure clarity of wording and appropriateness for different adult populations. Residents in three predominantly white, middle-class neighbourhoods in Maryland and Washington, DC were used to assess the NCI. These neighbourhoods were chosen, following discussions with key informants (real estate agents, a public officials and long-time residents), to reflect reputations for different levels of cohesiveness.

Analyses of this data produced 37 items that reflected four factors. The first factor explained 52% of the variance with the remaining three factors accounting for only 7%, 3.5% and 3.2% of the variance, respectively. All 37 items showed high positive factor loadings on the one large factor. Due to the presence of the one large factor and the high loadings of all items on this common factor, the NCI was deemed to be unidimensional: this factor was named "sense of community/cohesion". An analysis of the internal

consistency of the scale, which combined all 37 items, was high ( $\alpha = .97$ ). The final step taken in the construction of the NCI was to reduce repetitive items while minimizing the loss of information. The final 18-item version of the NCI which measured sense of community/cohesion, had an internal consistency and test-retest reliability coefficients of .95.

#### Sense of Community Index (SCI)

The SCI was developed by Chavis et al. (1986) to measure adult sense of community, establishing validity of the McMillan and Chavis model (1986) through Brunswick's Lens (Chavis et al. 1986). Interviewers telephoned 1,213 adults, 18 years and older, living on each of 39 blocks selected for the study in Nashville, Tennessee. Forty-four items were extracted from the 105-item survey and grouped according to the four factors of the McMillan and Chavis model (1986).

Profiles were developed for 100 cases which were randomly selected from the 1,213 interviews. Each profile was rated by 21 judges on their level of sense of community. The judges were selected from three urban cities: Nashville, Tennessee ( $n = 11$ ); Buffalo, New York ( $n = 9$ ); and Columbia, South Carolina ( $n = 1$ ) based on social class, occupation, race, gender, and exposure to situations where judgements concerning sense of community may be required. The final 21 judges, consisting of 12 men and 9 women, represented

differing cultural backgrounds, ages, levels of education, and professions.

The judges were very consistent in their ratings of the profiles (Cronbach's  $\alpha = .97$ ). This rating process resulted in selecting 23 related items that could be grouped into the four elements of their model. These 23 items defined the Sense of Community Index (SCI) with  $\alpha = .80$ . The original SCI was limited by its length. Scales that require an excessive amount of time to complete risk losing the interest and patience of the participant. Also, short scales are easier to incorporate into assessment batteries. In response, Perkins et al. (1990) developed a short form of the SCI (herein SCI refers to the short form) consisting of 12 True/False items. Three items were selected from each of the four "subscales" of the long form to produce a subscale for each of the theoretical components.

The SCI has been used in different settings such as the workplace, the school, and the neighbourhood environments (Catano et al., 1993; McCarthy et al., 1990). The SCI was referenced to these different settings by substituting the word "school" or "workplace" for the word "street" or "neighbourhood". The SCI has also been used with different response sets (True/False, Likert-type scales).

Sense of community within different age groups ranging from young adolescence to adulthood has been assessed with the SCI. Although the SCI has been used with adolescents in

several studies (Pretty et al., 1994; Pretty et al., in press; Pretty, 1990; Pretty et al., 1992), Chipuer et al. (1995) suggest that the environment plays an important role in an individual's response and that the SCI may not be appropriate for an adolescent population. They used confirmatory factor analysis (CFA) to examine data from seven studies, including adult and adolescent participants in the school, neighbourhood, and workplace environments. CFA results were poor for the administration of the SCI to adolescents. While the reliability coefficients of the SCI scale were consistent and acceptable for adults and adolescents in all settings, that was not the case for adolescents in the school environment: here the reliability coefficients were only minimally acceptable.

In a review of data from different administrations of the SCI with adolescents, Chipuer et al. (1995) found an average alpha coefficient for the SCI in the school setting (SCI-S) of  $\alpha = .67$ , while minimally acceptable, raises questions concerning the use of this measure with adolescents. The average Cronbach alpha for six of the seven administrations of the SCI in the neighbourhood settings (SCI-N) was respectable,  $\alpha = .74$ . However, for one of these seven administrations, alpha was only minimally acceptable,  $\alpha = .66$ . The participants in the last group were younger than those in the other administrations. This suggests that the internal consistency of the SCI-N is

respectable for older adolescents but only minimally acceptable for younger adolescents.

Two other studies (Pretty et al., 1994; Pretty et al., in press) suggest that the SCI is reliable and valid for adults and adolescents of all ages. Reliability for the SCI-S and SCI-N were .73 and .77, respectively (Pretty et al., in press). Also, the SCI shows promise in utility and adaptability, especially for the neighbourhood and the workplace (Chipuer et al., 1995). Nevertheless, more work is needed to develop a scale to measure adolescents' sense of community in the school environment.

#### Summary

All four measures of sense of community were developed on and used to assess adult populations. Simply adapting adult measures for use with adolescents may not accurately measure adolescent perceptions of their environments. Adolescents need to experience increased feelings of sense of community. Adolescents may obtain benefits from feelings of sense of community which are similar to the benefits that adults experience. High levels of sense of community/cohesion in adults in a neighbourhood are associated with increased feelings of sense of community, frequent acts of neighbouring and feelings of attraction to living and remaining a resident of the neighbourhood (Buckner, 1988). Creating a scale that will measure adolescent sense of community effectively is the starting



point for research in this area. Furthermore, although previous scales have assessed sense of community in a variety of environments (work, neighbourhood, city) only a modified version of an existing scale tried to assess the school environment. Since adolescents spend a great deal of their lives in school, it, as well as the neighbourhood, are environments where adolescent sense of community needs to be measured.

#### Purpose of this Study

The literature presented above shows the importance of sense of community in the lives of both adolescents and adults in a variety of environments. Sense of community is related to coping, empowerment, participation, social support, SWB, quality of life, community satisfaction and loneliness. Sense of community is considered essential to good mental health.

The SCI appears to be a good measure of adult sense of community widely accepted within the field of psychology. It is a short scale (12 items), which has been used frequently in studies, involving different populations and various settings. However, the SCI was developed for an adult population. There is currently a need for measures of sense of community for adolescents. In administrations of the SCI to adolescents, adolescents indicated that some items were not relevant to them. Participants also experienced difficulty assessing their neighbourhood and

school sense of community using an all-or-nothing (dichotomous) schema. When adolescents were reassessed with the SCI one-year later with a 3-point Likert scale, they did not report difficulty answering the items. This suggests that a Likert scale is more appropriate for adolescents (Chipuer et al., 1995).

The SCI was statistically acceptable across settings, response formats and age groups. An exception to these consistent results for adolescent school sense of community; the total SCI scale was not as strong, nor was it as consistent across groups.

The SCI shows promise for assessing adolescent sense of community in the school and neighbourhood. However, this would require that some items be modified. The alternative is to develop a more appropriate measure for this population. Most of the adolescent studies reported in this literature review used the SCI to assess sense of community. The study by Chipuer et al. (1995) suggests that the SCI is an inadequate measure of adolescent sense of community. If the SCI is inadequate for assessing adolescents, the results of studies which employed the SCI become questionable.

In order to obtain an accurate measure of this population, a scale to assess adolescent sense of community in the school and the neighbourhood must be developed. The purpose for developing such a scale would be to accurately assess adolescents' feelings about where they live and where

they learn. A focus must be placed on assessing adolescent sense of community in order to better understand why sense of community is important to adolescents and how to increase these feelings in this population. Such a scale must also be valid; it must measure the same relationships with other constructs found among adult populations.

## METHOD

### Study 1

#### Participants

Participants consisted of 179, primarily caucasian students from eight junior high and four high schools in Halifax, Nova Scotia. Participants were chosen from three grade levels - grade 7 ( $N = 64$ ; 32 males, 32 females), grade 9 ( $N = 63$ ; 29 males, 34 females), and grade 11 ( $N = 52$ ; 19 males, 33 females). Of the interviews conducted, 92 were school interviews (43 males, 49 females) - grade 7 ( $N = 33$ ; 15 males, 18 females), grade 9 ( $N = 31$ ; 15 males, 16 females), and grade 11 ( $N = 28$ ; 13 males, 15 females) and 87 were neighbourhood interviews (37 males, 50 females) - grade 7 ( $N = 31$ ; 17 males, 14 females), grade 9 ( $N = 32$ ; 14 males, 18 females), and grade 11 ( $N = 24$ ; 6 males, 18 females). The average age across grades was not calculated because birthdates from several grade 9 and grade 11 participants were not available. The average age for grade 7 was 12.31 years ( $N = 64$ ,  $SD = .55$ ), for grade 9, 14.09 years ( $N = 35$ ,  $SD = .28$ ), and for grade 11, 16.38 years ( $N = 29$ ,  $SD = .78$ ).

The overall response rate was 28.40%; 33.01% for grade 7, 36.09% for grade 9 and, 17.80% for grade 11. The response rates were based on the ratio of consent forms sent out to those returned.

#### Procedure

To help ensure a representative sample of participants, schools were selected from different socio-economic regions of the Halifax area. Also, to help prevent over-representing each school, participants from grade 7 and grade 9 were not selected from the same school. Participants from grade 11 attended high school and could not attend the same schools as participants from grades 7 and 9 because high school begins at the grade 10 level.

All participants were initially provided with a package containing a letter explaining the purpose of the study and a consent form (see Appendix A). Students were instructed to bring the package to their parents and obtain consent to participate in this study. The consent forms were returned to the school by the students. They were given to the teacher or staff member who had been contacted by the researcher to distribute the forms. Only students whose parents gave consent participated.

The interviews were conducted between October and December of 1995. Interviews were conducted by either a Master's level graduate student or one of three undergraduate honours students. Each participant met

individually with one interviewer in an available room in the school. Participants were asked to talk about either their school or neighbourhood environment. Each interview lasted approximately 20 minutes.

Interviewers explained that the study involved adolescents' feelings and opinions about their school or their neighbourhood. Participants were encouraged to express how they thought or felt about the interview questions, that is, to respond as honestly and as accurately as they could. Participants were reassured that their responses would be kept private. To ensure confidentiality, each participant was assigned a number, and this number (rather than the participant's name) was used to keep track of the interviews. Participants were told that they could leave the interview at any time if they did not wish to continue. Participants were asked to consent to the interview being audio-tape recorded. Following the interview, participants were read a debriefing statement and were given the opportunity to voice any questions or concerns they may have had about the interview (Appendix B). Participants were also asked not to mention anything about the content of the interview to their peers until all the interviews at their school had been conducted. This was to ensure that each participant would not be exposed to the interview questions prior to the interview.

### Measures

Information was obtained using a semi-structured interview, consisting of five open-ended questions (Appendix C). Interviewers read each question verbatim and used prompts to obtain further information. The prompts were included to help interviewers obtain as much information as possible from participants. The questions from the school interview were "Tell me about your school; that is, what is your school like?", "What do you like about your school? What do you dislike about your school?", "What happens when you want something to be done at your school?", "What would the perfect school be like?" and, "Tell me about what you get out of being at your school." The same questions were asked in the neighbourhood interview but the word "neighbourhood" was substituted for the word "school". The neighbourhood interviews included a sixth question asking "What does the word neighbourhood mean to you?" This was to find out how participants defined their neighbourhood. Prior to concluding either a school or neighbourhood interview, each participant was asked a final question "Is there anything else about your school (neighbourhood) that you would like to mention that you haven't already mentioned?". This provided participants with the opportunity to expand on any of their earlier responses or introduce new information they had not previously mentioned.

### Interview Coding

Once the interviews were complete, they were transcribed and coded. The purpose of coding was to identify an initial set of items for scale development. The interviewers also acted as coders in this phase of the study. The school interviews were separated from the neighbourhood interviews. Each interview was coded by two coders. Coding was conducted in three stages. The first stage involved examining approximately one quarter of the school and the neighbourhood interviews. The second stage involved examining a second sample, another quarter of the total interviews. In the first two stages of coding, interviews were selected to represent each of the schools that participated. This ensured that interviews from each school contributed to this phase of coding. The purpose of these two stages was to develop coding sheets to represent information obtained from the interviews. Stage three of the coding process involved coding all the interviews, both those that had been examined in stages one and two and those remaining, with the use of the coding sheets.

Stage one of coding. Each pair of coders examined eight interviews (4 male, 4 female) from each of the three grade levels, resulting in 24 school and 24 neighbourhood interviews. Each coder examined the 24 transcripts, looking for common themes within each interview. These 48 interviews (24 school and 24 neighbourhood) were selected at

this phase of coding to allow the coders to examine the transcripts and to become familiar with them. Two interviewers were given the school interviews and two were given the neighbourhood interviews. Then, the two members of each pair compared themes found within these interviews to obtain rater consistency. Rater consistency involves comparing results between coders to examine whether they are consistent with each other. It was important to establish early in the coding process whether coders were interpreting the interviews in a similar way.

Stage two of coding. The second stage of the coding process involved another 48 interviews. Eight interviews (4 males and 4 females) from each of the three grade levels were chosen from the remaining school and neighbourhood interviews resulting in another 24 school and 24 neighbourhood interviews. These 48 interviews represented approximately another quarter of the interviews. These interviews were examined to confirm whether themes within the interviews from stage one were consistent with those found in stage two. At this point in the coding process, slightly more than half of the school interviews (48 interviews) and slightly more than half of the neighbourhood interviews (48 interviews) had been examined. These interviews provided a sufficient sample on which to base the development of coding sheets which were used to code all the interviews.



Development of coding sheets. Coding sheets were developed to organize the qualitative data and to standardize data interpretation. Similar statements from the interviews were grouped together. Similar groupings were classified into themes. These themes were then grouped into categories. Definitions for each category, theme and grouping are provided in Appendix D.

Stage three of coding. In the final stage of coding, the coding sheets were used to code all the interviews. In addition to the 48 school and 48 neighbourhood interviews used to develop the coding sheets, the remaining (44 school, 39 neighbourhood) interviews were also coded. The pair of coders who initially coded the school interviews, now coded the neighbourhood interviews and vice versa. Rater consistency between coders was determined.

## Results and Discussion

### Coding Outcomes

School coding. The information from the school interviews fell into four categories; (A) Education, (B) Social, (C) Structure and (D) Individual Differences. The Education category included themes of (1) academics, (2) classes, and (3) future. The Social category included (1) involvement, (2) support, (3) environment and (4) interaction. Involvement was subdivided into groupings of (a) participation and (b) activities/sports; Support, into groupings of (a) internal and (b) external; Environment,

into groupings of (a) safety/security, (b) atmosphere, and (c) cultural/racial; and Interaction, into (a) communication, (b) friends and (c) peers, with peers further broken down into (i) influence and (ii) status.

The Structure category consisted of three themes - (1) authority, (2) school, (3) classroom procedures. Authority was subdivided into groupings of (a) staff, (b) power and (c) credibility of idea; and School into (a) resources/facilities, (b) procedures and (c) location/appearance; Procedures, further divided into (i) democratic procedures, (ii) common goals and (iii) consequences/rules/discipline; Location/Appearance into (i) proximity and (ii) aesthetic/quality of; and classroom procedures into (a) time, (b) teachers and (c) change/disruption.

The last category, Individual Differences, incorporated themes of (1) maturity, (2) expectations, (3) self and (4) beliefs. Maturity was subdivided into groupings of (a) independence and (b) responsibility; Expectations into groupings of (a) respect, (b) fair treatment/equality and (c) fulfilment of needs and Beliefs into (a) attitudes, (b) "no such thing as perfect" and (c) indifference.

Statements from the interviews were assigned to the themes and categories in which they best fit. Statements such as "I am involved in sports at my school" were classified under the (B) Social category, the (1)

involvement theme and the (b) activities/sports grouping.

Neighbourhood coding. The information from the neighbourhood interviews was placed into three categories; (A) Proximity, (B) Neighbours, and (C) Structure. Each of these three categories encompassed themes. Proximity included themes of (1) neighbours, (2) school, (3) facilities and (4) health and safety services. The Neighbours category included the themes of - (1) attitudes/characteristics, (2) involvement, (3) leaders, (4) age and (5) knowing people and being known. Involvement was further divided into groupings of (a) participation and (b) activities with activities further divided into (i) sports, (ii) social and (iii) employment. Structure included themes of (1) safety/security, (2) physical geography, (3) stigmatization and (4) noise level. As an example, neighbourhood interview statements like "Most of my friends live in my area" were classified under (A) Proximity, (1) family/friends/neighbours.

Rater consistency. Inter-rater correlations were computed for the frequency with which raters assigned interview components to each coding sheet category. A total of 92 school interviews and 87 neighbourhood interviews were coded through the use of coding sheets. This information is presented in Table 1 for all grades together and by grade for both school and neighbourhood interviews. Results for the school interviews varied across all grades (.42 to .63),

Table 1  
Rater Consistency Between Coders

Category	School Interviews			
	All Grades	Grade 7	Grade 9	Grade 11
Education	.63	.63	.44	.77
Social	.73	.62	.56	.65
Structure	.67	.86	.53	.60
Individual Differences	.42	-.19'	.67	.36'

  

Category	Neighbourhood Interviews			
	All Grades	Grade 7	Grade 9	Grade 11
Proximity	.90	.86	.89	.94
Neighbours	.88	.87	.85	.86
Structure	.93	.93	.87	.94

Note. All coefficients were significant at  $p < .001$

'not significant at  $p < .05$

grade 7 (.19 to .86), grade 9 (.44 to .67), and grade 11 (.36 to .77). Only two of the correlations ( $r = .19$ , and  $r = .36$ ) were not significant at  $p < .05$ . Both these correlations represented coding for the Individual Differences Category. All other correlations for the school interviews were significant at  $p < .001$ . It is possible that some of the low correlations are the result of extremely detailed coding sheets for the school interviews. Ambiguous statements may have appeared to fit into more than one classification. Overall, the rater consistency is moderate for the school interviews.

Rater consistency for the neighbourhood interviews was high (ranging from .85 to .94). The correlation pattern is similar for all grades (.88 to .93), grade 7 (.86 to .93), grade 9 (.85 to .89), and grade 11 (.86 to .94). All correlations for the neighbourhood interviewers were significant at  $p < .001$ . Overall, rater consistency for the neighbourhood interviews was more satisfactory than the school interviews.

Initial item development. Once the interviews were coded, two researchers examined all the transcripts individually. They identified the most important and relevant concepts from the interviews. The categories, themes and groupings from which statements had been most frequently coded were used to develop the initial school and neighbourhood questionnaire items. These concepts are

presented in Tables 2A and 2B.

Each researcher chose statements verbatim from the interviews from each of the relevant coding concepts (described above). Initially, the interviews were separated by grade in order to determine whether there were differences in responses between grades. The statements from different grade levels were then combined because statements from each grade were very similar. Statements that appeared most frequently in each relevant category were selected as items. From the initial item pool, 100 items were chosen for the school measure and 100 items were chosen for the neighbourhood measure (Appendix E). An example of a school item is "I feel like I'm included in my school". An example of a neighbourhood item is "People in my neighbourhood care about me."

Each item was to be answered on a 4-point scale of 1 (strongly disagree), 2 (disagree), 3 (agree), and 4 (strongly agree). A likert-type scale was chosen over a dichotomous scale because it was found to be more appropriate for an adolescent population (Chipuer et al., 1995). A 4-point scale was chosen over a three or five point scale so as to eliminate a "neutral" option; if participants were given the opportunity to be indecisive, they were likely to do so. If this were the case, the amount of information obtained from the participants would be greatly reduced.

Table 2A

Relevant Concepts Used to Create School Items

Category	Theme	Grouping	Sub-Grouping
Education (A)	Academics (1)		
	Classes (2)		
Social (B)	Involvement (1)	Participation (a) Activities/ Sports (b)	
	Support (2)	Internal (a)	
	Interaction (4)	Communication (a) Friends (b) Peers (c)	Status (ii)
Structure (C)	Authority (1)	Staff (a)	
	School (2)	Resources/ Facilities (a) Procedures (b)	Democratic Procedures (i)
	Classroom Procedures (3)	Teachers (b)	
Individual Differences (D)	Beliefs (4)	Attitudes (a)	

Table 2B

Relevant Conceptss Used to Create Neighbourhood Items

Category	Theme	Grouping
Proximity (A)	Friends (1)	
	Facilities (3)	
Neighbours (B)	Characteristics and Attitudes (1)	
	Involvement (2)	Participation (a)
	Age (4)	
	Knowing Others and Being Known (5)	
Structure (C)	Safety/Security (1)	
	Physical Geography (2)	
	Noise Level (4)	



The wording of the items was obtained from students' statements from the interviews. Items were written verbatim to ensure that the measures of school and neighbourhood sense of community would be worded in language that adolescents are familiar with and use.

Study 1 collected information from adolescents about adolescent sense of community in the school and the neighbourhood through interviews. The transcribed interviews were coded to organize and understand the qualitative data. The coding identified an initial set of items for the first step of scale development. This procedure produced two 100-item questionnaires, one for the school and one for the neighbourhood environment.

#### Study 2

Study 2 tested the two sets of 100-items using separate samples of grades 7, 9, and 11 students. The purpose of this study was to reduce the items to two manageable sets.

#### Participants

A total of 750, primarily caucasian students participated (348 males, 402 females) from four junior high and two high schools in Dartmouth, Nova Scotia. Participants were chosen from three grades - grades 7 ( $N = 323$ ; 159 males, 164 females), grade 9 ( $N = 245$ ; 111 males, 134 females), and grade 11 ( $N = 182$ ; 78 males, 104 females). Of the questionnaires completed, 372 were school (176 males, 196 females, and 373 were neighbourhood (170 males, 203

females). The average age was 14.91 years ( $SD = 1.66$ ) - 13.31 years ( $SD = .75$ ) in grade 7, 15.35 years ( $SD = .50$ ) in grade 9, and 17.24 years ( $SD = .77$ ) in grade 11. The overall rate of response was 47.00% - 52.80% for grade 7 and grade 9 combined and 38.80% for grade 11. The response rates for grade 7 and grade 9 participants were combined because they were obtained from each school instead of from each grade. Junior high schools contained participants in both grades 7 and 9. Five questionnaires were problematic and as a result, discarded.

#### Procedure

Participants were provided with a package containing a letter explaining the purpose of the study and a consent form (Appendix F). Consent forms were delivered to junior high schools in Dartmouth, Nova Scotia and distributed to students in the three grade levels. Students were instructed to bring the package to their parents and obtain consent to participate in this study. Only students who received written consent from their parents were able to participate in the study.

Data for Study 2 was collected in February of 1996. Group testing was employed and required approximately 30 minutes. All testing was conducted during a class period agreed upon by the teachers and principals of each school. Testing occurred either in the participants' classrooms or in a large theatre.

Participants were informed that we were interested in adolescents' feelings and thoughts about their school or neighbourhood. Participants were given their own school or neighbourhood booklet of questions (Appendix E) and instructed to indicate their answers on a "General Purpose - NCS - Answer Sheet" to be scored by computer. Participants were asked to read each question and to answer each item by choosing only one of the options from the response scale. An example of an item, that was not part of either questionnaire, was provided to ensure that participants understood how to answer the items.

The tester remained in the classroom throughout the entire testing session and answered any questions from the participants. A debriefing statement was read to the participants by the tester once all the participants had completed their questionnaires (Appendix G). Following the administration, the tester also answered any questions or concerns of the students regarding the questionnaires.

#### Measures

The 100-item school and the 100-item neighbourhood questionnaires developed in Study 1 were administered to participants. The questionnaires consisted of items concerning aspects of the school or neighbourhood environment. Items were rated on a 4-point scale from 1 (strongly disagree) to 4 (strongly agree). The questionnaires were distributed so an equal number of school

and neighbourhood questionnaires would be answered at each grade level.

The distribution of neighbourhood and school questionnaires completed at each grade level by gender combination is presented in Table 3. The school questionnaire was completed by 372 and the neighbourhood questionnaire was completed by 373 participants. For grade 7, 156 school and 161 neighbourhood questionnaires were completed. For grade 9, 123 school and 122 neighbourhood questionnaires were completed. For grade 11, 92 school and 89 neighbourhood questionnaires were completed.

#### Procedure for Analyses

Analyses were conducted separately for the school and the neighbourhood questionnaires. The purpose of analyses was to identify a reduced set of items that would load in a consistent manner across all grade levels. Two sets of analyses were conducted. First, factor analyses were performed to identify groupings of items. All factor analyses were conducted by principal axis techniques, using squared multiple correlations as communality estimates. Since it was expected that the items represented an internally consistent domain of items, the factors were rotated to an oblique simple structure using the direct oblimin procedure. Second, reliability analyses were conducted. Items that resulted in a reduction of the reliability estimate were identified.

Table 3

Frequency of Responses to the School and Neighbourhood Items Across Gender and Grade

Scale	Grade 7		
	Male	Female	Total
School	86	70	156
Neighbourhood	70	91	161
Total	156	161	317

  

Scale	Grade 9		
	Male	Female	Total
School	52	71	123
Neighbourhood	59	63	122
Total	111	134	245

  

Scale	Grade 11		
	Male	Female	Total
School	37	55	92
Neighbourhood	40	49	89
Total	77	104	181

Results and Discussion

Initial factor analysis identified a reduced set of items. All items that loaded .50 or greater on a factor were retained for further examination. For both the school and neighbourhood measures, 32 items were retained. Another factor analysis identified groups of three or more items that hung together. In this analysis, items that loaded .50 or greater on a factor and did not load highly on any other factor were retained. Twenty-three items on the school questionnaire (items 5, 6, 10, 12, 16, 18, 21, 22, 25, 27, 31, 35, 36, 38, 47, 63, 69, 71, 85, 86, 87, 88, 97) and 20 items on the neighbourhood questionnaire (items 1, 2, 3, 8, 12, 13, 14, 32, 38, 65, 71, 77, 78, 81, 82, 84, 85, 90, 98, 100) were identified. In a third factor analysis, the remaining set of items were analyzed separately by grade level. Items that loaded in a consistent manner across grade levels were retained for further examination. For the school questionnaire, 20 items were retained (items 18, 38, and 97 were removed); 15 items were retained on the neighbourhood questionnaire (items 3, 38, 71, and 77 were removed).

Reliability analyses on the remaining 20 school items and 15 neighbourhood items indicated that for the school items, two items (items 5 and 6) were problematic. For the neighbourhood items, the removal of one item (item 13) resulted in an increase in the scale's reliability.

Therefore, the final school scale consisted of 18 items and the final neighbourhood scale consisted of 14 items.

Factor analysis of the final set of school and neighbourhood items was then conducted for all grades together. Four factors emerged for both the school scale and for the neighbourhood scale. Analyses were then conducted separately by grade to examine whether those factors remained invariant across grades. A similar pattern of factor loadings occurred across grade for each scale, respectively. Because the pattern of factor loadings was identical across all grade levels, the factor loadings for all grades together are presented in Table 4 for the school scale and Table 5 for the neighbourhood scale.

For the school analyses, the four factors accounted for 46.9% of the common variance (grade 7), 54.6% of the variance (grade 9), and 49.6% of the variance (grade 11). For each grade, the first factor accounted for the majority of variance - 20.4%, 25.7%, and 20.5% for grades 7, 9 and 11, respectively. Items relating to acceptance and support by teachers loaded together. The factor was called Teacher Acceptance. The remaining three factors accounted for substantially less variance than the first factor - grade 7: 11.4%, 8.7% and 6.4%; grade 9: 12.5%, 10.3% and 6.1%; and grade 11: 13.8%, 9.7%, and 5.6% for factors two, three, and four, respectively. Items loading on factor two related to being teased and bullied by peers; this factor was titled

Table 4

Factor Loadings and Eigenvalues on the Adolescent Sense of Community - School Scale

	F1	F2	F3	F4
<u>Teacher Acceptance</u>				
Teachers listen to what I have to say	.80			
Teachers at my school respect me	.72			
Teachers don't take students seriously when we have something to say'	.71			
Teachers listen to suggestions made by students	.67			
Teachers help me whenever I need help	.64			
Teachers at my school don't really get to know us students'	.50			
<u>Peer Acceptance</u>				
I get teased by students at my school		.79		
Students at my school are mean to me		.77		
I get picked on by other students at my school		.77		
Students at my school make fun of me		.76		
<u>School Involvement</u>				
I participate in at least one activity in my school			.77	
I get involved in things going on in my school			.72	
I participate in at least one club at school			.68	
I go to events at my school			.68	
I go to after school activities			.65	
<u>Desire to be Involved</u>				
I wish my school had sports that I could get involved in				.74
I wish there were sports at my school that I could play just for fun				.51
I wish there were more social activities to do at my school				.51
<hr/>				
'Reverse code item	Eigenvalues: 3.94 2.22 1.66 1.00			



Table 5

Factor Loadings and Eigenvalues on the Adolescent Sense of Community - Neighbourhood Scale

	F1	F2	F3	F4
<u>Cohesion</u>				
People in my neighbourhood pitch in to help each other	.73			
I feel part of my neighbourhood	.66			
People in my neighbourhood work together to get things done	.66			
I like the people that live in my neighbourhood	.65			
I like living in my neighbourhood	.56			
<u>Membership</u>				
I know everyone in my neighbourhood		.85		
Everybody knows everybody else in my neighbourhood		.67		
In my neighbourhood, everybody knows me		.61		
<u>Accessible Activities</u>				
There is a place for kids my age to hang out in my neighbourhood			.78	
There are things for kids my age to do in my neighbourhood			.78	
In my neighbourhood there are things to get involved in			.60	
<u>Proximity of Friends</u>				
My friends live far away from my neighbourhood				.85
My friends live close to my neighbourhood				.74
It's difficult to go and visit my friends from my neighbourhood				.59
<hr/>				
'Reverse code item	Eigenvalues: 4.58 1.41 1.05 0.81			

Peer Acceptance. Items concerning participation in school activities and events loaded the highest on factor three; this factor was called School Involvement. Items on the fourth factor referred to the desire to become involved in sports or school activities; this factor was named Desire to be Involved. The intercorrelations among the factors ranged from .00 to .28 for grade 7, .01 to .30 for grade 9, and from .04 to .21 for grade 11.

For the neighbourhood scale, the four factors accounted for 54.2% of the common variance (grade 7), 55.6% of the variance (grade 9) and 62.4% of the variance (grade 11). For each grade, the first factor accounted for the majority of the variance - 32.3%, 29.9%, and 34.6% for grades 7, 9, and 11, respectively. Items loading together referred to neighbours working together and being part of the neighbourhood; this factor was titled Cohesion. The remaining three factors accounted for substantially less variance than the first factor - grade 7: 9.7%, 7.4%, and 4.8%; grade 9: 11.6%, 8.1%, and 6.1%; and grade 11: 13.6%, 8.3%, and 5.9% for factors two, three, and four, respectively. Items loading high on the second subscale referred to knowing neighbours and being known; this subscale was called Membership. On factor three the highest loading items referred to having things to do and a place to spend time in the neighbourhood; this subscale was called Accessible Activities. The items on the fourth factor,

titled Proximity of Friends, referred to distance living away from friends. The intercorrelations among the factors ranged from .17 to .41 for grade 7, from .05 to .41 for grade 9, and from .10 to .49 for grade 11.

Reliability analyses were conducted on the final set of 18 school items and 14 neighbourhood items by grade (Table 6). For the school items, acceptable reliabilities were obtained for three of the four factors across all grades - Teacher Acceptance, Peer Acceptance, and School Involvement. The Desire to be Involved subscale had unacceptable Cronbach reliabilities for each of the three grades ( $\alpha = .59$ ,  $.62$ , and  $.59$ , for grades 7, 9, and 11, respectively). The reliability estimates for the School total were between  $.61$  and  $.67$  for the three grades. When the items on the Desire to be Involved subscale were removed from the analyses, the Cronbach reliability estimate of the School total scale was good for the two older grades ( $\alpha = .72$  for grade 9 and  $.71$  for grade 11), and just acceptable for grade 7 ( $\alpha = .69$ ). For the neighbourhood items, good Cronbach reliability estimates were obtained for all subscales and for the total scale for all grades. An alpha of  $.70$  or higher was considered good. (Nunnally, 1978).

Study 2 tested the initial 100-item questionnaires. Factor analyses and reliability analyses allowed these questionnaires to be reduced to 18 items for the school and 14 items for the neighbourhood. Both scales appear to be

Table 6

Cronbach Alpha Reliabilities for Each Subscale and the Total Scale for the School and Neighbourhood Scales by Grade

School Scale			
Subscale	Grade 7	Grade 9	Grade 11
Teacher Acceptance	.82	.83	.80
Peer Acceptance	.84	.89	.84
School Involvement	.77	.86	.84
Desire to be Involved	.59	.62	.59
School Total	.61	.67	.65
School Total without 'Desire' subscale	.69	.72	.71
Neighbourhood Scale			
	Grade 7	Grade 9	Grade 11
Cohesion	.82	.84	.80
Membership	.75	.76	.79
Accessible Activities	.77	.78	.80
Proximity of Friends	.79	.75	.82
Neighbourhood Total	.86	.83	.86

multidimensional, each with four factors. This process satisfied the second step of scale development.

### Study 3

In Study 3, the newly developed Adolescent Sense of Community Index for School (ASCI-S) and Adolescents Sense of Community Index for Neighbourhood (ASCI-N) were administered to a new set of participants in grades 7 and 9. Further psychometric analyses were conducted: (1) to examine the validity of the ASCI-S and the ASCI-N and (2) to examine the test-retest reliability of these measures. To assess the validity and the reliability, adolescents in grades 7 and 9 completed one of two questionnaires, either the validity booklet or the reliability booklet. Group testing was conducted during a class period agreed upon by the teachers and principals of each school. Testing occurred in the participants' classrooms. Study 3 took place during March and April 1996.

The same Halifax junior high schools from Study 1 participated in Study 3. The high schools which participated in Study 1 did not consent to participate in Study 3. Administrators from these schools felt that we would not obtain a good response rate from grade 11 students and therefore, chose not to participate.

In both parts of Study 3, a package containing a letter explaining the purposes of the study and a consent form were delivered to participating schools (Appendix H). Only

students who received written consent from their parents were able to participate in the study. Participants from grade 7 were chosen from different schools than those from grade 9. This was to prevent over-sampling from any one school.

### Part One - Validity

#### Participants

Participants consisted of 244, primarily caucasian students (126 males, 118 females) from eight junior high schools in Halifax, Nova Scotia. Participants were chosen from two grades - grade 7 ( $N = 122$ ; 65 males and 57 females), and grade 9 ( $N = 122$ ; 61 males and 61 females). The average overall age was 13.50 years ( $SD = 1.18$ ) - grade 7, 12.53 years ( $SD = .68$ ), and grade 9, 14.47 years ( $SD = .66$ ). The overall rate of response was 46.75% - grade 7 (50.00%), and grade 9 (43.88%).

#### Procedures

Participants were read a set of standardized instructions and were then asked to complete their validity booklets (discussed below) on their own (Appendices I and J). The interviewer stayed in the classroom throughout the entire session and answered any questions participants had about the items. Testing took approximately 40 minutes. Following the testing session, a debriefing statement was read and participants were given the opportunity to ask questions and voice comments or concerns (Appendix G).

Confidentiality of the respondents was ensured by asking participants not to include their names on the booklet.

### Measures

The validity booklets consisted of nine scales and a page to elicit demographic information (Appendices I and J). The ASCI-S, developed in Study 2, is an 18-item scale to measure the concept of adolescent sense of community in the school environment. It consists of four subscales: Teacher Acceptance, Peer Acceptance, School Involvement, and Desire to be Involved. Items consist of statements about the school environment. Participants were asked respond to each item on a 4-point scale from 1 (strongly disagree) to 4 (strongly agree). Cronbach alpha reliability estimates were calculated for grades 7 (.65) and 9 (.62) for all items of the ASCI-S. For all grades together  $\alpha = .64$ .

The ASCI-N is a 14-item scale consisting of four subscales: Cohesion, Membership, Accessible Activities, and Proximity of Friends. The ASCI-N measures adolescent sense of community in the neighbourhood. Items consist of statements about the neighbourhood environment. Participants were asked to rate each item on a 4-point scale from 1 (strongly disagree) to 4 (strongly agree). Cronbach alpha reliability estimates were calculated for grades 7 (.90) and 9 (.86). For all grades together  $\alpha = .89$ .

The shortened version of the Sense of Community Index (SCI; Perkins et al., 1990) referenced for the school (SCI-

S) and the neighbourhood (SCI-N) were used to assess sense of community. The SCI-S and the SCI-N each consist of 12 items, rated on a scale from 1 (not at all true) to 3 (very true). Examples from each are as follows: "I think my school is a good school for me to attend" and "I can recognize most of the people who live on my street". Cronbach alpha reliability estimates for the SCI-S and the SCI-N for this study were  $\alpha = .75$ . and  $.30$ , respectively. These were slightly higher than alpha coefficients previously calculated for the SCI-S and SCI-N with an adolescent population (Chipuer et al., 1995). They found a mean alpha coefficient for the SCI-S across seven groups of  $\alpha = .67$ . A mean alpha coefficient was also calculated for the SCI-N across seven groups and was reported to be  $\alpha = .74$ .

Self-esteem was assessed with the Global subscale of the Perceived Competence Scale for Adolescents (PCSA; Harter, 1988). This scale included five items used to measure adolescent perceptions of social acceptance. Each item consisted of two options about how adolescents felt about themselves. Participants were instructed to choose between the two options. An example of an item is "Some kids are often disappointed with themselves" as the first option, "Other kids are pretty pleased with themselves" as the second option. Once participants decided which type of person he or she was most similar to, they then specified



whether it was "really true" or "sort of true" for them. The Cronbach reliability coefficient for the Global subscale of the PCSA calculated for this study was  $\alpha = .79$ . Reliability results specific to this subscale were not reported in previous studies.

Social support was measured by the Inventory of Socially Supportive Behaviours (ISSB; Barrera, Sandler & Ramsay, 1981). The ISSB is a 40-item scale designed to assess naturally occurring, behaviourally oriented support. For the sake of brevity, only two subscales, the nondirective support and the tangible support subscales, were used. The two subscales of the ISSB consisted of a list of 27 statements to be rated in terms of frequency of occurrence in the last four weeks. Participants were asked to rate how often from 1 (not at all) to 5 (about every day) people had done the activities listed to, for, or with the participants. Examples of activities were "Looked after a family member while you were away" and "Expressed respect for an ability or personal quality of yours". Cronbach alpha estimates for these two subscales were  $\alpha = .90$  and  $.83$ , respectively. Cronbach's alpha coefficient for the 40-item ISSB ranged from  $\alpha = .93$  to  $\alpha = .94$  (Barrera et al., 1981). Reliability results for the two subscales are slightly lower than the alpha coefficients for the entire scale. Results specific to these two scales were not available.

The Classroom Environment Scale (CES) is a 90-item scale that assesses nine dimensions of perceived classroom environment (Trickett & Moos, 1973). A 25-item short form of the CES, consisting of six 4-item scales was also developed (Fraser & Fisher, 1986). For the sake of brevity, only items from the involvement, affiliation, and teacher support subscales from the short form of the CES were used. This resulted in a 12-item measure. These items were to be rated on a scale from 1 (never true) to 4 (always true). The original items were changed slightly so as to avoid limiting the participants' responses to a specific classroom environment. This allowed participants to respond to each item with the global aspect of their school in mind. For example, the original CES item "This teacher spends very little time just talking with students" was reworded "Teachers spend very little time just talking with students". Cronbach alpha coefficients for the three CES subscales of involvement, affiliation and teacher support were  $\alpha = .56, .55, \text{ and } .70$ , respectively. Reliability coefficients specific to these subscales were not available.

The Neighbourhood Cohesion Instrument (NCI; Buckner, 1988), an 18-item scale, measures neighbourhood environment. The NCI is primarily a unidimensional scale however, three subscales have been specified by the author. The subscales are psychological sense of community, attraction to neighbourhood and neighbouring. The total scale assesses

neighbourhood cohesion/psychological sense of community. The items were rated on a scale from 1 (strongly disagree) to 5 (strongly agree). Sample items include "I feel like I belong to this neighbourhood" and "I borrow things and exchange favours with neighbours". Alpha coefficients obtained in this study were  $\alpha = .94$  for the total scale and  $\alpha = .92, .76,$  and  $.80$  for the psychological sense of community, attraction to neighbourhood, and neighbouring subscales, respectively. The Cronbach alpha coefficient for the 18-item version of the NCI was  $\alpha = .95$  (Buckner, 1988). The alpha coefficients for the total scale in both instances were very similar.

The Marlowe-Crowne Social Desirability (MCSD) scale is a 33-item measure to assess the accuracy of participants' responses (Crowne & Marlowe, 1960). It detects whether participants are responding to items in a socially acceptable way. Two short forms of this scale were developed by Strahan and Gerbasi (1972). The short forms consist of two 10-item scales. Of these two scales, the superior version was chosen for use in this study. Examples of items include "I'm always willing to admit it when I make a mistake" and "I have never deliberately said something that hurt someone's feelings". Items were to be answered either 1 (true) or 2 (false). Alpha reliability coefficients for this study were calculated,  $\alpha = .54$ . The original scale had an alpha coefficients which ranged from

.59 to .70 across four samples of adults.

Demographic information was collected with respect to the school and the neighbourhood. Pertaining to the school environment, information concerning how long participants had attended their current school and how far they lived from their school was obtained. Pertaining to the neighbourhood environment, the length of time living at their present address and the type of home in which participants are currently living, was obtained. Information that pertained to both school and neighbourhood environments included from where participants knew most of their friends, with whom they lived, how many siblings they had and the types of activities both at school and outside of school in which they engaged. This information was collected in order to examine whether these factors were related to feelings of sense of community in either environment.

#### Demographic Information

Participants,  $N = 244$  - 122 (65 males, 57 females) in grade 7, and 122 (61 males, 61 females) in grade 9, completed the validity booklets. Table 7 shows the average number of years a participant had attended their school ( $M = 2.75$  years,  $SD = 2.15$ ) and lived in their current home ( $M = 6.54$  years,  $SD = 4.72$ ). Also, the average number of school activities ( $M = 2.27$ ,  $SD = 2.05$ ) and the average number of non-school activities ( $M = 2.74$ ,  $SD = 2.24$ ) in which

Table 7

Validity Demographic Variables, Means, and Standard Deviation

	<u>N</u>	Mean	<u>SD</u>	Range
Years at current school	244	2.75	2.15	1 - 10
Months in current home	241	78.44	56.60	1 - 192
Number school activities	244	2.27	2.05	0 - 8
Non-school activities	244	2.74	2.24	0 - 11

Note. 78.44 months is equivalent to 6.54 years; 192 months is equivalent to 16 years

participants currently participate were reported.

Of the participants, 59% lived in a detached house, 16.4% in a townhouse, 18.9% in an apartment, and 1.6% in a condominium. Since last year, 67.2% of participants had not changed schools. A third of participants (31.6%) reported that they lived one to three blocks from their school, 29.9% lived four to six blocks from school, and 38.5% lived more than seven blocks away from school. More than half the participants (3.5%) stated that they knew their friends from school, and 20.9% knew their friends from both their school and their neighbourhood. Only 9.8% of participants stated that they knew their friends from their neighbourhood and 2.5% indicated that they knew their friends from work.

The majority of participants lived with two parents (73.0%), 22.5% of participants lived with one parent and 4.5% lived with neither of their parents. More than a third of participants (40.66%) were from single-child families, 38.60% were from two-children families, 14.37% were from three-children families, and 6.98% were from families with more than three children.

### Results and Discussion

Four stages of statistical analyses were performed. First, correlations were computed to establish the relationship of the ASCI-S and ASCI-N items to their respective subscales. Second, factor analyses were performed to confirm the factor structure of the ASCI-S and

ASCI-N from Study 2. Then, Cronbach alpha coefficients were obtained to determine reliability. Third, ANOVAs were computed for the newly developed adolescent scales. This was to determine the affect of grade and gender on the ASCI-S and ASCI-N. Fourth, correlations were computed to examine the relationship between the subscales of ASCI-S and ASCI-N with the SCI-S and SCI-N scales. Next, correlations between the sense of community scales (ASCI-S, ASCI-N, SCI-S, SCI-N) and the remaining validity measures were examined to determine convergent and discriminant validity. Finally, partial correlations were computed, holding the SCI-S and the SCI-N scales constant, to determine the unique contribution of the ASCI-S and the ASCI-N scales to the study of adolescent sense of community.

#### Correlations Between ASCI-S and ASCI-N Items

Correlations between the ASCI-S items are presented in Table 8. The Peer Acceptance items had correlations that ranged from .72 to .83, the Teacher Acceptance items had correlations that ranged from .26 to .58 and the School Involvement items had correlations that ranged from .30 to .58. All correlations coefficients within each subscale were significant at  $p < .01$ . The correlations between the Peer Acceptance items and those of the Teacher Acceptance were negative, ranging from  $-.18$  to  $-.01$ . Some correlations between these subscales were significant within each subscale. The items from the Peer Acceptance subscale were

Table 8

Correlations Between ASCI-S Items for All Grades

Items within their Subscales														
PACC				TACC						SINV				
2	7	11	13	3	5	8	12	15	17	4	9	14	16	18
PACC														
2	-													
7	.72**	-												
11	.74**	.74**	-											
13	.77**	.83**	.77**	-										
TACC														
3	-.12	-.08	-.07	-.12	-									
5	-.18**	-.15*	-.17**	-.15*	.51**	-								
8	-.11	-.07	-.16*	-.14*	.48**	.58**	-							
12	-.02	-.07	-.02	-.08	.32**	.28**	.31**	-						
15	-.14*	-.14*	-.12	-.12	.44**	.53**	.49**	.37**	-					
17	-.03	-.03	-.01	-.03	.30**	.40**	.35**	.28**	.26**	-				
SINV														
4	-.19**	-.15*	-.10	-.20**	.07	.09	.04	-.07	.10	-.03	-			
9	-.06	-.12	-.08	-.08	.17**	.13*	.06	.03	.06	-.05	.49**	-		
14	-.20**	-.16*	-.17**	-.24**	.11	.05	.12	.07	.20**	-.06	.48**	.37**	-	
16	-.19**	-.23**	-.13*	-.21**	.11	.02	.12	.03	.09	-.06	.31**	.30**	.37	-
18	-.14*	-.18**	-.13*	-.16*	.09	.04	.06	.05	.16*	-.07	.47**	.45**	.58**	.48**

Note. PACC - Peer Acceptance subscale; TACC - Teacher Acceptance subscale; SINV - School Involvement subscale

\*  $p < .05$       \*\*  $p < .01$



correlated significantly with some items from the School Involvement subscale ( $r = -.24$  to  $-.06$ ). Finally, the correlations between the Teacher Acceptance subscale and the School Involvement subscale ranged from  $-.07$  to  $.17$ .

Analysis of the ASCI-S items by grade produced similar results. For grade 7 and 9, the Peer Acceptance item correlations ranged from  $.70$  to  $.84$  and from  $.69$  to  $.82$ , respectively. The Teacher Acceptance item correlations ranged from  $.21$  to  $.62$  for grade 7, and  $.20$  to  $.54$  for grade 9. The School Involvement item correlations for grade 7 and 9 ranged from  $.20$  to  $.50$  and  $.40$  to  $.66$ , respectively. All correlations were significant at  $p < .05$ .

Items within each subscale correlated significantly with each other. Correlations between items from different subscales were mostly insignificant. The correlations that were significant were of a lesser magnitude than correlations between items within each scale. Analyses performed with all grades together and by grade suggest that the ASCI-S consists of three distinct subscales.

Correlations between ASCI-N items are presented in Table 9. Analyses with all grades together were less clear than similar analyses for the ASCI-S. Correlations within each subscale were significant at  $p < .01$ . The correlations between the Proximity of Friends items ranged from  $.47$  to  $.67$ ; the correlations between Membership items ranged from  $.69$  to  $.70$ ; and the correlations between Cohesion/Accessible

Table 9

Correlations Between ASCI-N Items for All Grades

Items within their Subscales													
PRX			MEM			COAC							
1	5	13	2	6	8	3	4	7	9	10	11	12	14
<b>PRX</b>													
1	-												
5	.50**	-											
13	.67**	.47**											
<b>MEM</b>													
2	.07	.17**	.15*	-									
6	.11	.13*	.19**	.69**	-								
8	.03	.04	.15*	.70**	.70**	-							
<b>COAC</b>													
3	.15*	.09	.26**	.41**	.47**	.46**	-						
4	.25**	.27**	.38**	.16*	.26**	.21**	.35**	-					
7	.16*	.09	.28**	.40**	.52**	.43**	.55**	.39**	-				
9	.14*	.20**	.26**	.28**	.26**	.25**	.28**	.42**	.30**	-			
10	.24**	.24**	.36**	.43**	.48**	.46**	.56**	.46**	.48**	.32**	-		
11	.14*	.10	.26**	.43**	.48**	.43**	.56**	.38**	.64**	.29**	.53**	-	
12	.20**	.25**	.34**	.15*	.26**	.23**	.40**	.64**	.41**	.45**	.47**	.41**	-
14	.31**	.18**	.46**	.31**	.37**	.30**	.60**	.37**	.50**	.23**	.58**	.53**	.38**

**Note.** PRX - Proximity of Friends subscale; MEM - Membership subscale;  
COAC - Cohesion/Accessible Activities subscale

\*  $p < .05$

\*\*  $p < .01$

Activities items ranged from .23 to .64. These results suggest three subscales. However, the correlations between items from different subscales were also significant. Correlations between the Proximity of Friends items and the Membership items ranged from .03 to .19. Correlations between the Proximity of Friends items and the Cohesion/Accessible Activities items ranged from .09 to .46. Correlations between the Membership items and the Cohesion/Accessible Activities items ranged from .15 to .52. Although items from different subscales were significantly related, these correlations were of a lesser magnitude than the correlations between items within each subscale.

Analyses of the ASCI-N items by grade produced similar correlations. For both grades 7 and 9, the correlations between items from the Proximity of Friends subscale ranged from .46 to .57. The Membership item correlations ranged from .67 to .71 for both grade 7 and grade 9. The Cohesion/Accessible Activities items correlations ranged from .26 to .74 for grade 7 and .67 to .71 for grade 9. All correlations were significant at  $p < .05$  with the exception of two within the Cohesion/Accessible Activities subscale.

Results of the correlation analyses of the ASCI-N items do not provide a clear indication of whether the scale is unidimensional. Most items correlated significantly with the Cohesion/Accessible Activities subscale. However, the ASCI-N may be multidimensional since the correlations

between items within each subscale were larger than those between subscales. If the ASCI-N is multidimensional, its subscales should be highly correlated with each other. Therefore, the factor structure of both scales was examined through factor analysis.

#### Factor Analyses and Internal Consistency

The ASCI-S and the ASCI-N scales were factor analyzed with all grades together and then separately by grade. The purpose of the analyses was to determine if items loaded in the same way as they did in Study 2. All factor analyses were conducted by principal-axes techniques using multiple correlations as communality estimates. Since it was expected that the items represented an internally consistent domain of items, the factors were initially rotated to an oblique simple structure using the direct oblimin procedure. These results were confirmed with a varimax rotation. All items that loaded .40 or greater on a factor and did not load highly on any other factor were retained. Second, reliability analyses were conducted with Cronbach alpha coefficients. Items that resulted in a reduction of the reliability estimate were identified. The minimum acceptable alpha coefficient cutoff was established at .70 (Nunnally, 1978).

ASCI-S. For the ASCI-S, factor analyses were performed with all grades together and separately by grade. When all grades were analyzed together, four factors with eigenvalues

greater than 0.71 were retained. The first three factors accounted for 48.90% of the variance, 21.6%, 12.0%, and 11.4%, respectively. The fourth factor accounted for only 4% of the variance. Four items (items 2, 7, 11, 13) showed high negative factor loadings on the first factor (ranging from -.84 to -.93). This confirmed the Peer Acceptance factor from Study 2. Six items (items 3, 5, 8, 12, 15, 17) showed moderate loadings on the second factor (ranging from .43 to .77). This confirmed the Teacher Support factor from Study 2. Another six items (items 1, 4, 9, 14, 16, 18) showed moderate to high loadings on the third factor (ranging from .34 to .83). All items except item 1, confirmed the School Involvement factor from Study 2. Item 1, which had previously loaded with factor four, now loaded with factor three. Also, item 1 did not meet the cutoff of .40 for inclusion in the interpretation of a factor. Finally, two items (items 6 and 10) showed moderate loadings on the fourth factor, .48, and .68, respectively. Items loading on the Desire to be Involved factor were questionable in Study 2 because of their low alpha coefficients. These results, combined with results from Study 2, suggested removing Items 1, 6, and 10 from the ASCI-S scale. Analyses conducted by grade were similar to these results.

Reliability analyses for the ASCI-S items (Table 10), with all grades together, produced a Cronbach alpha for the

Table 10

Cronbach's Alpha for ASCI-S All Grades and by Grade

Factor	All Grades	Grade 7	Grade 9
Peer Acceptance	.93	.93	.93
Teacher Acceptance	.78	.80	.77
School Involvement	.80	.74	.85
Desire to be Involved	.45	.49	.41
Total	.64	.65	.62
Total Without 'Desire' Subscale	.65	.68	.59

total scale of  $\alpha = .64$ , with  $\alpha = .93, .78, .80$ , and  $.45$  for factors 1 to 4, respectively. Alpha coefficients were also calculated by grade. For grade 7, the overall scale alpha was  $.65$ , with coefficients for each factor of  $\alpha = .93, .80, .74$ , and  $.49$ , for the Peer Acceptance, Teacher Acceptance, School Involvement, and Desire to be Involved subscales, respectively. For grade 9, the overall scale alpha was  $.62$ , with coefficients for each factor of  $\alpha = .93, .77, .85$ , and  $.41$ . The school items had Cronbach reliability estimates above  $.70$  for the first three factors for analyses for all grades and by grade. The alpha coefficients for the total scale ( $.64, .65$ , and  $.62$  for all grades, grade 7, and grade 9, respectively) and the Desire to be Involved subscale for all grades ( $.45$ ), grade 7 ( $.49$ ), and grade 9 ( $.41$ ) did not meet the minimum acceptable alpha coefficient cutoff of  $.70$  (Nunnally, 1978). Cronbach alpha coefficients confirmed the results from the factor analysis. They suggest that the items from the Desire to be Involved factor (items 6, and 10) should be removed from the ASCI-S. Item 1 loaded with the Desire to be Involved subscale in Study 2 and was removed from the ASCI-S as well.

Following removal of items 1, 6, and 10 from the ASCI-S, factor analysis and reliability coefficients were recomputed for all grades together (Table 11A) and by grade (Tables 11B and 11C). For all grades, three factors with eigenvalues greater than  $1.82$  were retained. The three

Table 11A

Factor Loadings of School Items for All Grades Together

Items	All Grades		
	F1	F2	F3
<u>Peer Acceptance</u>			
Students at my school make fun of me (13)	-.94		
I get teased by students at my school (7)	-.88		
I get picked on by other students at my school (11)	-.87		
Students at my school are mean to me (2)	-.83		
<u>Teacher Acceptance</u>			
Teachers listen to what I have to say (5)		.74	
Teachers at my school respect me (8)		.75	
Teachers listen to suggestions made by students (15)		.64	
Teachers help me whenever I need help (3)		.63	
Teachers don't take students seriously when we have something to say (17)		.48	
Teachers at my school don't really get to know us students (12)		.44	
<u>School Involvement</u>			
I get involved in things going on at my school (18)			.79
I go to after school activities (14)			.69
I participate in at least one activity in school (4)			.67
I participate in at least one club at school (9)			.63
I go to the events at my school (16)			.53
<hr/>			
	Eigenvalues	3.82	2.15 1.82
	Percentage of Variance Explained	25.4	14.4 12.2
<hr/>			

1 Reverse code item



Table 11B

Factor Loadings of School Items for Grade 7

Items	Grade 7		
	F1	F2	F3
<u>Peer Acceptance</u>			
Students at my school make fun of me (13)	.93		
I get teased by students at my school (7)	.92		
I get picked on by other students at my school (11)	.85		
Students at my school are mean to me (2)	.80		
<u>Teacher Acceptance</u>			
Teachers listen to what I have to say (5)	.78		
Teachers at my school respect me (8)	.82		
Teachers listen to suggestions made by students (15)	.71		
Teachers help me whenever I need help (3)	.62		
Teachers don't take students seriously when we have something to say (17)	.38		
Teachers at my school don't really get to know us students (12)	.49		
<u>School Involvement</u>			
I get involved in things going on at my school (18)			.73
I go to after school activities (14)			.62
I participate in at least one activity in school (4)			.58
I participate in at least one club at school (9)			.60
I go to the events at my school (16)			.49
<hr/>			
Eigenvalues	3.22	2.56	1.85
Percentage of Variance Explained	21.5	17.1	12.3

1 Reverse code item

Table 11C

Factor Loadings of School Items for Grade 9

Items	Grade 9		
	F1	F2	F3
<u>Peer Acceptance</u>			
Students at my school make fun of me (13)	-.94		
I get teased by students at my school (7)	-.84		
I get picked on by other students at my school (11)	-.86		
Students at my school are mean to me (2)	-.87		
<u>Teacher Acceptance</u>			
Teachers listen to what I have to say (5)		.66	
Teachers at my school respect me (8)		.64	
Teachers listen to suggestions made by students (15)		.55	
Teachers help me whenever I need help (3)		.61	
Teachers don't take students seriously when we have something to say (17)		.63	
Teachers at my school don't really get to know us students (12)		.42	
<u>School Involvement</u>			
I get involved in things going on at my school (18)			.88
I go to after school activities (14)			.77
I participate in at least one activity in school (4)			.75
I participate in at least one club at school (9)			.64
I go to the events at my school (16)			.56
<hr/>			
Eigenvalues	4.76	1.80	1.65
Percentage of Variance Explained	31.7	12.0	11.0
<hr/>			

Reverse code item

factors accounted for 52.0% of the variance, 25.4%, 14.4%, and 12.2% respectively. Items loaded on the three factors in a similar fashion to when all items (including items 1, 6 and 10) were factor analyzed. All item loadings were above the cutoff of .40. Factors with very small loadings were not interpreted (Nunnally, 1978).

Factor analysis was then performed on the ASCI-S by grade and the results supported a three factor solution for grade 7 and grade 9. For grade 7 three factors with eigenvalues greater than 1.85 were retained. The three factors accounted for 50.9% of the variance, 21.5%, 17.1%, and 12.3% respectively. For grade 9, three factors with eigenvalues greater than 1.65 were retained. The three factors accounted for 54.7% of the variance, 31.7%, 12.0%, and 11.0%, respectively. Items loaded on the first three factors in an identical fashion to when all grades were factor analyzed together and by grade. All item loadings, except item 17 (.38) for grade 7, were above the cutoff of .40.

Factor analysis was then conducted with a varimax rotation to solidify previously factor analysis results. Results from the varimax rotation for all grades and by grade were very similar to analyses with the oblimin rotation. Items loaded on the same factors with similar weights indicating a three factor solution. The analyses with the varimax rotation confirmed the oblimin results.

Cronbach alpha coefficients were calculated for the school scale after removing items 1, 6, and 10. The alpha coefficients for the Peer Acceptance, Teacher Acceptance and School Involvement factors were .93, .78, and .80, respectively. These values were identical to analyses which included items 1, 6, and 10 in the scale. The alpha coefficients for the total scale did not meet the minimum acceptable alpha coefficient cutoff of .70; however, a slight increase occurred in the total scale alpha for all grades after the three items were removed. Alpha coefficients were also calculated by grade. For grade 7, the overall scale reliability coefficient was  $\alpha = .68$  while coefficients for the Peer Acceptance, Teacher Acceptance and School Involvement subscales were .93, .80, and .74, respectively. For grade 9, the overall scale reliability coefficients were  $\alpha = .59$  with coefficients for each factor of .93, .77, and .85, respectively.

The ASCI-S, after items 1, 6, and 10 were removed, had alpha coefficients for each subscale that were equivalent to those coefficients obtained from analysis with all the items. The total scale alpha coefficients increased for all grades and grade 7. For grade 9 the total scale alpha (.62) dropped to .59 after items 1, 6, 10 were removed.

ASCI-S: A multidimensional scale. The correlations between the ASCI-S items suggested three subscales. Factor analysis with an oblique rotation in Study 2 suggested a

four factor solution. In Study 3, the same analyses indicated a three factor solution for all grades and by grade once items 1, 6, and 10 were removed. Factor analysis with a varimax rotation confirmed those results. The alpha coefficients for each subscale suggested internal consistency. The evidence from these analyses suggest that the ASCI-S is multidimensional, with subscales of Peer Acceptance, Teacher Acceptance and School Involvement. This is further supported by the factor intercorrelations from the oblimin rotation which were generally low (ranging from .14 to .27) for all grades together, (ranging from -.12 to .03) for grade 7 and (ranging from .19 to .39) for grade 9. These results suggest that each subscale is effectively measuring a different component of school sense of community.

ASCI-N. Factor analyses were also performed for the ASCI-N. For all grades together, three factors with eigenvalues greater than 0.88 were retained (Table 12A). The three factors together accounted for 56.9% of the variance, 38.9%, 11.7%, and 6.3% respectively. Eight items (items 3, 4, 7, 9, 10, 11, 12, 14) showed moderate to high factor loading on the first factor (ranging from .47 to .80). Items loading on this subscale referred to two concepts: (1) neighbours working together and being part of the neighbourhood, and (2) having things to do and places to hang out in the neighbourhood. These items previously

Table 12A

Factor Loadings of Neighbourhood Items for All Grades Together

Items	All Grades		
	F1	F2	F3
<u>Cohesion/Accessible Activities</u>			
In my neighbourhood there are things to get involved in (12)	.80		
There are things for kids my age to do in my neighbourhood (4)	.74		
I like the people that live in my neighbourhood (3)	.63		
People in my neighbourhood work together to get things done (7)	.62		
People in my neighbourhood pitch in to help each other (11)	.60		
I feel part of my neighbourhood (10)	.57		
I like living in my neighbourhood (14)	.56		
There is a place for kids my age to hang out in my neighbourhood (9)	.47		
<u>Proximity of Friends</u>			
My friends live far away from my neighbourhood' (1)	.86		
My friends live close to my neighbourhood (13)	.72		
It's difficult to go and visit friends from my neighbourhood' (5)	.62		
<u>Membership</u>			
I know everyone in my neighbourhood (2)			.88
In my neighbourhood, everyone knows me (8)			.79
Everybody knows everybody else in my neighbourhood (6)			.74
<hr/>			
Eigenvalues	5.45	1.64	0.88
Percentage of Variance Explained	38.9	11.7	6.3

' Reverse code item

loaded on two separate subscales in Study 2. The new combined factor was named Cohesion/Accessible Activities, combining the names of both those subscales. Three items (items 1, 5, 13) showed moderate to high loading on a second factor (ranging from .62 to .86). These confirmed the Proximity of Friends subscale from Study 2. The last three items (items 2, 6, 8) showed high loadings on the third factor (ranging from .74 to .88) called Membership. All item loadings were above the cutoff of .40. Results of the factor analysis of the neighbourhood scale with all grades together suggested a three factor solution. Results from Study 2 indicated that the ASCI-N was a four factor scale. Analyses were conducted by grade to further understand the factor structure.

For grade 7, three factors with eigenvalues greater than 0.63 were retained (Table 12B). The three factors together accounted for 59.8% of the variance, 43.8%, 11.5%, and 4.5% respectively. Results were similar to when all grades were analyzed together, with only one exception. Item 6 loaded on both the Cohesion/Accessible Activities (.41) and the Membership (.57) subscales. For all grades, item 6 had loaded solely on the Membership subscale.

For grade 9, three factors with eigenvalues greater than 1.23 were retained (Table 12C). The three factors together accounted for 55.8% of the variance, 34.7%, 12.3%, and 8.8% respectively. Factor loadings were similar to the

Table 128

Factor Loadings of Neighbourhood Items for Grade 7

Items	Grade 7		
	F1	F2	F3
<u>Cohesion/Accessible Activities</u>			
In my neighbourhood there are things to get involved in (12)	.53		
There are things for kids my age to do in my neighbourhood (4)	.44		
I like the people that live in my neighbourhood (3)	.82		
People in my neighbourhood work together to get things done (7)	.79		
People in my neighbourhood pitch in to help each other (11)	.80		
I feel part of my neighbourhood (10)	.54		
I like living in my neighbourhood (14)	.76		
There is a place for kids my age to hang out in my neighbourhood (9)	.35		
<u>Proximity of Friends</u>			
My friends live far away from my neighbourhood' (1)	.69		
My friends live close to my neighbourhood (13)	.71		
It's difficult to go and visit friends from my neighbourhood' (5)	.66		
<u>Membership</u>			
I know everyone in my neighbourhood (2)		.86	
In my neighbourhood, everyone knows me (8)		.85	
Everybody knows everybody else in my neighbourhood (6)	.41		.57
<hr/>			
Eigenvalues	6.13	1.61	0.63
Percentage of Variance Explained	43.8	11.5	4.5

' Reverse code item



Table 12C

Factor Loadings of Neighbourhood Items for Grade 9

Items	Grade 9		
	F1	F2	F3
<u>Cohesion/Accessible Activities</u>			
In my neighbourhood there are things to get involved in (12)			-.73
There are things for kids my age to do in my neighbourhood (4)			-.71
I like the people that live in my neighbourhood (3)	.44		
People in my neighbourhood work together to get things done (7)	.41		-.48
People in my neighbourhood pitch in to help each other (11)			-.47
I feel part of my neighbourhood (10)	.45		-.49
I like living in my neighbourhood (14)			-.47
There is a place for kids my age to hang out in my neighbourhood (9)			-.46
<u>Proximity of Friends</u>			
My friends live far away from my neighbourhood' (1)	.44		
My friends live close to my neighbourhood (13)	.79		
It's difficult to go and visit friends from my neighbourhood' (5)			.60
<u>Membership</u>			
I know everyone in my neighbourhood (2)	.83		
In my neighbourhood, everyone knows me (8)	.91		
Everybody knows everybody else in my neighbourhood (6)	.77		
<hr/>			
Eigenvalues	4.86	1.72	1.23
Percentage of Variance Explained	34.7	12.3	8.8

' Reverse code item

two previously discussed ASCI-N analyses. One exception was that two items (items 7 and 10) loaded on both, Cohesion/Accessible Activities (.41, .45, respectively) and Membership (-.48, -.49, respectively) subscales. The second exception was Item 3 which loaded on the Membership subscale (.44). It had previously loaded on the Cohesion/Accessible Activities subscale. All the item loadings on factor three (items 4, 7, 9, 10, 11, 12, 14) were negative (-.46 to -.73). Items 2, 6, and 8 continued to load on the Membership subscale (ranging from .77 to .91). Items from the Proximity of Friends subscale continued to load together (ranging from .44 to .79). Results from these factor analyses, for all grades and by grade, tentatively suggest a three factor solution for the ASCI-N. However, the results were still unclear with respect to the factor structure. To confirm the three factor solution, factor analyses with a varimax rotation were conducted.

The ASCI-N items loaded consistently on the scales for which they were originally intended. The items that loaded on the largest factor, Cohesion/Accessible Activities consisted of items that had, in Study 2, loaded on the Accessible Activities subscale and items that had loaded on the Cohesion subscale. Factor analysis by grade showed that some items loaded on more than one factor and fluctuated between factors. High scale intercorrelations were reported, ranging in value from  $r = .12$  to  $r = .48$  for all

grades together,  $r = .11$  to  $r = .57$  for grade 7, and  $r = -.34$  to  $r = .12$  for grade 9.

Factor analyses with a varimax rotation were conducted for all grades and by grade. For all grades, results continued to suggest a three factor solution (Table 13A). All three factors were replicated, with only three items (items 3, 10, 11) loading on both the Cohesion/Accessible Activities and Membership subscales. For grade 7, the varimax rotation suggested a three factor solution (Table 13B). Items loaded in a similar fashion with the exception of items 4, 6, and 12 which loaded on more than one factor. Item 6 loaded on both the Cohesion/Accessible Activities (.53) and Membership (.67) subscales. Items 4 and 12 loaded on the Cohesion/Accessible Activities (.50, .57, respectively) and the Proximity of Friends (.47, .44, respectively) subscales. For grade 9, results were similar to previous analyses (Table 13C). However, five items (items 3, 7, 10, 11, 14) loaded on both the Cohesion/Accessible Activities and Membership subscales. Results from the factor analyses with the varimax rotation suggest a three factor solution. Although items seem to be loading on more than one factor in some instances, the same items continue to load together. This is evidence for a three factor solution which suggested in Study 2. Findings were confirmed by factor analyses with an oblimin rotation in Study 3. Factor analysis with a varimax rotation also

Table 13A

Factor Loadings (Varimax Rotation) of Neighbourhood Items for  
All Grades

Items	All Grades		
	F1	F2	F3
<u>Cohesion/Accessible Activities</u>			
In my neighbourhood there are things to get involved in (12)	.71		
There are things for kids my age to do in my neighbourhood (4)	.68		
I like the people that live in my neighbourhood (3)	.63	.42	
People in my neighbourhood work together to get things done (7)	.62		
People in my neighbourhood pitch in to help each other (11)	.61	.43	
I feel part of my neighbourhood (10)	.61	.40	
I like living in my neighbourhood (14)	.59		
There is a place for kids my age to hang out in my neighbourhood (9)	.46		
<u>Proximity of Friends</u>			
My friends live far away from my neighbourhood <sup>1</sup> (1)			.83
My friends live close to my neighbourhood (13)			.75
It's difficult to go and visit friends from my neighbourhood <sup>1</sup> (5)			.60
<u>Membership</u>			
I know everyone in my neighbourhood (2)		.85	
In my neighbourhood, everyone knows me (8)		.79	
Everybody knows everybody else in my neighbourhood (6)		.77	
<hr/>			
Eigenvalues	5.45	1.64	.88
Percentage of Variance Explained	38.9	11.7	6.3

<sup>1</sup> Reverse code item

Table 13B

Factor Loadings (Varimax Rotation) of Neighbourhood Items for Grade 7

Items	Grade 7		
	F1	F2	F3
<u>Cohesion/Accessible Activities</u>			
In my neighbourhood there are things to get involved in (12)	.57		.44
There are things for kids my age to do in my neighbourhood (4)	.50		.47
I like the people that live in my neighbourhood (3)	.76		
People in my neighbourhood work together to get things done (7)	.72		
People in my neighbourhood pitch in to help each other (11)	.75		
I feel part of my neighbourhood (10)	.58		
I like living in my neighbourhood (14)	.67		
There is a place for kids my age to hang out in my neighbourhood (9)	.40		
<u>Proximity of Friends</u>			
My friends live far away from my neighbourhood' (1)			.68
My friends live close to my neighbourhood (13)			.75
It's difficult to go and visit friends from my neighbourhood' (5)			.63
<u>Membership</u>			
I know everyone in my neighbourhood (2)		.84	
In my neighbourhood, everyone knows me (8)		.80	
Everybody knows everybody else in my neighbourhood (6)	.53	.67	
<hr/>			
Eigenvalues	6.13	1.61	.63
Percentage of Variance Explained	43.8	11.5	4.5

' Reverse code item

Table 13C

Factor Loadings (Varimax Rotation) of Neighbourhood Items for Grade 9

Items	Grade 9		
	F1	F2	F3
<u>Cohesion/Accessible Activities</u>			
In my neighbourhood there are things to get involved in (12)		.69	
There are things for kids my age to do in my neighbourhood (4)		.68	
I like the people that live in my neighbourhood (3)	.50	.47	
People in my neighbourhood work together to get things done (7)	.49	.54	
People in my neighbourhood pitch in to help each other (11)	.46	.51	
I feel part of my neighbourhood (10)	.53	.56	
I like living in my neighbourhood (14)	.40	.53	
There is a place for kids my age to hang out in my neighbourhood (9)		.46	
<u>Proximity of Friends</u>			
My friends live far away from my neighbourhood <sup>1</sup> (1)			.92
My friends live close to my neighbourhood (13)			.79
It's difficult to go and visit friends from my neighbourhood <sup>1</sup> (5)			.59
<u>Membership</u>			
I know everyone in my neighbourhood (2)	.80		
In my neighbourhood, everyone knows me (8)	.88		
Everybody knows everybody else in my neighbourhood (6)	.76		
<hr/>			
Eigenvalues	4.86	1.72	1.23
Percentage of Variance Explained	34.7	12.3	8.8

<sup>1</sup> Reverse code item

suggests, for all grades and by grade, that the ASCI-N is a multidimensional scale.

Cronbach reliability coefficients were computed for all grades and by grade (Table 14). When all grades were examined together, the total scale produced an alpha coefficient of .89. The Cohesion/Accessible Activities subscale obtained a Cronbach alpha of .89, and the Proximity of Friends subscale and Membership subscale obtained alpha coefficients of .79 and .88, respectively. Alpha coefficients were also calculated by grade. The reliability coefficient for the total scale was .90, and .87 for both grades 7 and 9. For grade 7, the Cohesion/Accessible Activities subscale had a coefficient of .90, and the Proximity of Friends subscale and Membership subscale obtained coefficients of .75 and .89, respectively. For grade 9, the Cohesion/Accessible Activities subscale had an alpha coefficient of .85, and the Proximity of Friends subscale and Membership subscales obtained coefficients of .82 and .88, respectively.

ASCI-N: A multidimensional scale. Results from the analyses of the ASCI-N were initially unclear. The correlations between items within each scale suggested three subscales. However, the item correlations between subscales were high. Most items were correlated significantly with the Cohesion/Accessible Activities items. It was uncertain whether the ASCI-N was unidimensional or multidimensional.

Table 14

Cronbach's Alpha for ASCI-N All Grades and by Grade

Factor	All Grades	Grade 7	Grade 9
Proximity of Friends	.79	.75	.82
Membership	.88	.89	.88
Cohesion/ Accessible Activities	.89	.90	.85
Total Scale	.89	.90	.87



The factor analyses with the oblimin rotation suggested a three factor solution. The factor analysis with a varimax solution confirmed the factor structure. Factor analysis is a stronger analyses than correlations since it accounts for common variance. The evidence from these analyses proved that the ASCI-N is a multidimensional measure with three subscales. Cronbach alpha coefficients suggested that each subscale and the total scale were internally consistent.

#### ANOVA

The means and standard deviations for the scales used in Study 3 are presented in Table 15. Two-way ANOVAs were computed for the total scale and each subscale for the ASCI-S (Table 16) and the ASCI-N (Table 17). The purpose was to establish whether responses to the ASCI-S and the ASCI-N were affected by grade or gender. Results indicated that responses to the ASCI-S Peer Acceptance subscale were significantly affected by both grade,  $F(1, 206) = 8.58$  and gender,  $F(1, 206) = 16.73$ . These results suggest a developmental and gender effect in responses to the Peer Acceptance subscale. The two remaining subscales Teacher Acceptance and School Involvement were not affected by either grade or gender. A significant interaction effect was found for the ASCI-S total scales  $F(1, 206) = 5.06$ . This suggests a combined effect of grade and gender in responding to the total ASCI-S scale. Overall, results suggest that the ASCI-S is not consistently affected by

Table 15

Means and Standard Deviations for Validity Scales and Subscales

Scales	n	M	SD	Range
School Scales				
<u>ASCI-S</u>	227	45.76	5.72	15-60
Peer Acceptance	241	8.15	3.45	4-16
Teacher Acceptance	228	17.34	3.36	6-24
School Involvement	236	14.45	3.41	5-20
<u>SCI-S</u>	225	26.80	3.97	12-36
<u>CES</u>	235	30.61	4.72	12-48
Involvement	242	8.78	2.01	4-16
Affiliation	241	12.15	2.00	4-16
Teacher Support	238	9.71	2.43	4-16
Neighbourhood Scales				
<u>ASCI-N</u>	222	34.34	8.04	14-56
Proximity of Friends	240	7.96	2.33	3-12
Membership	236	7.07	2.38	3-12
Cohesion	230	12.91	3.57	5-20
Accessible Activities	239	6.40	2.00	3-12
<u>SCI-N</u>	219	25.84	4.70	12-36
<u>NCI Total Scale</u>	224	56.34	0.84	18-90
Attraction to Nbhd	239	10.29	2.17	3-15
Neighbouring	234	14.62	4.70	5-25
Sense of Community	234	27.53	8.22	9-45
Other Scales				
<u>Global Self-Esteem</u>	236	14.64	3.60	5-20
<u>Social Support</u>	208	69.19	20.76	27-135
Non-Directive Support	220	34.72	11.86	13-65
Tangible Support	226	34.70	9.80	14-70
<u>Social Desirability</u>	231	14.15	2.02	10-20

Table 16

ANOVAs by Grade and by Gender for the ASCI-S

Source	df	F
Peer Acceptance		
Grade (GR)	1	8.584**
Gender (GE)	1	16.733**
GR X GE	1	2.279
error	206	(10.78)
Teacher Acceptance		
Grade (GR)	1	.001
Gender (GE)	1	1.287
GR X GE	1	.096
error	206	(11.67)
School Involvement		
Grade (GR)	1	.219
Gender (GE)	1	2.685
GR X GE	1	3.830
error	206	(11.17)
Total Scale		
Grade (GR)	1	2.739
Gender (GE)	1	.000
GR X GE	1	5.062*
error	206	(31.52)

Note. Values enclosed in parentheses represent mean square errors.

\*  $p < .05$     \*\*  $p < .01$

Table 17

ANOVAs by Grade and by Gender for the ASCI-N

Source	df	F
Proximity of Friends		
Grade (GR)	1	1.739
Gender (GE)	1	.175
GR X GE	1	.355
error	197	(5.55)
Membership		
Grade (GR)	1	.051
Gender (GE)	1	1.206
GR X GE	1	.002
error	197	(5.87)
Cohesion/Accessible Activities		
Grade (GR)	1	.051
Gender (GE)	1	.069
GR X GE	1	.015
error	197	(28.14)
Total Scale		
Grade (GR)	1	.028
Gender (GE)	1	.140
GR X GE	1	.011
error	197	(67.41)

Note. Values enclosed in parentheses represent mean square errors.

\*  $p < .05$     \*\*  $p < .01$

either grade or gender.

Two-way ANOVAs performed on the ASCI-N total scale score and its subscales suggested that the responses to ASCI-N are not sensitive to either grade or gender. The  $F$  values for the total and each subscale were insignificant for grade and gender and their interaction.

#### Construct Validity

The next step in the psychometric evaluation of these scales was to examine their construct validity to establish the relevance of the new scales. Are these scales contributing something unique to the study of sense of community? In order to answer this question, correlations were computed between the ASCI-S and the ASCI-N with the existing SCI-S and SCI-N. Next, the ASCI-S and the ASCI-N were correlated with existing school, neighbourhood and general mental health scales. Finally, partial correlations were computed on the ASCI-S and ASCI-N scales holding the SCI-S and the SCI-N scales constant.

Correlations between the new and old sense of community scales. Tables 18 and 19 present the correlations between the ASCI-S total and subscales with the SCI-S and between the ASCI-N and the SCI-N. These correlations were computed for all grades together and then separately by grade. Both the ASCI-S and the ASCI-N are multidimensional scales, which suggests that the total ASCI-S and ASCI-N scales are less relevant than their subscales. However, since the results

Table 18

Correlations Between the ASCI-S and the SCI-S

ASCI-S	SCI-S <sup>1</sup>		
	All Grades	Grade 7	Grade 9
PACC	-.32	-.22	-.36
TACC	.31	.27	.37
SINV	.39	.38	.38
Total	.25	.23	.31

Note. PACC represents the Peer Acceptance subscale; TACC represents the Teacher Acceptance subscale; SINV represents School Involvement subscale

<sup>1</sup>All correlations significant at  $p < .05$

Table 19

Correlations Between the ASCI-N and the SCI-N

ASCI-N	SCI-N <sup>1</sup>		
	All Grades	Grade 7	Grade 9
PRX	.27	.31	.24
MEM	.64	.66	.62
COAC	.72	.77	.67
Total	.74	.77	.79

Note. PRX represents the Proximity of Friends subscale; MEM represents the Membership subscale; COAC represents the Cohesion/Accessible Activities subscale

<sup>1</sup>All correlations significant at  $p < .05$

for both the total scale and the subscales for both the ASCI-S and the ASCI-N are available, all results are reviewed.

For the school scales, the ASCI-S total and subscales were significantly correlated ( $p < .05$ ) with the SCI-S when analyzed for all grades and by grade. The correlations between the Peer Acceptance subscale and the SCI-S were negative. (ranging from  $-.22$  to  $-.36$ ). The correlations between the Teacher Acceptance (ranging from  $.27$  to  $.37$ ) and the School Involvement (ranging from  $.38$  to  $.39$ ) subscales were positive. The correlations between the total scale and the SCI-S ranged from  $.23$  to  $.31$ . These correlations were low to moderate suggesting that the ASCI-S and the SCI-S measure a similar construct (sense of community) to a certain extent. The majority of the variance of either scale is not explained by the other scale. This suggests that the ASCI-S is measuring something that the SCI-S is not.

Correlations between the ASCI-N and the SCI-N were all significant ( $p < .05$ ) across grades and by grade. The correlation coefficients were moderate to high for the Membership (ranging from  $.62$  to  $.66$ ) and Cohesion/Accessible Activities (ranging from  $.67$  to  $.77$ ) subscales and the total scale (ranging from  $.74$  to  $.79$ ). The correlations between the Proximity of Friends subscale and the SCI-S were somewhat lower ( $.24$  to  $.31$ ). These results suggest that the



ASCI-N and the SCI-N are measuring similar constructs.

The relationships between the school and the neighbourhood scales suggest that the ASCI-S and the ASCI-N are measuring sense of community in their respective environments. To further establish the validity of these scales, analyses were computed between the ASCI-S and the ASCI-N and the existing school, neighbourhood, and mental health scales.

Correlations between the ASCI-S and the validity scales. The ASCI-S and the SCI-S scales correlated with measures of mental health, social desirability (MCSD), school environment, gender and age. The mental health indices included measures of self-esteem (Global subscale of the Perceived Competence Scale for Adolescents; PCSA), and social support (ISSB). The ASCI-S and the SCI-S also correlated with a measure of classroom environment (CES). Analyses were conducted for all grades combined (Table 20A) and separate by grade (Tables 20B and 20C).

Self-esteem. The purpose of correlating the ASCI-S and the SCI-S with a measure of self-esteem was to provide evidence for discriminant validity. Low correlations with self-esteem measures indicate that the ASCI-S is measuring sense of community. The correlations between the ASCI-S and the PCSA were significant at  $p < .01$  for the School Involvement subscale for all grades (.28), grade 7 (.32) and grade 9 (.25). The total scale correlated significantly with

Table 20A

Correlations of the Validity Measures and the ASCI-S and the  
SCI-S for School with all Grades

Scales	ASCI-S				SCI-S
	PACC	TACC	SINV	Total	
Self-Esteem	-.12	.16	.28***	.21**	.19**
<u>ISSB</u> Non-directive	.03	.11	.13	.23***	.21**
Tangible	-.02	.16	.14	.21**	.29***
Social Desirability	-.07	.28***	.06	.16*	.12
<u>CES</u> Involvement	-.06	.34***	.10	.21***	.20**
Affiliation	-.20**	.30***	.19**	.15*	.41***
Teacher Support	-.09	.60***	.04	.38***	.22***
Gender	-.26***	.09	.13*	.03	.04
Age	-.12	-.19**	-.01	-.00	.18**

Note. PACC represents the Peer Acceptance subscale; TACC represents the Teacher Acceptance subscale; SINV represents School Involvement subscale; ISSB represents the Instrument of Socially Supportive Behaviours; CES represents the Classroom Environment Scale

\*  $p < .05$     \*\*  $p < .01$     \*\*\*  $p < .001$

Table 20B

Correlations of the Validity Measures and the ASCI-S and the SCI-S for Grade 7

Scales	ASCI-S				SCI-S
	PACC	TACC	SINV	Total	
Self-Esteem	-.16	.25*	.32***	.20	.33***
<u>ISSB</u> Non-directive	-.03	.25*	.17	.35**	.29
Tangible	-.06	.16	.15	.27**	.35***
Social Desirability	-.02	.43***	.05	.20*	.16
<u>CES</u> Involvement	.04	.34***	.19*	.31***	.22*
Affiliation	-.17	.33***	.15	.12	.45***
Teacher Support	.11	.66***	.07	.40***	.15
Gender	-.02	.06	.00	-.13	.08
Age	.06	-.17	-.02	-.02	.01

Note. PACC represents the Peer Acceptance subscale; TACC represents the Teacher Acceptance subscale; SINV represents School Involvement subscale; ISSB represents the Instrument of Socially Supportive Behaviours; CES represents the Classroom Environment Scale

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

Table 20C

Correlations of the Validity Measures and the ASCI-S and the SCI-S for Grade 9

Scales	ASCI-S				SCI-S
	PACC	TACC	SINV	Total	
Self-Esteem	-.12	.08	.25**	.20*	.10
<u>ISSB</u> Non-directive	.08	-.02	.11	.16	.11
Tangible	.04	.07	.13	.19*	.22*
Social Desirability	-.13	.10	.08	.11	.10
<u>CES</u> Involvement	-.20*	.35***	.00	.11	.18*
Affiliation	.19*	.28**	.22*	.21*	.36***
Teacher Support	.12	.52***	.02	.37***	.29**
Gender	-.15	.12	.25**	.19*	-.00
Age	-.14	.11	-.05**	-.10	.05

Note. PACC represents the Peer Acceptance subscale; TACC represents the Teacher Acceptance subscale; SINV represents School Involvement subscale; ISSB represents the Instrument of Socially Supportive Behaviours; CES represents the Classroom Environment Scale

\* p<.05    \*\* p<.01    \*\*\* p<.001

self-esteem for analyses with all grades together ( $r = .21$ ). All correlations between the Peer Acceptance and the Teacher Acceptance subscales and self-esteem were not significant. The correlations between the ASCI-S and the PCSA were low, suggesting, despite the level of significance, that these two scales are measuring different constructs.

Results for the SCI-S with self-esteem were significant for all grades (.19) and grade 7 (.33). Correlations between the SCI-S and self-esteem for grade 9 ( $r = .10$ ) were insignificant. These results also suggest discriminant validity between the SCI-S and the PCSA.

The magnitude of the correlations between the ASCI-S and SCI-S with self-esteem were expected. As involvement in school (ASCI-S) and school sense of community (SCI-S) increases, self-esteem should increase. Scores of the ASCI-S and the SCI-S were correlated significantly with scores on PCSA. The Peer Acceptance subscale, which measured being bullied and teased, correlated negatively with self-esteem. Most correlations between these scales were consistently below the established level of significance ( $p < .01$ ). Also, the correlation coefficients were of a low magnitude (ranging from  $-.16$  to  $.32$ ). These results provide evidence for discriminant validity of the ASCI-S by suggesting that the ASCI-S is measuring a construct other than self-esteem.

Social support. Low correlations between social support and sense of community provide further evidence for

discriminant validity. In previous studies, social support explained only a small component of the variance in sense of community. For this reason, low to moderate correlations between the ASCI-S and the ISSB were expected. The correlations between the ASCI-S and social support subscales, Non-Directive Support and Tangible Assistance were significantly correlated with the ASCI-S total scale for all grades together (.23, and .21, respectively) and for grade 7 (.35, and .27, respectively). Significant correlations between the total ASCI-S scale and the ISSB subscales suggest that the ASCI-S is measuring a construct other than social support. While these correlations were significant, their magnitude (-.02 to .35) is evidence of discriminant validity for the ASCI-S.

For the SCI-S, both ISSB subscales were significantly correlated when all grades were analyzed together (.21, and .29, respectively). However, when the SCI-S was examined by grade, only the tangible assistance subscale was correlated significantly with grade 7 ( $r = .35$ ). The pattern of correlation between the ASCI-S and the SCI-S with the ISSB subscales was similar.

Social desirability. A measure of social desirability (MCSD) was included in order to examine whether participants were attempting to portray themselves in a socially acceptable way. Correlations with the ASCI-S were significant for the Teacher Acceptance subscale for all

grades (.28) together and for grade 7 (.43). All other correlations between the ASCI-S and the measure of social desirability were not significant. Correlation coefficients for the social desirability scale with ASCI-S ranged from -.13 to .43.

For the SCI-S, the correlations were consistently insignificant for all grades together (.12), grade 7 (.16), and grade 9 (.10). Once again, the patterns of correlation for the ASCI-S and the SCI-S were similar, mostly correlated insignificantly with the measure of social desirability. These results suggest that the majority of responses to scale items were honest and accurate, reflecting the participants' beliefs.

School environment. The final analysis correlated the ASCI-S with the CES. The CES was incorporated to measure convergent validity. The magnitude of correlations between the ASCI-S and the CES were expected to be moderate since they both measure the school environment. The pattern of correlations for all grades together and by grade was consistent for all grades together and by grade. All three CES subscales correlated significantly with the ASCI-S Teacher Acceptance scale (ranging from .30 to .60). The CES Involvement subscale correlated significantly with total scale of the ASCI-S for all grades (.21) and grade 7 (.31). The CES Affiliation subscale correlated significantly with the Peer Acceptance (-.20) and School Involvement (.19)

ASCI-S subscales for all grades. Finally, the CES Teacher Support subscale correlated significantly with only the total scale of the ASCI-S for all grades together (.38), grade 7 (.40) and grade 9 (.37). All other correlations were not significant. Correlation coefficients between the ASCI-S and the CES for all grades ranged from -.06 to .60, for grade 7, ranged from -.17 to .66 and for grade 9, ranged from -.20 to .52. These results reflect the hypothesis that these scales would be moderately correlated. They suggest that the ASCI-S is measuring school environment. They also suggest that the ASCI-S is measuring something that the CES is not.

The magnitude of the correlations obtained between the ASCI-S and the CES were as expected. The CES is a measure of classroom environment. This is different than school sense of community because it is specific to a classroom whereas sense of community applies to the entire school. Overall, the ASCI-S and the CES subscales correlated moderately. The highest correlations occurred between the ASCI-S Teacher Acceptance subscale and all three CES subscales. The concepts from either subscales were quite similar. The School Involvement ASCI-S subscale and the Involvement CES subscale did not correlate significantly. This can be explained since the ASCI-S subscale assesses involvement in the school, while the CES Involvement subscale assesses attention and participation in class work.



Finally, the ASCI-S Peer Acceptance subscale correlated negatively with the CES subscales. This pattern was fairly consistent across all grades and by grade. These were a result of the negative (being bullied and teased) nature of the ASCI-S Peer Acceptance subscale. The CES items refer only to knowing other classmates and forming friendships within that context. Despite the differences between the ASCI-S and the CES, overall, the correlations between them provide evidence for convergent validity.

The SCI-S correlated significantly with all the CES subscales for all grades together (.20, .41, and .22, respectively). For grade 7, the CES Affiliation subscale correlated significantly with the SCI-S (.45). For grade 9, the CES Affiliation (.36) and Teacher Support (.29) subscales correlated significantly with the SCI-S. The correlation coefficients ranged from .15 to .45. These results are similar to those between the ASCI-S and the CES. The pattern of correlation with the CES were very similar for both the ASCI-S and the SCI-S.

Gender. Correlations between the ASCI-S and gender produced significant correlations for the Peer Acceptance subscale for all grades together ( $r = -.26$ ) and School Involvement subscale for grade 9 ( $r = .25$ ). The correlations between the ASCI-S for all grades (ranging from  $-.26$  to  $.13$ ), grade 7 (ranging from  $-.13$  to  $.06$ ), and grade 9 (ranging from  $-.15$  to  $.25$ ) were low. These results

suggest that gender is not related to responses to the ASCI-S items. The correlations between the SCI-S and gender were very low (ranging from  $-.00$  to  $.08$ ) and consistently insignificant for all grades together and by grade. The pattern of correlations between the ASCI-S and the SCI-S with gender were very similar.

Age. Age was negatively correlated with the ASCI-S (ranging from  $-.19$  to  $-.00$ ). The only positive correlations were with the Peer Acceptance subscale for grade 7 ( $.06$ ) and with the Teacher Acceptance subscale for grade 9 ( $.11$ ). The correlations between the ASCI-S and age were not significant, with two exceptions - the Teacher Acceptance subscale was correlated significantly with age for all grades together ( $r = -.19$ ) and the School Involvement subscale for grade 9 ( $r = -.05$ ). For the SCI-S, correlations with age ranged from  $.01$  to  $.18$ . These correlations were not significant, with the exception of all grades together ( $r = .18$ ). These results suggest that age is not significantly correlated with the ASCI-S or the SCI-S. Again, there was a similar pattern of correlation between age and the two scales.

The analysis of correlations between the ASCI-S and the SCI-S suggest that they both measure a similar concept. The ASCI-S correlated as expected with measures of self-esteem and social support. This was evidence for discriminant validity. The ASCI-S subscales and its total scale

correlated with the CES subscales, providing evidence for convergent validity. The correlations between the ASCI-S and the MCSD suggest that participants responded honestly. Finally, the ASCI-S was independent of gender and age, confirming the results of the ANOVAs presented earlier.

#### Partial Correlations

Results of the correlations between the SCI-S were very similar to those of the ASCI-S. This was a reason for concern; is the ASCI-S unique from the SCI-S? Does the ASCI-S contribute something unique to the assessment of sense of community? To determine the unique contribution of the ASCI-S, partial correlations were conducted, holding the SCI-S constant.

Partial correlations removed common variance shared by the ASCI-S and the SCI-S scales. Analyses were conducted separately for all grades together and by grade (Table 21), with the level of significance set at  $p < .05$ . Overall, correlations across validity measures remained significant. Also, the magnitude of correlations did not decrease substantially. Results suggested that the significance of correlations between the ASCI-S and the validity measures were not a result of variance shared with the SCI-S.

Self-esteem. Self-esteem remained significantly correlated with the School Involvement subscale (ranging from .23 to .29) for all grades and by grade, decreasing

Table 21

Partial Correlations Between ASCI-S and Validity Measures with SCI-S Partialled Out  
for All Grades and by Grade

Scales	ASCI-S											
	All Grades				Grade 7				Grade 9			
	PACC	TACC	INV	Total	PACC	TACC	INV	Total	PACC	TACC	INV	Total
Self-Esteem	-.07	.10	.26**	.19**	-.07	.14	.29**	.19	-.12	.05	.23**	.16
<b>ISSB</b>												
Non-Directive	.11	.05	.07	.18*	.10	.21	.10	.32**	.13	-.09	.06	.11
Tangible Assistance	.07	.03	.04	.14	.01	.14	.11	.24*	.12	-.06	.01	.07
Social Desirability	-.03	.27**	.04	.15*	.03	.45	-.00	.19	-.12	.05	.07	.08
<b>CES</b>												
Affiliation	-.07	.17*	-.07	.08	-.09	.20	.05	.04	-.05	.16	.10	.14
Involvement	-.04	.36**	.07	.21**	.05	.40**	.22**	.33**	-.15	.31**	-.07	.08
Teacher Support	.21**	.59**	.01	.41**	.19	.70**	.08	.46**	.24*	.46**	-.07	.34**

**Note.** PACC represents the Peer Acceptance subscale; TACC represents the Teacher Acceptance subscale; INV represents School Involvement subscale; ISSB represents the Instrument of Socially Supportive Behaviours; CES represents the Classroom Environment Scale

\*  $p < .05$     \*\*  $p < .01$

only slightly (previously ranging from .25 to .32). The correlations between the ASCI-S total scale and the PCSA also remained significant for all grades (.19), decreasing only slightly (previously .21).

Social support. For the ISSB, the total ASCI-S scale correlated significantly with the Non-Directive subscale for all grades ( $r = .18$ ) and grade 7 ( $r = .32$ ), having decreased slightly (previously .23 and .35, respectively). The Tangible Assistance, ISSB subscale remained correlated significantly with the ASCI-S total scale for grade 7 ( $r = .24$ , previously .27).

Social desirability. Social desirability was correlated significantly with the Teacher Acceptance subscale ( $r = .27$ ) and the total scale ( $r = .15$ ) for all grades analyzed together. These correlations decreased slightly from .28 and .16, respectively.

School environment. Most of the correlations between the CES subscales and the ASCI-S subscales and their total scales remained significant once the SCI-S was partialled out. The CES Affiliation subscale correlated significantly with the Teacher Acceptance subscale ( $r = .17$ ) for all grades together (previously .30). For the CES Involvement subscale, the Teacher Acceptance subscale correlated significantly for all grades (.36) and by grade (.40 for grade 7 and .31 for grade 9). The ASCI-S total scale correlated significantly with the CES Involvement subscale

for all grades (.21, previously, .21) and grade 7 (.33, previously .31). The CES Involvement subscale and the ASCI-S School Involvement subscale correlated significantly for grade 7 ( $r = .22$ ), previously .19. Finally, the CES Teacher Support subscale correlated significantly with the Peer Acceptance subscale for all grades (.21, previously -.09) and grade 9 (.24, previously .12). Neither of these correlations were significant before the SCI-S was partialled out. Correlations between the Teacher Support subscale and the Teacher Acceptance subscale (ranging from .46 to .70, previously ranged from .52 to .66) and the total scale for all grades and across grades (ranging from .34 to .46, previously ranged from .37 to .40) decreased once the SCI-S variance was partialled out. However, most correlations remained significant.

Once the variance from the SCI-S was held constant, it became apparent that the ASCI-S was uniquely contributing to the assessment of sense of community. Most correlations between the ASCI-S and the validity scales decreased slightly once the SCI-S variance was removed, but some coefficients increased. This suggests that the correlations between the ASCI-S and the validity scales were not dependent on the variance of the SCI-S.

Correlations between the ASCI-N and the validity scales. Correlations between the ASCI-N and the SCI-N scales and measures of mental health (PCSA, ISSB), social

desirability (MCSD), neighbourhood environment (NCI), gender, and age provided evidence for both convergent and discriminant validity for the ASCI-N. All correlations were computed with grades combined (Table 22A) and by grade alone (Tables 22B and 22C).

Self-esteem. Most correlations between the ASCI-N total and subscales and the PCSA were significant at  $p < .01$  for all grades together (ranging from .20 to .37) and by grade (ranging from .17 to .45 for grade 7 and from .15 to .29 for grade 9). Correlations between the Proximity subscale and the PCSA for grade 7 ( $r = .17$ ) and for the Membership subscale and the PCSA ( $r = .15$ ) for grade 9 were not significant.

Results of correlation between the SCI-N and the PCSA were significant for all grades and by grade (ranging from .26 to .45). The comparison between correlations for the ASCI-N and the SCI-N with the PCSA revealed a similar pattern of correlations.

The magnitude of correlations between the sense of community scales with self-esteem were expected. The correlations between self-esteem and sense of community were expected to be low to moderate. The results confirmed these predictions. Although the majority of the correlations were significant, the correlations between the ASCI-N and the PCSA were moderate (ranging from .15 to .45). These values suggest that the PCSA does not explain a large percentage of

Table 22A

Correlations of the Validity Measures and the ASCI-N and the SCI-N for all Grades

Scales	ASCI-N				SCI-N
	PRX	MEM	COAC	Total	
Self-Esteem	.20**	.21***	.37***	.37***	.36***
ISSB					
Non-directive	-.04	.16*	.24***	.19**	.21***
Tangible	-.09	.18*	.24***	.18**	.29***
Social Desirability	.06	.11	.21**	.19**	.11
NCI					
Neighbourhood Cohesion	.33***	.60***	.79***	.79***	.76***
Attraction to Neighbourhood	.28***	.40***	.60***	.61***	.58***
Neighbouring	.36***	.53***	.63***	.67***	.59***
Psychological Sense of Community	.29***	.60***	.79***	.78***	.75***
Gender	-.03	.09	.06	.06	-.08
Age	-.03	-.01	-.13*	-.12	-.05

Note. PRX represents the Proximity of Friends subscale; MEM represents the Membership subscale; COAC represents the Cohesion/Accessible Activities subscale; ISSB represents the Instrument of Socially Supportive Behaviours; NCI represents the Neighbourhood Cohesion Instrument

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$



Table 22B

Correlations of the Validity Measures and the ASCI-N and the SCI-N for Grade 7

Scales	ASCI-N				SCI-N
	PRX	MEM	COAC	Total	
Self-Esteem	.17	.27**	.45***	.43***	.45***
<u>ISSB</u> Non-directive	.03	.18	.32***	.28**	.32***
Tangible	-.04	.26**	.29**	.24*	.32***
Social Desirability	.20*	.24*	.37***	.39***	.27**
<u>NCI</u> Neighbourhood Cohesion	.42***	.62***	.78***	.81***	.76***
Attraction to Neighbourhood	.34***	.37***	.55***	.57***	.58***
Neighbouring	.35***	.56***	.62***	.67***	.60***
Psychological Sense of Community	.36***	.63***	.80***	.81***	.75***
Gender	-.05	.12	.09	.08	-.12
Age	-.05	-.18*	-.26**	-.25**	-.21*

Note. PRX represents the Proximity of Friends subscale; MEM represents the Membership subscale; COAC represents the Cohesion/Accessible Activities subscale; ISSB represents the Instrument of Socially Supportive Behaviours; NCI represents the Neighbourhood Cohesion Instrument

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

Table 22C

Correlations of the Validity Measures and the ASCI-N and the SCI-N for Grade 9

Scales	ASCI-N				SCI-N
	PRX	MEM	COAC	Total	
Self-Esteem	.22*	.15	.26**	.29**	.26**
ISSB					
Non-directive	-.10	.13	.16	.11	.22*
Tangible	-.12	.11	.21*	.13	.20*
Social Desirability	-.10	-.04	.02	-.03	-.06
NCI					
Neighbourhood Cohesion	.24**	.48***	.80***	.79***	.75***
Attraction to Neighbourhood	.21*	.44***	.66***	.64***	.59***
Neighbouring	.26**	.52***	.64***	.67***	.58***
Psychological Sense of Community	.22*	.58***	.78***	.76***	.76***
Gender	-.00	.07	.04	.04	-.03
Age	.07	.10	-.11	-.03	.08

Note. PRX represents the Proximity of Friends subscale; MEM represents the Membership subscale; COAC represents the Cohesion/Accessible Activities subscale; ISSB represents the Instrument of Socially Supportive Behaviours; NCI represents the Neighbourhood Cohesion Instrument

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

the neighbourhood sense of community variance. The relationship between the sense of community scales and the PCSA are evidence for discriminant validity. They suggest that self-esteem and sense of community are two distinct constructs being measured by their respective scales.

Social support. The correlations between the ASCI-N total and subscales and the ISSB subscales of Non-Directive Support and Tangible Assistance varied. The correlations between the ASCI-N total and the ISSB for all grades together (.19, .18, respectively) and grade 7 (.28, .24, respectively) were low. Correlations between the ASCI-N Cohesion/Accessible Activities subscale and the ISSB subscales were significant for all grades (.24 for both scales) and grade 7 (.32, .29, respectively). For grade 7, the correlation between the Tangible Assistance and the Membership subscale ( $r = .26$ ) was significant. The other subscales, for all grades and grade 7, were not correlated including that between the Tangible Assistance and the total scale ( $r = .24$ ). For grade 9, none of the subscales nor the total scale correlated significantly (ranging from -.10 to .16) for either ISSB subscale. The Proximity of Friends subscale was not correlated with either of the ISSB subscales for all grades (-.04, -.09 respectively) nor by grade (.03, -.04, respectively for grade 7 and -.10, -.12, respectively for grade 9).

For the SCI-N, the ISSB subscales correlated

significantly with it when all grades were analyzed together (.21, and .29, respectively) and for grade 7 (.32 for each ISSB subscale). Again, the correlations for grade 9 were not significant (.22 and .20, for each ISSB subscale). The pattern of correlations for the ASCI-N, and the SCI-N, were very similar.

As expected, the significant correlations between social support and sense of community were low to moderate; social support is a distinct construct from sense of community.

Social desirability. Correlation coefficients between the ASCI-N and the MCSD ranged from .06 to .21 for all grades, .20 to .39 for grade 7 and -.10 to .02 for grade 9. ASCI-N correlations with the MCSD were significant with the total scale for all grades together (.19) and for grade 7 (.39). Also, the Cohesion/Accessible Activities subscale correlated significantly with the MCSD for all grades (.21) and grade 7 (.37). For grade 9, all coefficients were correlated insignificantly (ranging from -.10 to .02), suggesting a need for concern with respect to the analysis of all grades together and grade 7.

The correlations between the SCI-N and the MCSD were significant for grade 7 (.27), and insignificant for all grades (.11) and grade 9 (-.06). Overall, the ASCI-N and the SCI-N scales correlated insignificantly for grade 9 and correlated significantly for Cohesion/Accessible Activities

subscale and the total for all grades and grade 7. This pattern of correlation was similar for both the ASCI-N and the SCI-N.

Neighbourhood environment. Buckner's Neighbourhood Cohesion Instrument (NCI) was incorporated as a measure of convergent validity since it, along with the ASCI-N and the SCI-N, is a measure of the neighbourhood environment. Correlations between the total and subscales of the ASCI-N and the NCI for all grades together and by grade were significant at  $p < .01$ . The only correlations that were not significant were those between the ASCI-N Proximity of Friends subscale with the NCI Attraction to Neighbourhood subscale ( $r = .21$ ) for grade 9. The NCI does not address the issue of proximity.

The moderate to high correlations results obtained between the ASCI-N and the NCI were higher than expected. The NCI is a measure of neighbourhood cohesion and psychological sense of community. The ASCI-N is a measure of adolescent neighbourhood sense of community. Concepts measured by these scales appear to be quite similar. Correlations between the total scales of each scale were high (ranging from .79 to .81). Most correlations between the NCI Psychological Sense of Community subscale and the ASCI-N subscales and its total scale (ranging from .22 to .80) were moderate to high.

The SCI-N correlated significantly with the total and

subscales of the NCI for all grades together (ranging from .58 to .76) and by grade (ranging from .58 to .76 for grade 7 and .58 to .76 for grade 9).

Overall, the correlations between the ASCI-N and the NCI were significant, ranging from moderate to high. The SCI-N also correlated significantly with the NCI subscales with moderate correlations. These three scales (ASCI-N, SCI-N and NCI) are all measures of neighbourhood psychological environment. The high correlations between the ASCI-N, the SCI-N and the NCI suggest that all three scales are measuring a similar construct. The pattern of correlations between each of the two sense of community scales with the NCI were very similar.

Gender. The correlations between the ASCI-N and gender were not significant. Gender is not related to responses on the ASCI-N. The correlations between the ASCI-N and gender for all grades (ranging from  $-.03$  to  $.06$ ), grade 7 (ranging from  $-.05$  to  $.12$ ) and grade 9 (ranging from  $-.03$  to  $.07$ ) were low.

All correlations for the SCI-N and gender were negative, low and insignificant for all grades together ( $-.08$ ) and by grade ( $-.12$  for grade 7 and  $-.03$  for grade 9). They were similar to the patterns of correlations between the ASCI-N with gender.

Age. The ASCI-N correlated negatively with age (ranging from  $-.13$  to  $-.01$ ) for all grades, ( $-.26$  to  $-.05$ )

for grade 7 and (-.11 to .10) for grade 9. The only correlations that were significant were between age and Proximity of Friends (.07) and age and Membership (.10) for grade 7. The only significant correlations with age were between the Cohesion/Accessible Activities subscale and the total scale for grade 7. All coefficients were small in magnitude.

Age was not correlated with the SCI-N with all grades (-.05), grade 7 (-.21) or grade 9 (.08). These results suggest that age is not related to responses to the SCI-N. Results of the correlations between the ASCI-N and the SCI-N and age were similar.

Correlations between the ASCI-N, the SCI-N and various other measures examined the validity of the ASCI-N; as did the pattern of correlation between the ASCI-N and the SCI-N. The ASCI-N correlated as expected (low to moderate) with self-esteem and social support (divergent validity). The ASCI-N was correlated (moderate to high) with the neighbourhood cohesion measure (convergent validity). The ASCI-N did not correlate significantly with gender, age or the measure of social desirability.

Results from the correlation analyses for the ASCI-N indicate that it correlates with the validity measures in a similar fashion to that of the SCI-N.

#### Partial Correlations

To better understand the unique qualities of the

ASCI-N, partial correlations were computed, holding the SCI-N constant. Partial correlations were conducted with all grades together and by grade (Table 23). Results were similar to those for the school scale. Although the magnitude of the correlations decreased when the SCI-N variance was removed, many correlation coefficients remained significant.

Self-esteem. Correlations between the ASCI-N total scale and the PCSA were significant for all grades (.20, previously .37) and for grade 9 (.25, previously .29). The ASCI-N Membership subscale also correlated significantly with the Cohesion/Accessible Activities subscale for all grades (.19, previously .37) and grade 9 (.20, previously .29). Self-esteem also correlated significantly with the Proximity of Friends subscale for all grades (.17, previously .20) and grade 9 (.21, previously .29). None of the correlations between the ASCI-N and the PCSA were significant (ranging from -.05 to .15) for grade 9. Once the SCI-N variance was removed, the correlations decreased slightly from the previous correlations analysis, but the significance of the correlations remained.

Social support. Correlations between the ASCI-N and the ISSB indicated that only the correlation between the ASCI-N Proximity of Friends subscale with the ISSB Tangible Assistance subscale was significant for all grades together ( $r = -.18$ , previously  $-.09$ ). This value was not significant



Table 23

Partial Correlations Between ASCI-N and Validity Measures with SCI-N Partialled Out  
for All Grades Together and by Grade

Scales	ASCI- N											
	All Grades				Grade 7				Grade 9			
	PRX	MEM	COAC	Total	PRX	MEM	COAC	Total	PRX	MEM	COAC	Total
Self- Esteem	.17*	.00	.19**	.20**	.09	.05	.15	.12	.21*	.05	.20*	.24*
<b>ISSB</b>												
Non-Directive	-.13	-.02	.07	-.01	-.12	-.02	.08	.01	-.12	-.01	.06	-.02
Tangible Assistance	-.18*	.04	.11	.02	-.18	.06	.07	-.00	-.15	.02	.15	.04
Social Desirability	.01	-.01	.22**	.15*	.16	.02	.27*	.24*	-.12	-.03	.14	.03
<b>NCI</b>												
Neighbourhood Cohesion	.22**	.27**	.55**	.54**	.36**	.30**	.52**	.55**	.10	.26**	.60**	.54**
Attraction to Neighbourhood	.34**	.06	.38**	.20**	.31**	-.06	.32**	.30**	.09	.14	.43**	.38**
Neighbouring	.20**	.29**	.40**	.44**	.24**	.32**	.35**	.40**	.18	.26**	.45**	.48**
Sense of Community	.19**	.26**	.53**	.51**	.35**	.31**	.54**	.57**	.05	.23*	.53**	.46**

Note. PRX represents the Proximity of Friends subscale; MEM represents the Membership subscale; COAC represents the Cohesion/Accessible Activities subscale; ISSB represents the Instrument of Socially Supportive Behaviours; NCI represents the Neighbourhood Cohesion Instrument

\*  $p < .05$     \*\*  $p < .01$

in the previous correlation analysis. All other correlations between the ASCI-N and the ISSB were not significant (ranging from  $-.18$  to  $.15$ ), suggesting that the relationship between the ASCI-N and the ISSB may have been largely attributable to the SCI-N variance.

Social desirability. The correlations between the ASCI-N and the scale of social desirability were significant between the ASCI-N Cohesion/Accessible Activities subscale and the MCSD for all grades ( $r = .22$ , previously  $.21$ ) and grade 7 ( $.27$ , previously  $.37$ ). The total scale for all grades ( $r = .15$ , previously  $.19$ ) and for grade 7 ( $.24$ , previously  $.39$ ) were significant.

Neighbourhood environment. The correlations between the ASCI-N total and subscales with the NCI total and subscales remained significant once the SCI-N was partialled out. For all grades together, all correlations were significant (ranging from  $.19$  to  $.55$ , previously  $.28$  to  $.79$ ). For grade 7, all correlations between the subscales of each measure were also significant (ranging from  $.24$  to  $.57$ , previously ranging from  $.34$  to  $.81$ ). The consistent exception to the significant correlations was the relationship between the ASCI-N Membership subscale and the NCI Attraction to Neighbourhood subscale for all grades ( $.06$ , previously  $.40$ ), grade 7 ( $-.06$ , previously  $.37$ ). For grade 9, the Proximity of Friends subscale did not correlate with the total scale and subscales of the NCI (ranging from

.05 to .18, previously ranging from .21 to .26). Also, the correlation between ASCI-N Membership subscale and the NCI Attraction to Neighbourhood subscale was not significant for grade 9 (.14, previously .44).

Results from the partial correlation analyses suggest that the ASCI-N, is uniquely measuring a construct that was not accounted for by the SCI-N. The values of most of the correlations coefficients decreased but remained significant once the SCI-N variance was partialled out.

#### Summary

The factor structure and validity, convergent and divergent, were established for the ASCI-S and the ASCI-N. Results suggest that both scales are multidimensional, consisting of three subscales each. The ASCI-S is a 15-item scale and the ASCI-N is a 14-item scale. Findings also indicate that each scale is assessing adolescent sense of community specific to either the school or the neighbourhood environment. These scales are uniquely contributing to the study of sense of community.

#### Part Two - Test-Retest Reliability

Part Two assessed the two week test-retest reliability of the ASCI-S and the ASCI-N.

#### Participants

Participants consisted of 114 students from eight junior high schools in Halifax, Nova Scotia. Participants were chosen from two grades - grade 7 ( $N = 43$ ), and grade 8

( $N = 71$ ). Average age was 13.80 years ( $SD = 1.14$ ) - 12.58 years ( $SD = .66$ ) in grade 7 and 14.54 years ( $SD = .60$ ) in grade 9. The overall rate of response was 34.86% - 22.51% for grade 7 and 56.62% for grade 9.

#### Procedure and Measures

The newly developed ASCI-S and ASCI-N were administered to participants twice within a two-week interval. Group testing took approximately 20 minutes at each administration and was conducted during a scheduled class period. Participants were each given their own booklet and read a set of standardized instructions. Participants were asked to complete their booklets on their own. The interviewer stayed in the classroom throughout the entire session and answered any questions participants had about the items. Following the session, a debriefing statement was read and participants were given the opportunity to ask questions and voice comments or concerns (Appendix G).

Confidentiality of the respondents was ensured. Participants were required to indicate their names and grade on their booklets for the purpose of matching the initial test administration with the second. However, identifying information was discarded once test administrations were matched.

#### Results and Discussion

Table 24 presents the scale means and standard deviations for both administrations of the reliability

Table 24

Means and Standard Deviations for ASCI-S and ASCI-N for Time 1 and Time 2

	Time 1		Time 2		
Scale	M	SD	M	SD	Range
ASCI-S					
Peer Acceptance	7.96	3.19	7.86	3.20	4-16
Teacher Acceptance	17.25	3.71	16.68	3.67	6-24
School Involvement	14.45	3.46	14.38	3.91	5-20
Total Scale	48.12	5.67	47.52	6.36	15-60
ASCI-N					
Proximity of Friends	7.37	1.59	7.38	1.27	3-12
Membership	7.37	2.29	7.21	2.28	3-12
Cohesion/Accessible					
Activities	20.00	3.60	20.18	3.92	8-32
Total Scale	34.69	5.44	34.90	5.77	14-56

Note. Range indicates the lowest and highest possible scores

booklet. Means from each administration for each scale and subscale were similar. For both the ASCI-S and the ASCI-N, the means for each subscale and the total scale did not change across administrations.

Responses from Time 1 were correlated with Time 2 to establish whether participants responded in a consistent manner over a two-week interval. Correlation coefficients for the ASCI-S and the ASCI-N total scales and subscales between the first and second test administrations are presented in Table 25. Analyses were performed with all grades together and with each grade individually. Correlations are reported at the .001 level of significance.

For the ASCI-S correlation coefficients for the total scale score for both grades together, grade 7 and grade 9 were .73, .63, and .77, respectively. The correlations were moderate to high. Since the ASCI-S is a multidimensional scale, the consistency over time for total scale score is less relevant than that of the subscales. The Peer Acceptance subscale had test-retest correlations of .83, .87, and .80 for all grades, grade 7, and grade 9, respectively. The Teacher Acceptance subscale had correlations of .81, .86, and .73, for all grades, grade 7, and grade 9, respectively. Finally, the School Involvement subscale had test-retest reliability coefficients of .87, .77, and .92, for all grades, grade 7, and grade 9, respectively. The correlations between administrations were

Table 25

Test-Retest Reliability Coefficients for the ASCI-S and the ASCI-N  
for All Grades and By Grade

Subscale	All Grades	Grade 7	Grade 9
ASCI-S			
Peer Acceptance	.83	.87	.80
Teacher Acceptance	.81	.86	.73
School Involvement	.87	.77	.92
Total Scale	.73	.63	.77
Subscale	All Grades	Grade 7	Grade 9
ASCI-N			
Proximity of Friends	.58	.52	.61
Membership	.68	.68	.68
Cohesion/Accessible			
Activities	.79	.76	.81
Total Scale	.76	.75	.76

Note. All correlations are significant at  $p < .001$

high suggesting that the ASCI-S subscales are sufficiently stable at a two week interval.

The correlation coefficients for the ASCI-N for a two week interval are higher for the total scale score than for each subscale. The total scale score correlations for all grades, grade 7, and grade 9 were .76, .75, and .76, respectively. The Cohesion/Accessible Activities subscale had high correlation coefficients for all grades (.79), grade 7 (.76), and grade 9 (.81). Since the Cohesion/Accessible Activities subscale is the largest factor of the ASCI-N scale, it is important that it have stable correlation coefficients. The other two subscales Proximity of Friends and Membership contribute less to the scale. These scales consist of only three items each. The correlation coefficients for all grades (.58), grade 7 (.52), and grade 9 (.61) were moderate for the Proximity of Friends subscale. For the Membership subscale, the correlations were .68 for all grades, grade 7 and grade 9. Since the ASCI-N is a multidimensional scale, it is important that the subscales more so than the total scale be stable over time. Although this is not the case for the ASCI-N, all correlation coefficients were moderate to high and significant suggesting stability over a two-week interval.

#### Summary

Correlations over a two week interval were calculated



for the ASCI scales. Results suggest that the multidimensional ASCI-S and the ASCI-N scales are consistent for a two week period.

#### GENERAL DISCUSSION

Since its development, psychological sense of community has become a very useful construct. It is associated with coping, empowerment and competency, participation, subjective well-being, community satisfaction, and loneliness; which, in turn, are associated with good mental health. Sense of community has been examined within the workplace, university settings, schools and neighbourhoods. However, all of this research, including the development of measures of sense of community (NCI; Buckner, 1988; SCS; Davidson & Cotter, 1986; Glynn, 1981; SCI; Perkins et al., 1990), is based on samples from adult populations. Many of the issues relevant to sense of community concern adolescents. As a stop gap, researchers interested in adolescent sense of community have modified the existing adult sense of community scales. This is a questionable practice (Chipuer et al., 1995). Full understanding of adolescent sense of community, and its relation to other constructs, requires the development of appropriate measures. Two important environments for adolescents are the school and the neighbourhood. The present study undertook the development of adolescent sense of community measures that were psychometrically sound and appropriate

for use in the school (ASCI-S) and the neighbourhood (ASCI-N). The characteristics of sense of community within each of these environments were distinct enough to merit separate scales.

#### Scale Development

This project began with interviews of adolescents to develop the initial questionnaires (Study 1); next, the testing of the 100-item questionnaires (Study 2); and finally, psychometric evaluation of the ASCI-S and the ASCI-N measures (Study 3). This procedure was similar to that used to develop adult SCI measures (Chavis et al., 1986).

Participants in Study 1 were students in grades 7, 9, and 11; they were considered to be representative of all adolescents (ages 11 to 19 years). This sample provided the study with a developmental advantage; however, some of the participants may have been at an awkward stage to answer some of the school interview questions. Interviews took place in October, very early in the school year. Students in grade 7 had just entered junior high with most of the students changing schools since the previous year. Most of the grade 7 students were, therefore, not overly familiar with their school, their teachers, and perhaps, even their peers. They may have had difficulty in answering questions about how they felt about their school or school activities.

Grade 9 participants may not have felt connected to their school because they would soon be graduating; however,

since, interviews were conducted early in the school year, this was not of great concern. Grade 11 participants appear to have been the most appropriate for the purposes of this study. They were in the midst of their high school education. They likely knew about their school since most had attended it in the previous year. Although the composition of the sample may raise some concerns, overall it was ideally suited to the purpose of the study and covered an age range that was broad enough to make the scales useful with junior and senior high school level students. Future replications may include using different grades to verify these results.

Including participants from all three grade levels was beneficial to understanding developmental issues. Having participants from three grades allowed an examination of the developmental aspect of the ASCI-S and ASCI-N. Analyses indicated that both scales were consistent across gender and grade, and appropriate for use with grades 7, 9, and 11. This is important from a developmental perspective. As adolescents change rapidly, these scales appear to be capable of assessing adolescent sense of community across the adolescent age span. These scales can only account for what is common among adolescents' perspectives of sense of community. The unique component of adolescent sense of community, specific to each adolescent, could not be represented by these scales for practical reasons.

The second study tested the two 100-item Questionnaires on a new sample of students in grades 7, 9, and 11. Factor analysis led to creation of the 18-item ASCI-S and the 14-item ASCI-N, each consisting of four subscales. The ASCI-S subscales included Peer Acceptance (Cronbach alpha ranging from .84 to .89), Teacher Acceptance (Cronbach alpha ranging from .80 to .83), School Involvement (Cronbach alpha ranging from .77 to .86), and Desire to be Involved, (Cronbach alpha ranging from .59 to .62) with reliability coefficients for the total scale ranging from .61 to .67. The low internal consistency coefficients calculated for the Desire to be Involved subscale was indication that the subscale should be removed. The total scale Cronbach alpha was recalculated without the Desire to be Involved subscale and the coefficients increased (ranging from .69 to .72). The ASCI-N subscales included Cohesion (Cronbach alpha ranging from .80 to .84), Accessible Activities (Cronbach alpha ranging from .77 to .80), Membership (Cronbach alpha ranging from .75 to .79), and Proximity of Friends, (Cronbach alpha ranging from .75 to .82) with reliability coefficients ranging from .83 to .86 for the total scale.

Study 3 evaluated the psychometric soundness of the ASCI-S and the ASCI-N. This study involved administering the newly developed questionnaires, along with scales of mental health, school and neighbourhood environments to assess construct validity. As well, it included an

assessment of the test-retest reliability of the scales. Further analysis indicated that the ASCI-S should be reduced to 15 items that comprised of three subscales with the Desired to be Involved subscale and its items deleted. The internal consistency of the revised ASCI-S ranged from .64 to .93, compared to the results found for the SCI-S of .75. The new analyses maintained the ASCI-N at 14 items but reduced the number of subscales to three, combining the Cohesion and Accessible Activities subscales into a new Cohesion/Accessible Activities subscale. The internal consistency of the ASCI-N ranged from .79 to .89, compared to .80 for the SCI-N. On the whole, the internal consistencies of the new ASCI scales were comparable to the adult scales.

The new ASCI scales are clearly multidimensional in nature. This provides an advantage over the modified SCI which is unidimensional. The multidimensional nature of these scales will allow for the assessment of specific components of adolescent sense of community separately within the same scale for both the school and the neighbourhood environments. This will allow for a more complete understanding of the nature of adolescent sense of community and an ability to focus on specific issues.

Each of these scales has good construct validity and test-retest reliability. Both the ASCI-S and the ASCI-N had low to moderate correlations with self-esteem and social

support, suggesting that the ASCI scales are measuring sense of community and not self-esteem or social support; that is, the ASCI scales exhibit discriminant validity, unlike the modified SCI which correlated with social support in adolescent samples (Chipuer et al., 1995). The ASCI-S had moderate to high correlations with the measure of school environment while the ASCI-N correlated to the same extent with the neighbourhood environment scale, demonstrating convergent validity. This pattern of relationships supports the construct validity of two scales, confirming that they are measuring adolescent sense of community. Both ASCI scales were highly correlated with the SCI scales suggesting that the adolescent and adult scales are assessing the same construct but in different populations. Test-retest reliability for the ASCI-S ranged from .73 to .87 and for the ASCI-N ranged from .58 to .79, indicating that both scales are relatively stable over time.

Only students from grades 7 and 9 were able to participate in Study 3. Ideally, since the scales were established on three grades, they should have also been evaluated psychometrically on those same three grades. Nonetheless, the consistency of the results agree for the validity based on data for these two grades. Future research, however, should reassess the validity and reliability of these scales with adolescents in grade 11 as well as participants in grades other than grade 7 and grade

9. This would allow for psychometric characteristics to be established for all adolescent grade levels.

Future research should also include the evaluation of these scales with an ethnically diverse sample. These scales were developed on a Nova Scotian population which was 90% white. Blacks and members of other minority groups were not adequately represented in the development of these scales. This may affect the generalizability of these scales to multicultural populations.

#### Implications for the McMillan and Chavis' Model (1986)

McMillan and Chavis (1986) developed the most comprehensive model of sense of community. Their model suggests that sense of community involves elements of membership, influence, integration and fulfilment of needs and shared emotional connection. The initial development of the ASCI-S and the ASCI-N was based on this model. The interview questions developed in Study 1 directly followed from this model. Not surprisingly, the final scales reflected these elements. Both the ASCI-S and the ASCI-N clearly reflect McMillan and Chavis' membership and integration and fulfilment of needs elements and suggest the inclusion of their influence and shared emotional connection elements.

Both the ASCI-S and the ASCI-N contain three subscales. The school scale includes the subscales of Peer Acceptance, Teacher Acceptance, and School Involvement. The concepts

encompassed by these subscales reflect two of the elements of the McMillan and Chavis model. The first two subscales, Peer Acceptance and Teacher Acceptance, reflect membership. The School Involvement subscale represents integration and fulfilment of needs. However, influence and shared emotional connection do not appear to be directly represented by the ASCI-S subscales. The subscales of the ASCI-N also represent the elements of membership and integration and fulfilment of needs of the McMillan and Chavis model. The Membership subscale corresponds with the membership element of their model; Cohesion/Accessible Activities reflects the integration and fulfilment of needs element.

McMillan and Chavis' elements of membership and integration and fulfilment of needs are reflected in both the ASCI-S and the ASCI-N subscales. The remaining two elements of the model, influence and shared emotional connection, do not seem to be directly represented within the new adolescent scales. However, they do appear to be represented indirectly. For the ASCI-S, the element of influence is inferred through the peer and teacher acceptance subscales. In order to feel accepted and supported by either peers or teachers, there must be an element of mutual influence and understanding. The School Involvement subscale may indirectly reflect shared emotional connection. Being involved in school activities and



attending the same school for a number of years implies a common history between students.

Similarly for the ASCI-N, the Membership subscale implies the element of influence. Being known within the neighbourhood suggests an understanding of influence between neighbours. The Cohesion/Accessible Activities subscale indirectly represents the element of shared emotional connection. Being involved and participating in activities implies common interests between neighbours. However, the ASCI-N Proximity of Friends subscale does not appear to represent, directly or indirectly, any of the elements described by McMillan and Chavis (1986).

The ASCI-N Proximity of Friends subscale seems to be representative of a construct which may be relevant for adolescents but not adults. It pertains to the physical/geographical rather than the relational component of the definition of a community (Gusfield, 1975). This raises the question of whether the physical/geographical component of a "community" applies more to adolescents than it does to adults since the proximity of peers is not represented in any of the existing adult scales. This construct suggests that one component of adolescent sense of community depends on how close adolescents feel they are located to their friends. This is understandable since adolescents tend to be limited in terms of transportation. Early in adolescence, they do not drive. As they get older,

they may not have access to a vehicle. The inclusion of this subscale in the ASCI-N suggests that it is important for adolescents to be physically close to their friends, to compensate for their lack of transportation. While access to friends may be important to adults, it may be less relevant to their sense of community. As a result of most adults' mobility, access to friends may not be an issue.

The inclusion of the Proximity of Friends subscale should be considered tentative. It was included in the ASCI-N despite its low eigenvalue (.88 for all grades factor analyzed together) because of the exploratory nature of this research. The test-retest reliability coefficients for this subscale were less than satisfactory. This scale will need to be evaluated in future studies to determine its worthiness to the ASCI-N.

McMillan and Chavis' model, developed for an adult population, seems to accurately represent adolescent sense of community with two exceptions. First, two elements are not directly reflected in the adolescents scales. Second, the Proximity of Friends subscales is unique to the ASCI-N. McMillan and Chavis' model, when applied to adolescents, may have to be modified to incorporate the element of accessibility to friends. Otherwise, the McMillan and Chavis model (1986) appears to be generally applicable to adolescents.

### Applications for the ASCI-S and the ASCI-N

Psychological sense of community plays an important role in the lives of adolescents. Measuring levels of sense of community may provide an understanding of adolescents' current feelings about their environment.

These scales may have applications specifically in the field of mental health and for research purposes by professionals qualified to administer, score and interpret psychological tests. These indices assess psychological sense of community in adolescents. Despite the different contexts in which these scales may to be used, they will most likely be used as part of intervention programs which would be based in either the school or the neighbourhood. An example might be a recreational group established to help increase feelings of adolescent sense of community through participation and involvement. Scores from the ASCI-S or the ASCI-N may indicate when intervention strategies are needed. The relationship between mental health and adolescent sense of community is unclear, primarily due to the small amount of research that has been conducted with adolescents. Specific constructs which have been examined with respect to adolescent sense of community include participation and involvement (Pretty et al., in press), social support (Felton & Shinn, 1992), subjective well-being (Page & Tucker, 1994) and loneliness (Pretty et al., in press). All of these studies used modified adult scales.

Loneliness is the only indicator of well-being which has been consistently related to adolescent sense of community (Chavis & Newbrough, 1986; Davidson & Cotter, 1991; McCarthy et al., 1990; Pretty et al., 1992; Pretty et al., in press). If results are similar to those found for adults, increased sense of community in adolescence should also contribute to good mental health. These new ASCI scales have the potential to benefit mental health professionals. They will directly assist in the general psychological assessments of adolescent clients; they will also stimulate new research in sense of community and its role in mental health. These scales provide an appropriate and effective tool to measure adolescent sense of community.

#### General Limitations

As with any study, this research has a few limitations. However, these limitations do not appear to have had an adverse impact on the development of the ASCI-S or the ASCI-N scales.

#### Perceptions of Confidentiality

All three studies collected data in the school environment. Throughout data collection, participants were guaranteed that their responses to interview questions and questionnaire items would be held in confidence and would not be reported back to their school. Nonetheless, students may have withheld some of their true thoughts and feelings out of concern that their school would obtain information

that they wished to remain private. Although interviews were conducted in private, quiet places, occasionally a teacher or principal did come to the door during an interview. Understandably, this may have inhibited some of the participants' responses. Simply responding to questions about their school within the school setting may have been intimidating. In future studies, more of an emphasis should be placed on confidentiality and a greater effort made to make school personnel aware of the importance of confidentiality.

#### Rater Consistency

A second limitation of this study involved rater consistency. Consistency between raters was quite low for the school interviews, but high for the neighbourhood interviews. The development of items for the initial 100-item Questionnaires was based on relevant classifications identified by coders. The 100-item Questionnaires then led to the development of the final ASCI scales. Extensive examination of these correlations suggest that although these scores were not as high as anticipated, they were still acceptable.

The difference in rater consistency between school and neighbourhood interviews may be related to the nature of the coding sheets that were used in this study. These coding sheets were developed by different sets of coders and were rather different for each environment. The school coding

sheets were far more detailed than the neighbourhood coding sheets. As a result, statements may have fit in more than one classification. Coders of the school interviews, therefore, may have placed ambiguous statements in different categories, resulting in reduced rater consistency.

In retrospect, comparable coding sheets should have been developed for both sets of interviews. In addition, more specific guidelines for the development and use of coding sheets might have increased rater consistency. Despite these shortcomings, statistical analyses suggest that the items for the ASCI-S were satisfactory and relevant to the construct.

#### Test-Retest Reliability

Higher test-retest reliability coefficients were expected than those that were obtained. For the ASCI-S, results ranged from moderate to high, suggesting that it was stable over a two-week interval. The ASCI-N reliability coefficients were lower, but still ranging from moderate to high. The ASCI-N scores were lower than those found for the ASCI-S.

The lower test-retest reliability for the ASCI-N may be related to assessing the neighbourhood environment in a school setting. The test-retest ASCI-S scores were good, suggesting that it is easier for adolescents to express their feelings about their school in a consistent manner when they are physically in the school.

### Urban Sample

All of the adolescent participants in this study came from an urban environment. However, a recent study with rural adolescents suggests that urban and rural adolescents have more similarities than differences (Power, 1996).

### Summary

Despite these limitations, the results suggest that the ASCI-S is a good measure of adolescent psychological sense of community in the school and that the ASCI-N is an adequate measure of adolescent psychological sense of community in the neighbourhood. Both scales were developed exclusively on an adolescent population; the first study to develop a scale to measure sense of community in this population. This study is the first step in the ongoing development of these measures.

### Conclusion

This study developed measures of adolescent sense of community in the school (ASCI-S) and in the neighbourhood (ASCI-N). These scales are psychometrically sound with established factor structures, construct validity, and test-retest reliability. Since adolescent measures of sense of community did not previously exist, these scales make a major contribution to the field of sense of community. They meet the need for measures of adolescent sense of community and provide a base for future examination of adolescent sense of community.

This study also provides a new perspective on the McMillan and Chavis model (1986); it is largely appropriate for adolescents, despite its development on adults. With the existence of the ASCI-S and the ASCI-N, research involving adolescents becomes more feasible. This will allow researchers to begin to understand whether the relationships between sense of community and various constructs found for adults, apply to adolescents.



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Appendix A

LETTER FOR STUDY 1

Dear Parent,

We would like your permission for your child to participate in a project we are doing at their school. We are professors at Saint Mary's University who are concerned about the healthy development of adolescents. We are particularly interested in how their "sense of community" at school and in their neighbourhood influences their sense of well-being. We know that sense of community is important to adults. It is not uncommon to hear people refer to a "sense of community" when discussing places where people have support from friendly, caring individuals. Most of us recognize how much better we feel in a place where there is a sense of community. Recently our research has shown that it is also important to adolescents.

One limitation of the research on adolescent sense of community is that the measure being used was developed for adults. It is important that we develop a measure specifically for adolescents. This is the purpose of our project.

We will be asking your child questions about whether he/she has a "sense of community". That is, whether they have a feeling of belonging and support at school and in their neighbourhood. For example, "Do you feel comfortable at your school?", "What do you like about your neighbourhood?" "What would you like to have in your neighbourhood to make it better?"

Senior university students will either interview your child individually for approximately 20 minutes, or ask them to answer a set of questionnaires. This will take place during school time, with the permission of the teacher and principal. Your child will also be told that they can leave the interview at any time if they are not comfortable for any reason. Neither you nor your child's name will be identified with the information they give.

We appreciate you giving our request consideration. We hope you will consent to your child's participation. Please sign the attached consent form indicating your approval and ask your child to return it in class the next day. If you have any questions please feel free to contact Dr. Heather Chipuer at Saint Mary's University (420-5861).

Thank you.

---

Heather Chipuer, Ph.D.  
Grace Pretty, Ph.D



Appendix A

CONSENT FORM FOR STUDY 1

The purpose of this study is to find out about adolescents' feelings concerning their neighbourhood and their school. Adolescents will be asked to participate in one (1) of two sessions. The first session is a 20-minutes, tape-recorded interview discussing the adolescent's sense of community in the neighbourhood or the school. The second session occurs during a scheduled class period. The adolescents will be asked to complete a set of questionnaires asking about their sense of community and their own well-being.

It has been explained to me that the nature of this research is to investigate the social experiences youth have in their communities and schools. I understand that my child's participation is anonymous and that he/she will not be identified from this questionnaire at any time. To provide the school with feedback, they request that we identify the name of the student interviewed. Please indicate whether or not you and your child give us permission to provide the school with your child's name.

I hereby give permission for my child to participate.

Signature of Parent: \_\_\_\_\_ Date: \_\_\_\_\_

Name of Adolescent: \_\_\_\_\_

School: \_\_\_\_\_

Appendix B

DEBRIEFING FOR STUDY 1

**JUST READ THIS TO THE PARTICIPANT:**

Thanks for participating in this project.

We are interviewing students in grades 7, 9, and 11 and asking them the same questions that we asked you. We want to know how people your age feel about their school (neighbourhood). Right now we have an idea of how adults feel about their workplace or their neighbourhood, but we don't know very much about adolescents.

With the answers we've received from all our interviews we are going to make a questionnaire that will measure adolescents' feelings about their school (neighbourhood). This questionnaire will then be used in future research that will try to understand the environment in which adolescents feel most comfortable. That way, educators can use this information to try to make their schools a better place for students (communities can use this information to make neighbourhoods a better place to live).

Because we haven't interviewed everyone in your grade yet, we ask that you do not tell anyone about the questions we asked you. That way, we can find out their feelings about their school (neighbourhood).

Appendix C

SCHOOL INTERVIEW QUESTIONS

1. Tell me about your school; that is, what is your school like?

- How do you feel about your school?
- Do you feel part of your school?
- What about your school makes you feel part of it?
- What about your school makes you not feel part of it?

2. What do you like about your school?

What do you dislike about your school?

3. What happens when you want some things to be done at your school? (expand: How would other students respond? How would teachers respond? How would your principal respond?)

- If you want to change something?
- If you want to make something happen?
- If you want to organize an activity (i.e. social, school, sports)?

If you have never done this before, what is it like for others who might want to do this or have done this?

4. What would the perfect school be like?

- How is it the same as your school?
- How is it different from your school?
- What things would make your school perfect?
- How would it feel to go to the perfect school?

5. Tell me about what you get out of being at your school?

- Tell me about the good things that come to you because you go to your school.
- Tell me about the not so good things that come to you because you go to your school.

Is there anything else about your school that you would like to mention that you haven't mentioned already?

Appendix C

NEIGHBOURHOOD INTERVIEW QUESTIONS

1. Tell me about your neighbourhood; that is, what is your neighbourhood like?
  - How do you feel about your neighbourhood?
  - Do you feel part of your neighbourhood?
  - What about your neighbourhood makes you feel part of it?
  - What about your neighbourhood makes you not feel part of it?
2. What do you like about your neighbourhood?  
 What do you dislike about your neighbourhood?
3. What happens when you want some things to be done in your neighbourhood? (expand: How would your family respond? How would your neighbours respond? How would your community respond?)
  - If you want to change something?
  - If you want to make something happen?
  - If you want to organize an activity (i.e. social, sports)?

If you have never done this before, what is it like for others who might want to do this or have done this?
4. What would the perfect neighbourhood be like?
  - How is it the same as your neighbourhood?
  - How is it different from your neighbourhood?
  - What things would make your neighbourhood perfect?
  - How would it feel to live in the perfect neighbourhood?
5. Tell me about what you get out of living in your neighbourhood?
  - Tell me about the good things that come to you because you live in your neighbourhood.
  - Tell me about the not so good things that come to you because you live in your neighbourhood.
6. What does the word "neighbourhood" mean to you?
  - What is a neighbourhood?

Is there anything else about your school that you would like to mention that you haven't mentioned already?

Appendix D

CODING FOR SCHOOL INTERVIEWS - DEFINITIONS

Any category will include both extremes, positive and negative, of any issue. Do not interpret what the student has said, code what is actually said as much as possible. This will allow for maximum use of our coding sheets.

Please keep in mind the context of each category when you are coding, for example consider that fulfillment of needs in under the category of expectations, under individual needs. So, you would be looking for needs an individual may have that were personal expectations of that individual.

## EDUCATION (A)

### Academics (1)

- general academic category, learning, overall success or failure

### Classes (2)

- more tangible, amount of work, preferences of classes, how often and how long classes last

### Future (3)

- long term issues, jobs, looking to the future (i.e.) high school

## SOCIAL (B)

### Involvement (1)

Participation (a): being involved in/with, desire to be involved, attending events

Activities/Sports (b): being on teams, in clubs, want more activities, extra-curricular events (i.e. dances)

### Support (2)

Internal (a): any type of support (academic, emotional, etc.) stemming from within the school, be it from staff or students

External (b): any type of support stemming from outside the school, including views and impressions the community may have of the school or the students who attend there

**Environment (3)**

Safety/Security (a): anything involving feeling safe/unsafe at school, physically or emotionally

Atmosphere (b): overall impression of the school atmosphere as described by the student

Cultural/Racial (c): references to religious/racial/language differences and the effect it has on the student i.e. feelings of belonging or of alienation

**Interaction (4)**

Communication (a): any form of interaction between individuals at the school

Friends (b): other students or otherwise referred to specifically as friends

Peers (c): people in general that attend the school

Influence (I) - positive or negative as a result interactions with peers

Status (II) - how the student perceives and is perceived by peers, how they fit in or do not fit in socially

**STRUCTURE (C)**

**Authority (1)**

Staff (a): any individuals at the school available or visible to the students

Power (b): any situation that is handled by an individual in a position of power, in which the student may have no say or control as to the outcome

Credibility of Idea (c): any situation that is listened to and considered prior to a decision being made

**School (2)**

**Resources/**

Facilities (a): anything from academic to athletic facilities, size of the school, number of students, cafeteria, time availability and allocation of resources

**Procedures (b):**

Democratic Procedures (I) - anything having to do with student council, hierarchy, following through on projects or commitments

Common Goals (II) - situations where students and/or staff work together for the common good of the school, including any form of fund-raising involving money and/or time

**Consequences/**

Rules/Discipline (III) - awareness of rules, enforcement of discipline, for behaviour

**Location/Appearance (c):**

Proximity (I) - this includes how far the school is from home, how long it takes to get there, mode of transportation, distance to classes, distance from friends and proximity to conveniences when at school

**Aesthetic/**

Quality of (II) - the school, school resources including "newness", cleanliness, comfort and decor

**Classroom Procedures (3)**

Time (a): time in class, in school, free time, allocation of time, time commitments and priorities, time demands and length of school day

Teachers (b): any mention of teachers, their roles, availability and involvement, etc.

Change/Disruption (c): any type of change in schedule, including classes, school hours; routine, level of comfort, "used to", comparing to other schools

**INDIVIDUAL DIFFERENCES (D)**

**Maturity (1)**

Independence (a): privileges, freedom of choice, treated as mature, allowed to make decisions

Responsibility (b): initiative, for own actions, obligation,

sense of

**Expectations (2)**

Respect (a): between students, between students and teachers, for ideas, for the school (in an abstract way)

Fair Treatment/Equality (b): of/between individuals, favouritism, equal opportunity

Fulfilment of Needs (c): any needs that an individual may have, this also includes the need for recognition

**Self (3)**

: characteristics specific to the self, in the self, for the self, of the self

**Beliefs (4)**

Attitudes (a): personal beliefs and attitudes, opinions of

"No Such Thing As Perfect" (b): the feeling that perfection is not achievable and even if it were, it too would become routine, there is always room for improvement

Indifference (c): attitude of not caring, neutral, can't be bothered, apathy



## Appendix D

# SCHOOL CODING SHEET

[illegible]



Appendix D

CODING FOR NEIGHBOURHOOD INTERVIEWS - DEFINITIONS

**PROXIMITY (A)**

**Family/Friends/  
Neighbours (1):**

deals with the general distance to and from these individuals from the interviewee's perspective (important to be close by)

**School (2):**

distance to/from the individual's school (too far/too close), other schools in the neighbourhood (some too close) as well as universities

**Facilities (3):**

distance from the major facilities including the malls, restaurants, recreational facilities and parks, (access to transportation important if live far from things), (having amenities close by is valued)

**Health & Safety  
Services (4):**

distance to/from the nearest police, fire departments, hospitals and doctors

**NEIGHBOURS (B)**

**Attitudes/  
Characteristics (1):**

anything describing the positive or negative characteristics, outlook, personality of the people living around the individual

**Involvement (2)**

Participation (a): being involved in/with, desire to be involved, attending events

Activities (b):

Sports (I) - being on teams, in clubs, wanting more sport activities, extra-curricular events in the neighbourhood with regards to sports

Social (II) - visiting and socializing with others in the neighbourhood, having or wanting more social activities and events (i.e. street parties, street sales, etc.) in

the neighbourhood

Employment (III) - opportunities (i.e. babysitting)

**Leaders (3):** those individuals in the neighbourhood with the interviewee felt took a leadership position; one they could go to for assistance when wanting to get something done or changed in the neighbourhood (i.e. parents, city council, certain neighbours)

**Age (4):** interviewee's perception of the ages of the people living in their neighbourhood including the amount of people at these particular ages. For example, there may be a lot of kids who are the same age as the individual being interviewed or not enough

## STRUCTURE (C)

**Safety/Security (1):** anything involving feeling safe/unsafe in the neighbourhood, physically or emotionally (i.e. crime, drugs, pollution, traffic, etc.)

**Physical Geography (2):** pertaining to the layout of the neighbourhood, the houses, landscape etc., including descriptions of what the neighbourhood looks like

**Stigmatization (3):** references to or assumptions of the type of person one must be because they live in the area or neighbourhood that they do (either negative or positive)

**Noise Level (4):** descriptions of the amount of noise in the neighbourhood, a neighbourhood may vary from quiet and peaceful to extremely noisy from traffic

## Appendix D

## NEIGHBOURHOOD CODING SHEET

[illegible]

Appendix E

SCHOOL 100-ITEM QUESTIONNAIRE

For each of the following items, we want you to think about your school. We are interested in your opinions or feelings about the school you go to. Please answer each item indicating whether you strongly disagree (A), disagree (B), agree (C), or strongly agree (D) with it.

		STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
1.	My school is boring.	A	B	C	D
2.	At my school there are different things to do.	A	B	C	D
3.	I have a lot of friends at my school.	A	B	C	D
4.	At my school students can be part of more than one clique or group at one time.	A	B	C	D
5.	If I want any extra help my teachers are there for me.	A	B	C	D
6.	I don't get involved in the activities going on at my school.	A	B	C	D
7.	I feel left out at my school because I don't play any sports.	A	B	C	D
8.	I don't have many friends at my school.	A	B	C	D
		STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
9.	Students at my school are divided into different cliques or groups.	A	B	C	D
10.	Teachers help me whenever I need help.	A	B	C	D
11.	At my school there are not enough activities that students want to get	A	B	C	D
12.	I wish there were more social activities to do at my school.	A	B	C	D
13.	Everyone at my school is nice to me.	A	B	C	D
14.	The cliques or groups at my school don't mix or talk to each other.	A	B	C	D
15.	Teachers care about me.	A	B	C	D

		STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
16.	I go to the events at my school.	A	B	C	D
17.	At my school it is important to be on a sports team.	A	B	C	D
18.	I know a lot of students at my school.	A	B	C	D
19.	There is tension between the different cliques or groups at my school.	A	B	C	D
20.	Teachers give me a lot of support.	A	B	C	D
21.	I get involved in things going on my school.	A	B	C	D
22.	I participate in at least one activity in school.	A	B	C	D
23.	When I'm at my school I feel like I'm not alone.	A	B	C	D
24.	At my school, some people don't belong to a group or clique.	A	B	C	D
25.	Teachers listen to what I have to say.	A STRONGLY DISAGREE	B DISAGREE	C AGREE	D STRONGLY AGREE
26.	I can participate in school activities if I want.	A	B	C	D
27.	I wish my school had sports that I could get involved in.	A	B	C	D
28.	Students in my school get along.	A	B	C	D
29.	It is important to belong to a group or clique in my school.	A	B	C	D
30.	I feel comfortable talking to teachers at my school.	A	B	C	D
31.	I go to after school activities.	A	B	C	D
32.	Students participate in organized events at my school.	A	B	C	D
33.	I feel like I'm included at my school.	A	B	C	D
34.	At my school, if you're not with the "in" crowd other students think you're a loser.	A	B	C	D

		STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
35.	Teachers at my school respect me.	A	B	C	D
36.	I participate in at least one club at school.	A	B	C	D
37.	At my school there is too much focus or emphasis on sports.	A	B	C	D
38.	We all know each other at my school.	A	B	C	D
39.	At my school, I don't feel like I fit in.	A	B	C	D
40.	Teachers get involved with things at school.	A	B	C	D
41.	I help out at school.	A	B	C	D
42.	There are a lot of activities at my school.	A	B	C	D
43.	At my school everyone helps each other out.	A	B	C	D
44.	I have a group or clique that I belong to at my school.	A	B	C	D
		STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
45.	Sometimes students can kid around or joke with the teachers.	A	B	C	D
46.	I'm not interested in most of the activities at my school.	A	B	C	D
47.	I wish there were sports at my school that I could play just for fun.	A	B	C	D
48.	I feel left out at my school.	A	B	C	D
49.	I don't like that my school has different groups or cliques.	A	B	C	D
50.	Teachers make me feel welcome at my school.	A	B	C	D
51.	At my school students get involved in activities.	A	B	C	D
52.	At my school there are clubs or activities that fit with students' interests.	A	B	C	D
53.	I feel welcome at my school.	A	B	C	D



		STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
54.	I don't like the people who go to my school.	A	B	C	D
55.	It is important that my teachers treat me fairly.	A	B	C	D
56.	Students don't take pride in our school.	A	B	C	D
57.	We have activities other than sports at my school.	A	B	C	D
58.	I am glad I go to my school.	A	B	C	D
59.	At my school, I can be myself.	A	B	C	D
60.	Teachers are easy to get along with at my school.	A	B	C	D
61.	I don't have much school spirit.	A	B	C	D
62.	Activities at my school are for students who are good at sports.	A	B	C	D
63.	I get picked on by other students at my school.	A	B	C	D
64.	When I speak up at school I worry that other students will make fun of me.	A	B	C	D
		STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
65.	Students have respect for the teachers at my school.	A	B	C	D
66.	There is unity at my school.	A	B	C	D
67.	Students support each other at my school.	A	B	C	D
68.	Students at my school don't like me.	A	B	C	D
69.	Teachers at my school don't really get to know us students.	A	B	C	D
70.	I'm proud of my school.	A	B	C	D
71.	Students at my school make fun of me.	A	B	C	D
72.	Teachers associate with students even outside the classroom.	A	B	C	D
73.	Students at my school talk to me even if I don't know them.	A	B	C	D

		STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
74.	People at my school care too much about how people look and dress.	A	B	C	D
75.	Students and teachers cooperate with each other at my school.	A	B	C	D
76.	Students work together at my school.	A	B	C	D
77.	I go to a school where I don't have to worry about what other people think about me.	A	B	C	D
78.	Teachers talk to me like I am a friend.	A	B	C	D
79.	People talk behind each others' backs at my school.	A	B	C	D
80.	I like most of my teachers.	A	B	C	D
81.	Students gossip about others at my school.	A	B	C	D
82.	I can talk to teachers like I talk to my friends.	A	B	C	D
		STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
83.	When I need help at my school other students will help me.	A	B	C	D
84.	Teachers at my school are nice to me.	A	B	C	D
85.	I get teased by students at my school.	A	B	C	D
86.	Teachers listen to suggestions made by students.	A	B	C	D
87.	Students at my school are mean to me.	A	B	C	D
88.	Teachers don't take students seriously when we have something to say.	A	B	C	D
89.	Students try to get me to do things I don't want to do.	A	B	C	D
90.	Some teachers at my school are mean to me.	A	B	C	D
91.	There are students at my school I don't like to be around.	A	B	C	D

		STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
92.	I don't like coming to school because of a teacher.	A	B	C	D
93.	I don't get along with my teachers.	A	B	C	D
93.	Other students don't listen to what I have to say.	A	B	C	D
95.	Students at my school don't associate much with each other.	A	B	C	D
96.	Some teachers don't get along with the students.	A	B	C	D
97.	Students at my school know me.	A	B	C	D
98.	Teachers treat some students better than other students.	A	B	C	D
99.	When I say "Hi" to other students in the hallways they say "Hi" back to me.	A	B	C	D
100.	I have someone to talk to at school.	A	B	C	D

Appendix E

NEIGHBOURHOOD 100-ITEM QUESTIONNAIRE

For each of the following items, we want you to think about your neighbourhood. We are interested in your opinions or feelings about the neighbourhood you live in. Please answer each item indicating whether you strongly disagree (A), disagree (B), agree (C), or strongly agree (D) with it.

	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
	A	B	C	D
1. My friends live far away from my neighbourhood.				
2. People in my neighbourhood care about me.	A	B	C	D
3. My neighbourhood is in walking distance of everything that I need to get to.	A	B	C	D
4. People in my neighbourhood are friendly.	A	B	C	D
5. People in my neighbourhood get along with each other.	A	B	C	D
6. There are no people my age who live in my neighbourhood.	A	B	C	D
7. People in my neighbourhood don't listen to what I have to say.	A	B	C	D
	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
	A	B	C	D
8. I know everyone in my neighbourhood.				
9. I feel safe walking down my street during the day.	A	B	C	D
10. The neighbours are suspicious of teenagers in my neighbourhood.	A	B	C	D
11. My neighbourhood is too quiet.	A	B	C	D
12. My friends live close to my neighbourhood.	A	B	C	D
13. People in my neighbourhood don't care about me.	A	B	C	D
14. It's difficult to go and visit my friends from my neighbourhood.	A	B	C	D
15. People in my neighbourhood are nice.	A	B	C	D
16. I feel comfortable with the people in my neighbourhood.	A	B	C	D

	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
17. I like being with the other kids in my neighbourhood.	A	B	C	D
18. When I walk down the street, my neighbours don't say "Hi" to me.	A	B	C	D
19. There's nobody I know well in my neighbourhood.	A	B	C	D
20. It would be better if my neighbourhood was safer at night.	A	B	C	D
21. When people see a group of teenagers in my neighbourhood they get nervous.	A	B	C	D
22. I would like my neighbourhood to be quieter.	A	B	C	D
23. People in my neighbourhood are my parents' friends, not my friends.	A	B	C	D
24. People in my neighbourhood care about each other.	A	B	C	D
25. It is important that I live close to a bus route.	A	B	C	D
26. People in my neighbourhood like seeing each other.	STRONGLY DISAGREE A	DISAGREE B	AGREE C	STRONGLY AGREE D
27. People drop by and visit with each other in my neighbourhood.	A	B	C	D
28. Everybody is willing to help each other in my neighbourhood.	A	B	C	D
29. People get involved in neighbourhood activities.	A	B	C	D
30. There are people my age in my neighbourhood but I don't know them.	A	B	C	D
31. When people from my neighbourhood see each other they say "Hi".	A	B	C	D
32. Everybody knows everybody else in my neighbourhood.	A	B	C	D
33. I feel safe in my neighbourhood.	A	B	C	D

	STRONGLY DISLIKE	DISLIKE	ALIKE	STRONGLY ALIKE
34. I try to stay away from certain kids in my neighbourhood.	A	B	C	D
35. I don't mind noise in my neighbourhood.	A	B	C	D
36. I have made friends in my neighbourhood.	A	B	C	D
37. People in my neighbourhood are concerned with what is going on with me.	A	B	C	D
38. My neighbourhood is far away from places I want to go.	A	B	C	D
39. People in my neighbourhood are grouchy or crabby.	A	B	C	D
40. People stick behind each other in my neighbourhood.	A	B	C	D
41. My neighbours are there for me when I need them.	A	B	C	D
42. People in my neighbourhood stick to their own lives.	A	B	C	D
43. Mostly young kids live in my neighbourhood.	STRONGLY DISLIKE	DISLIKE	ALIKE	STRONGLY ALIKE
44. Neighbours do not talk to one another.	A	B	C	D
45. I would like to get to know people better in my neighbourhood.	A	B	C	D
46. There are places that I don't like to go in my neighbourhood.	A	B	C	D
47. There are bad kids in my neighbourhood.	A	B	C	D
48. None of my friends live in my neighbourhood.	A	B	C	D
49. I feel I belong in my neighbourhood.	A	B	C	D
50. It's not easy for me to get to places from my neighbourhood.	A	B	C	D
51. People in my neighbourhood can be really mean.	A	B	C	D
52. I feel at home in my neighbourhood.	A	B	C	D

	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
53. People are there for each other in my neighbourhood.	A	B	C	D
54. People in my neighbourhood mind their own business.	A	B	C	D
55. Because there are kids in my neighbourhood I get to know their parents.	A	B	C	D
56. I can recognize most people in my neighbourhood.	A	B	C	D
57. Although we meet our neighbours, we don't continue to get to know them.	A	B	C	D
58. I'm not afraid to go walking around my neighbourhood at night.	A	B	C	D
59. There are gangs in my neighbourhood.	A	B	C	D
60. I've known the people in my neighbourhood for a long time.	A	B	C	D
61. We need a place for kids my age to go in my neighbourhood.	A	B	C	D
	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
62. There are snobby or stuck up people in my neighbourhood.	A	B	C	D
63. People support each other in my neighbourhood.	A	B	C	D
64. People don't help each other out in my neighbourhood.	A	B	C	D
65. People in my neighbourhood work together to get things done.	A	B	C	D
66. I get to know older people in my neighbourhood.	A	B	C	D
67. I never talk to anyone in my neighbourhood.	A	B	C	D
68. In my neighbourhood everybody associates with everybody else.	A	B	C	D
69. My neighbourhood can be a scary place to live.	A	B	C	D
70. There are fights in my neighbourhood.	A	B	C	D

	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
71. There is not much to do in my neighbourhood.	A	B	C	D
72. There are people in my neighbourhood that don't fit in.	A	B	C	D
73. I feel like nobody wants me around in my neighbourhood.	A	B	C	D
74. I feel okay asking for help from my neighbours.	A	B	C	D
75. People in my neighbourhood never do things as a group	A	B	C	D
76. Mostly older people live in my neighbourhood.	A	B	C	D
77. When I want I can find someone to talk to in my neighbourhood.	A	B	C	D
78. In my neighbourhood, everybody knows me.	A	B	C	D
79. I feel that I can trust people in my neighbourhood.	A	B	C	D
80. There are drug dealers in my neighbourhood.	A	B	C	D
81. There is a place for kids my age to hang out in my neighbourhood.	A	B	C	D
82. I feel part of my neighbourhood.	STRONGLY DISAGREE A	DISAGREE B	AGREE C	STRONGLY AGREE D
83. I feel welcome in my neighbourhood.	A	B	C	D
84. People in my neighbourhood pitch in to help each other.	A	B	C	D
85. In my neighbourhood there are things to get involved in.	A	B	C	D
86. In my neighbourhood adults and teenagers don't mix with each other.	A	B	C	D
87. When I say "Hello" to others, there are people in my neighbourhood who don't say "Hi" back.	A	B	C	D
88. I live in a good neighbourhood.	A	B	C	D
89. There are robberies in my neighbourhood.	A	B	C	D



	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
	A	B	C	D
90. There are things for kids my age to do in my neighbourhood.	A	B	C	D
91. We respect each other in my neighbourhood.	A	B	C	D
92. People in my neighbourhood get together every once in awhile.	A	B	C	D
93. Mostly adults live in my neighbourhood.	A	B	C	D
94. Although neighbours may recognize one another they don't talk to each other.	A	B	C	D
95. We look out for each other in my neighbourhood.	A	B	C	D
96. There is no crime in my neighbourhood.	A	B	C	D
97. My neighbourhood is boring.	A	B	C	D
98. I like the people that live in my neighbourhood.	A	B	C	D
99. If I needed help I could go to anyone in my neighbourhood.	A	B	C	D
100. I like living in my neighbourhood.	A	B	C	D

Appendix F

LETTER AND CONSENT FORM FOR STUDY 2

Dear Parent,

I would like permission for your child to participate in a project I am doing at his or her school. I am a professor at Saint Mary's University who is concerned about healthy development of adolescents. I am interested in how adolescents' "sense of community" at school and in their neighbourhood influences their sense of well-being.

Your child will be asked to fill out a set of questions about his or her sense of community and well-being. It will take about 30 minutes for your child to answer the questions. The study will take place during school time, with the permission of the teacher and principal. Your child will be told that he or she does not have to answer any questions that he or she does not want to answer. Your child will not be identified from the information he or she gives.

In order for your child to participate in the study, we need your permission. Because testing will be conducted during a scheduled class time, students who do not have permission to participate will proceed with their homework as usual. That is, this will not become a free period for those students.

We hope that you will consent to your child's participation. Please complete the section at the bottom of this page, indicating your consent for your child's participation in this study. Have your child return that part of this letter in class next day. If you have any questions please feel free to contact me at Saint Mary's University (420-5861).

Thank you.

Heather Chipuer, Ph.D.

DETACH AND RETURN THIS PART TO YOUR TEACHER AS SOON AS POSSIBLE

I \_\_\_\_\_ give consent for my child  
\_\_\_\_\_ to participate in the study.

OR

I do not give consent for \_\_\_\_\_ to participate in the study.

Appendix G

DEBRIEFING FOR STUDIES 2 AND 3

We are giving this questionnaire to students in grades 7, 9, and 11. We want to know how people your age feel about their school or their neighbourhood. Right now we have an idea of how adults feel about their workplace or their neighbourhood, but we don't know very much about adolescents.

We chose questions for our survey based on what students your age told us in interviews we conducted in the fall of 1995. Now that you have completed our questionnaire, we will have a better idea of the typed of things that are important to adolescents concerning their school and neighbourhood environments.

Thank you for your participation.

Appendix H

LETTER AND CONSENT FORM FOR STUDY 3

Dear Parent,

I would like your permission for your child to participate in a project I am doing at his or her school. I am a professor at Saint Mary's University who is concerned about the healthy development of adolescents. I am interested in how adolescents' "sense of community" at school and in their neighbourhood influences their sense of well-being. We know that sense of community is important to adults. It is not uncommon to hear people refer to a "sense of community" when discussing places where people have support from friendly, caring individuals. Most of us recognize how much better we feel in a place where there is a sense of community. Recently research has shown that it is also important to adolescents.

One limitation of the research of adolescent sense of community is that the measure being used was developed for adults. It is important that we develop a measure specifically for adolescents. This is the purpose of our project.

Your child will be asked to fill out a set of questions about his or her sense of belonging in school and in the neighbourhood. It will take about 30 minutes for your child to answer the questions. Senior university students will administer the measure. The study will take place during school time, with the permission of the teacher and the principal. Your child will be told that he or she does not have to answer any question that he or she does not want to answer. Neither you nor your child's name will be identified with the information given. In order for your child to participate in the study, we need your permission. Because testing will be conducted during a scheduled class time, students who do not have permission to participate will proceed with their homework as usual. That is, this will not become a free period for those students.

We hope that you will consent to your child's participation. Please complete the section at the bottom of this page, indicating your consent for your child's participation in this study. Have your child return that part of this letter in class next day. If you have any questions please feel free to contact me at Saint Mary's University (420-5861).

Thank you.

Heather Chipuer, Ph.D.

Appendix H

DETACH AND RETURN THIS PART TO YOUR TEACHER AS SOON AS  
POSSIBLE

I \_\_\_\_\_ give consent for my child  
\_\_\_\_\_ to participate in the study.

OR

I do not give consent for \_\_\_\_\_ to participate in the study.

Appendix 1

ADOLESCENT SENSE OF COMMUNITY INDEX - SCHOOL (ASCI-S)

		STRONGLY DISLIKE	DISLIKE	ALIKE	STRONGLY ALIKE
1.	I wish there were more social activities to do at my school.	1	2	3	4
2.	Students at my school are mean to me.	1	2	3	4
3.	Teachers help me whenever I need help.	1	2	3	4
4.	I participate in at least one activity in school.	1	2	3	4
5.	Teachers listen to what I have to say.	1	2	3	4
6.	I wish my school had sports that I could get involved in.	1	2	3	4
7.	I get teased by students at my school.	1	2	3	4
8.	Teachers at my school respect me.	1	2	3	4
9.	I participate in at least one club at school.	1	2	3	4
10.	I wish there were sports at my school that I could play just for fun.	1	2	3	4
11.	I get picked on by other students at my school.	1	2	3	4
12.	Teachers at my school don't really get to know us students.	1	2	3	4
13.	Students at my school make fun of me.	1	2	3	4
14.	I go to after school activities.	1	2	3	4
15.	Teachers listen to suggestions made by students.	1	2	3	4
16.	I go to the events at my school.	1	2	3	4
17.	Teachers don't take students seriously when we have something to say.	1	2	3	4
18.	I get involved in things going on in my school.	1	2	3	4

Appendix I

ADOLESCENT SENSE OF COMMUNITY - NEIGHBOURHOOD (ASCI-N)

	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
1. My friends live far away from my neighbourhood.	1	2	3	4
2. I know everyone in my neighbourhood.	1	2	3	4
3. I like the people that live in my neighbourhood.	1	2	3	4
4. There are things for kids my age to do in my neighbourhood.	1	2	3	4
5. It's difficult to go and visit my friends from my neighbourhood.	1	2	3	4
6. Everybody knows everybody else in my neighbourhood.	1	2	3	4
7. People in my neighbourhood work together to get things done.	1	2	3	4
8. In my neighbourhood, everybody knows me.	1	2	3	4
9. There is a place for kids my age to hang out in my neighbourhood.	1	2	3	4
10. I feel part of my neighbourhood.	1	2	3	4
11. People in my neighbourhood pitch in to help each other.	1	2	3	4
12. In my neighbourhood there are things to get involved in.	1	2	3	4
13. My friends live close to my neighbourhood.	1	2	3	4
14. I like living in my neighbourhood.	1	2	3	4

Appendix J

SENSE OF COMMUNITY INDEX - REFERENCED FOR SCHOOL (SCI-S)

The following statements are things people might say about their school. Please circle either 1 (Not At All True), 2 (True), or 3 (Very True) after each statement if it describes your school.

	Not at All True	True	Very True
1. I think my school is a good school for me to attend	1	2	3
2. Students at this school do not share the same values or beliefs	1	2	3
3. My fellow students and I want the same thing from this school	1	2	3
4. I can recognize most of the students who go to my school	1	2	3
5. I feel comfortable at my school	1	2	3
6. Very few students know me	1	2	3
7. I care about what other students think of me	1	2	3
8. I have no influence over what my school is like	1	2	3
9. If there is a problem in my school, students can get it solved	1	2	3
10. It is very important to me to go this school	1	2	3
11. People at my school generally don't get along with one another	1	2	3
12. I expect to stay at this school until I graduate (or go up to the highest grade the school goes to)	1	2	3



Appendix J

SENSE OF COMMUNITY INDEX - REFERENCED FOR NEIGHBOURHOOD (SCI-N)

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

Please circle 1 (NOT AT ALL TRUE), 2 (TRUE) or 3 (VERY TRUE) after each statement if it describes your street.

	NOT AT ALL TRUE	TRUE	VERY TRUE
1. I think my street is a good place for me to live	1	2	3
2. People on this street do not share the same values or beliefs	1	2	3
3. My neighbours and I want the same thing from this street	1	2	3
4. I can recognize most of the people who live on my street	1	2	3
5. I feel at home on this street	1	2	3
6. Very few of my neighbours know me	1	2	3
7. I care about what my neighbours think of my actions	1	2	3
8. I have no influence over what this street is like	1	2	3
9. If there is a problem on this street, people who live here can get it solved	1	2	3
10. It is very important to me to live on this street	1	2	3
11. People on this street generally don't get along with one another.	1	2	3
12. I expect to live on this street for a long time	1	2	3

Appendix J

PERCEIVED COMPETENCE SCALE FOR ADOLESCENTS:  
GLOBAL SUBSCALE (PCSA)

Below are some sentences. Each one describes two kinds of kids - those in C1 and those in C2. First, decide which kind of kids are more like you - C1 or C2. Then decide whether the description of that kind of kid is really true for you or sort of true. Please circle the number that best represents your answer. Only choose one answer per item.

	REALLY TRUE	SORT OF TRUE	C1	C2	REALLY TRUE	SORT OF TRUE
1.	4	3			2	1
			Some kids are often disappointed with themselves.	BUT	Other kids are pretty pleased with themselves.	
2.	4	3			2	1
			Some kids don't like the way they are leading their life.	BUT	Other kids do like the way they are leading their life.	
3.	4	3			2	1
			Some kids are happy with themselves most of the time.	BUT	Other kids are often not happy with themselves.	
4.	4	3			2	1
			Some kids like the person they are.	BUT	Other kids often wish they were someone else.	
5.	4	3			2	1
			Some kids are very happy being the way they are.	BUT	Other kids often wish were different.	

Appendix J

INVENTORY OF SOCIAL SUPPORTIVE BEHAVIOURS (ISSB)

The following is a list of activities that other people may have done for you, or with you in recent weeks. Please read each item and indicate how often these activities happened to you in the past FOUR weeks. Circle whether it happened not at all (1), once or twice (2), once a week (3), several times a week (4), or about every day (5) over the past month.

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

	Not at all 1	Once or twice 2	Once a week 3	Several times a week 4	About every day 5
1. Looked after a family member while you were away.				1	2 3 4 5
2. Was right there with you during a stressful time.				1	2 3 4 5
3. Provided you with a place you could get away to for awhile.				1	2 3 4 5
4. Watched over your possessions while you were busy.				1	2 3 4 5
5. Did some activity with you to help you get your mind off things.				1	2 3 4 5
6. Talked with you about some interests of yours.				1	2 3 4 5
7. Let you know you did something well.				1	2 3 4 5
8. Went with you to see someone who could take action to help you.				1	2 3 4 5
9. Told you that he/she would keep the things you talk about private - just between the two of you.				1	2 3 4 5
10. Expressed respect for an ability or personal quality of yours.				1	2 3 4 5
11. Gave you some information on how to do something.				1	2 3 4 5
12. Gave you over \$25.				1	2 3 4 5

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

	NOT AT ALL 1	ONCE OR TWICE 2	ONLY A FEW 3	SEVERAL TIMES A WEEK 4	ABOUT EVERY DAY 5
13. Comforted you by showing you some physical affection.				1 2 3 4 5	
14. Gave you some information to help you understand a situation you were in.				1 2 3 4 5	
15. Provided you with some transportation.				1 2 3 4 5	
16. Gave you under \$25.				1 2 3 4 5	
17. Listened to you talk about private feelings.				1 2 3 4 5	
18. Loaned you or gave you something (a physical object other than money) that you needed.				1 2 3 4 5	
19. Said things that made your situation clearer or easier to understand.				1 2 3 4 5	
20. Let you know that he/she will always be around if you need assistance.				1 2 3 4 5	
21. Expressed interest in your well-being.				1 2 3 4 5	
22. Told you that she/he feels very close to you.				1 2 3 4 5	
23. Loaned you over \$25.				1 2 3 4 5	
24. Joked or kidded in an effort to cheer you up.				1 2 3 4 5	
25. Provided you with a place to stay.				1 2 3 4 5	
26. Pitched in to help you do something that needed to be done.				1 2 3 4 5	
27. Loaned you under \$25.				1 2 3 4 5	

Appendix J

CLASSROOM ENVIRONMENT SCALE (CES)

These are statements about classrooms. Think about the teacher and the people in your classes. You are to decide which of these statements are true of your classroom overall.

If the statement is never true, circle the 1 (never true), if it is true only once in a while, circle the 2 (sometimes true), if it is true most of the time, circle the 3 (true), and if it is always true, circle the 4 (always true).

Never True	Some Times True	3 True	4 True	Always True	
1	2	3	4	1.	Students put a lot of energy into what they do in class.
1	2	3	4	2.	Students in class get to know each other really well.
1	2	3	4	3.	Teachers spend very little time just talking with students.
1	2	3	4	4.	Students daydream a lot in class.
1	2	3	4	5.	Students in class aren't very interested in getting to know other students.
1	2	3	4	6.	Teachers take a personal interest in students.
1	2	3	4	7.	Students are often "clock-watching" in class (i.e. can't wait until the class is over).
1	2	3	4	8.	A lot of friendships have been made in class.
1	2	3	4	9.	Teachers are more like friends than authority figures.
1	2	3	4	10.	Most students in class really pay attention to what the teacher is saying.
1	2	3	4	11.	Students don't have much of a chance to get to know each other in class.
1	2	3	4	12.	Teachers go out of their way to help students.

Appendix J

BUCKNER'S NEIGHBOURHOOD COHESION INSTRUMENT (NCI)

For the following items, please think about your neighbourhood and the people in your neighbourhood. Again, there are no right or wrong answers. What you feel is correct. Please circle whether you strongly disagree (1), disagree (2), agree (4), or strongly agree (5) with each item.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. Overall, I am very attracted to living in this neighbourhood.	1	2	3	4	5
2. I feel like I belong to this neighbourhood.	1	2	3	4	5
3. I visit with my neighbours in their homes.	1	2	3	4	5
4. The friendships and associations I have with other people in my neighbourhood mean alot to me.	1	2	3	4	5
5. Give the opportunity, I would like to move out of this neighbourhood.	1	2	3	4	5
6. If the people in my neighbourhood were planning something, I'd like to think of it as something "we" were doing rather than "they" were doing.	1	2	3	4	5
7. If I needed advice about something I could go to someone in my neighbourhood.	1	2	3	4	5
8. I think I agree with most people in my neighbourhood about what is important in life.	1	2	3	4	5
9. I believe my neighbours would help me in an emergency.	1	2	3	4	5
10. I feel loyal to the people in my neighbourhood.	1	2	3	4	5

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
11. I borrow things and exchange favours with my neighbours.	1	2	3	4	5
12. I would be willing to work together with others on something to improve my neighbourhood.	1	2	3	4	5
13. I plan to remain a resident of this neighbourhood for a number of years.	1	2	3	4	5
14. I like to think of myself as similar to the people who live in this neighbourhood.	1	2	3	4	5
15. I rarely have neighbours over to my house to visit.	1	2	3	4	5
16. A feeling of fellowship runs deep between me and other people in this neighbourhood.	1	2	3	4	5
17. I regularly stop and talk with people in my neighbourhood.	1	2	3	4	5
18. Living in this neighbourhood gives me a sense of community.	1	2	3	4	5

Appendix J

MARLOWE-CROWNE SOCIAL DESIRABILITY SCALE - SHORT FORM (MCSD)

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is "true" or "false" as it pertains to you.

- |   |            |
|---|------------|
| 1. I like to gossip at times.   | True False |
| 2. There have been occasions when I took advantage of someone.                                  | True False |
| 3. I'm always willing to admit it when I make a mistake.  | True False |
| 4. I always try to practice what I preach.  | True False |
| 5. I sometimes try to "get even" rather than "forgive and forget".                              | True False |
| 6. At times I have really insisted on having things my own way.                                 | True False |
| 7. There have been occasions when I felt like smashing things.                                  | True False |
| 8. I never resent being asked to return a favour.   | True False |
| 9. I have never deliberately said something that hurt someone's feelings.                       | True False |
| 10. I have never been irked or bothered when people expressed ideas very different from my own. | True False |



Appendix J

DEMOGRAPHIC INFORMATION

1. Sex: \_\_\_\_\_ Male \_\_\_\_\_ Female
2. Age \_\_\_\_\_ Grade \_\_\_\_\_
3. How long have you lived at your present address? \_\_\_\_\_
4. Do you live in a: 1. detached house 2. townhouse  
3. apartment 4. condominium
- 5a. Have you changed schools since LAST year? 1. YES  
2. NO
- 5b. Please fill in the blank with the number of years you have been  
at this school. For example, if this is your first year here,  
you would put a "1" on the line:  
This is my \_\_\_\_\_ year at this school
6. How far is your school from your house?
  1. within 1-3 blocks
  2. within 4-6 blocks
  3. more than 7 blocks
7. Where have you gotten to know most of your friends?
  1. from my neighbourhood
  2. from my school
  3. my neighbourhood friends also attend my school
  4. from work
8. Who do you live with?
  1. with both parents
  2. with one parent
  3. with family other than my parents
9. How many brothers do you have? \_\_\_\_\_  
How many sisters do you have? \_\_\_\_\_
10. Please list the activities that you are involved in at school:
11. Please list the activities that you are involved in that are  
not school-related: