ABSTRACT

Title of dissertation: EXPLORING PSYCHOLOGICAL SENSE OF COMMUNITY IN LIVING-LEARNING PROGRAMS AND IN THE UNIVERSITY AS A WHOLE

Stephen P. Wright, Doctor of Philosophy, 2004

Dissertation directed by: Professor Albert H. Gardner
Department of Human Development

The Sense of Community Index (SCI), original questions targeting Sense of Community in a university setting (SSCQ), and qualitative questions were answered by 636 students in reference to their selective living-learning program (LLP) and by an additional 266 comparison students not in any special program in reference to the University. Differences (p<.0005) were found between LLP and non-program students and among LLPs, after controlling for demographic variables. An additional fifth element of Sense of Community, sense of "Purpose" (of and in a community), was proposed, questions regarding "Purpose" loaded strongly on that factor (especially for LLP students), and that factor was highly correlated with the SCI. Factors of the SCI did not load well on the underlying theoretical subscales/elements (Membership, Influence, Integration and fulfillment of needs, and Shared emotional connection). SSCQ reliability was high (.93), and could be developed to supplement the SCI for assessing Sense of Community in school settings.

EXPLORING PSYCHOLOGICAL SENSE OF COMMUNITY

IN LIVING-LEARNING PROGRAMS

AND IN THE UNIVERSITY AS A WHOLE

by

Stephen P. Wright

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Advisory Committee:
        Professor Albert H. Gardner, Chair
        Professor Elizabeth-Anne Robertson-Tchabo
        Professor Wayne H. Slater
        Professor Jo Paoletti
        Professor Dennis Herschbach

www.StephenWright.org

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Finally, I would like to thank all those who contributed to the dysfunction of some of the communities I observed, which helped me become interested in the topic of "sense of community" in the first place.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1: INTRODUCTION

In his well-known book, *Bowling Alone*, Robert Putnam makes a case for the importance of examining the state of community in contemporary life:

> "To everything there is a season, and a time for every purpose under heaven," sang the Hebrew poet in Ecclesiastes. When Pete Seeger put that ancient maxim to folk music in the 1960s, it was, perhaps, a season for Americans to unravel the fetters of intrusive togetherness. As we enter a new century, however, it is now past time to reweave the fabric of our communities.

> At the outset of our inquiry I noted that most Americans today feel vaguely and uncomfortably disconnected. It seemed to many as the twentieth century closed, just as it did to the young Walter Lipmann at the century's opening, that "we have changed our environment more quickly than we know how to change ourselves." We tell pollsters that we wished we lived in a more civil, more trustworthy, more collectively caring community. The evidence from our inquiry shows that this longing is not simply nostalgia of "false consciousness." Americans are *right* that the bonds of our communities have withered, and we are *right* to fear that this transformation has very real costs (Putnam, 2000, p. 402).

Background, Rationale, and Main Objectives of the Study

Now a division of the American Psychological Association, Community Psychology found its conceptual center in the concept of "Psychological Sense of Community," introduced in 1974 by Samuel Sarason. In 1986 a major step was taken by theoretician David McMillan and operationalizer David Chavis with the publication of their theory of Sense of Community (McMillan & Chavis) and Sense of Community Index (Chavis, Hogge, McMillan, & Wandersman). Originally designed primarily in reference to neighborhoods, the Sense of Community Index (SCI) can be adapted to study other communities as well, including the workplace and school.

Among published studies of Sense of Community of college students, the community studied has always been the institution as a whole, never any other community within it. Nevertheless, other social groupings within the university are obviously legitimate settings in which to examine levels, dimensions, and aspects of perceived community (or the lack thereof), for example, cluster colleges, living-learning programs, honors programs, fraternities and sororities, sports teams, academic departments and institutes, student clubs, and other groups that organize around common interests. A variety of positive outcomes (discussed in more detail below) has been found for those who feel a Sense of Community in relation to their academic programs (Bryk & Driscoll, 1988; Pretty, Andrews, & Collett, 1994; Royal & Rossi, 1996). An important but neglected research question is whether this Sense of Community is felt more or less strongly (and in what ways, with what special characteristics) in relation to academic programs within the university or in relation to the university as a whole.

Addressing this problem was one of the two major reasons for undertaking this study. The other was to examine, to explore, and to delve more deeply into the Sense of Community Index itself and the theory behind it, as well as to propose that an additional element of Sense of Community be considered, and to test this proposition. Empirical support for this theoretical examination was of course limited to what can be derived from the settings being studied.

Five Major Features of this Study

Major lines of inquiry of this study included [1] examining Sense of Community in living-learning programs at a large, eastern U.S. public university; [2] making comparisons with students at the University who are not in special academic programs; [3] using these two levels of setting to explore features of the Sense of Community Index; [4] further exploring the application of elements of the Sense of Community Index to these school settings through the use of original survey items; and [5] testing (also with the help of original survey items) this researcher's proposition that a perception of—or sense of—"purpose" is an element that, though not among those identified by McMillan and Chavis, perhaps should be included.

Definitions

Following the line of theory and research of Sarason (1974) and of McMillan and Chavis (1986), their working definitions of Sense of Community will be adopted. For Sarason, Psychological Sense of Community is "the perception of similarity to others, an acknowledged interdependence with others, a willingness to maintain this interdependence by giving to or doing for others what one expects from them, and the feeling that one is part of a larger dependable and stable structure" (1974, p. 157). McMillan and Chavis (1986) define Sense of Community as "a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together."

Instrument

The instrument used in this study was a two-part questionnaire. The first part consisted of an adaptation of the Sense of Community Index to the communities under study. The second part consisted of 40 original questions designed to interface between the specific features of the communities under study and five elements believed to comprise Sense of Community, four of which were identified by McMillan and Chavis in designing the Sense of Community Index, and a proposed fifth element, the "Purpose" of the community (perceived shared sense of purpose that community members have in common).

Populations Studied

As mentioned above, the communities studied included the University as a whole as well as living-learning programs within it. The living-learning programs studied were two-year programs for freshmen and sophomores, each of which had a specific academic theme, often interdisciplinary in nature. Each program had a common residential component and joint activities outside the classroom, as well as a joint identity under the living-learning programs umbrella.

Contribution to Theory and Instrumentation

Equally important to the study of these two levels of community is making a contribution to the ongoing development of Sense of Community theory and instrumentation. As will become clear in the next chapter, the work of McMillan and Chavis has been central in this development, but that work requires additional testing and extension. As the theory and instrumentation is applied to new settings and new types of settings, it should be both strengthened in some ways and challenged in others. Perhaps the present study may be regarded to do a bit of both, and in doing so add to the evolving understanding of Sense of Community.

CHAPTER 2: LITERATURE REVIEW

Some Perspectives Outside Psychology

Sociological theories

The entire history of sociology, and in one sense the full breadth of the field, has been concerned with, or at least bears on, community. Robert Nisbet (1966) describes community as the "most fundamental and far-reaching" social variable (p. 47). Not only has no consensus been reached on a theory of community, even the very definition of community remains problematic.

"The concept of community has been the concern of sociologists for more than 200 years, yet a satisfactory definition of it in sociological terms appears as remote as ever" (Bell & Newby 1972, p. 21).

The first clear sociological definition may have been that of C. J. Galpin in 1915, in the context of the trade and service areas surrounding a central village as a demarcation of rural communities (Harper & Dunham 1959, p. 19). In 1955, George Hillery identified fully 94 definitions of community within the filed of sociology, which he classified using 19 characteristics.

"There is one element, however, which can be found in all of the concepts...all of the definitions deal with people. Beyond this common basis there is no agreement" (Hillery 1955, p. 12).

With the publication of *Gemeinschaft und Gesellschaft* (usually translated as *Community and Society*) in 1887, Ferdinand Tonnies is regarded as having begun the field of community studies (Bell & Newby, 1972). For Tonnies, Community is characterized by relations between people that are governed by natural ties of kinship and friendship, by familiarity, by traditional beliefs handed-down from one generation to the next, by age-old habits, and by customary ways of doing things. Society, on the other hand, is characterized by relations between people that are governed by discussion, deliberation, and rational evaluation of means and ends. They may be calculated based on the advantages that people expect to gain from each other, relations that depend on reasoned exchanges and contractual agreements.

Tonnies and others (Durkheim, 1933; Nisbet, 1964) point to the loss of community resulting from the rationalistic approach in modern society which lays greater emphasis on individualism.

Emile Durkheim argued that division of labor and specialization led to new forms of social organization that undermined previous forms, and feared that the result would be "anomie," a state of "normlessness" characterized by social breakdown.

More recently, concerns about rising individualism and its philosophical support, such as the procedural liberalism of Rawls led communitarians to assert that excessive individualism threatens even individual autonomy, as we are essentially socially embedded beings. Amitai Etzioni (1993, p. 4) proposed a four-point agenda to encourage responsibility and temper excessive individualism:

• a moratorium on the minting of most, if not all, new rights

• re-establishing the link between rights and responsibilities

• recognizing that some responsibilities do not entail rights

• most carefully, adjusting some rights to the changed circumstances

Etzioni acknowledges that the balancing of rights and responsibilities is the most controversial part of the communitarian agenda, but argues that "the best way to curb authoritarianism...is to stop the anarchic drift by introducing carefully calibrated responses to urgent and legitimate public concerns" (p. 11).

German sociologist Niklas Luhmann (1995) approaches community from the standpoint of his general theory of society, wherein community is a self-referential, self-organized social system of communication. He argues that communicative events rather than action or individual human beings constitute the basic units or elements of society. It is a systems-theory approach that embraces complexity as ontologically fundamental, and proposes that semantics and social structures co-evolve, providing the basis for community and its meaning.

Biological theories

It may be surprising to some social scientists that even biologists have developed theories of community, which attempt to explain the development of ecosystems. In terms of the general trends of this theory development, earlier equilibrium theories have recently given way to some extent to non-equilibrium theories of community structure, and this is particularly true of equilibrium theories that focused on the role of competition

(Chesson & Case, 1986). This shift has been facilitated by the identification of random variations that can have a great influence on community structure, such as variation in recruitment (Booth & Brosnan, 1995) and especially disturbance (Pickett & White, 1985).

A Variety of Perspectives

Theories of community have been developed in many fields, and even the most cursory survey lies beyond the scope of this review. Outside the field of psychology, sociological perspectives were surely the most influential among those ideas that helped provide a background for early community psychology theorists, but given the interrelated nature of the development of intellectual history, perspectives in other fields such as anthropology may also have played an important role. Although it may be interesting to taste a few small samples from the immense smorgasbord of approaches to community (as above), this study will not attempt to deal with the many and widely varied theories of community in fields outside psychology apart from touching on the subject very lightly above. This study has its basis in the framework of approaches to community from within the field of community psychology.

Early Work in Community Psychology

In 1974, psychologist Samuel Sarason's seminal book introduced the concept of "Psychological Sense of Community," and proposed that it become the conceptual center for the psychology of community, asserting that Psychological Sense of Community "is one of the major bases for self-definition" (p. 157). Quite a few studies have followed, and in addition to some treatment that has been characterized as fuzzy and atheoretical (cf., Pretty, 1990), some impressive theoretical and empirical development has emerged around this concept, which by 1986 had come to be regarded as a central overarching value for Community Psychology (Sarason, 1986; Chavis & Pretty, 1999).

Early Definitions and Constructs

Sarason's defined Psychological Sense of Community as, among other things, "the perception of similarity to others, an acknowledged interdependence with others, a willingness to maintain this interdependence by giving to or doing for others what one expects from them, and the feeling that one is part of a larger dependable and stable structure" (1974, p. 157).

Gusfield (1975) identified two dimensions of community, territorial and relational. The relational dimension of community has to do with the nature and quality of relationships in that community, and some communities may even have no discernible territorial demarcation, as in the case of a community of scholars working in a particular specialty, who have some kind of contact and quality of relationship, but may live and

work in disparate locations, perhaps even throughout the world. Other communities may seem to be defined primarily according to territory, as in the case of neighborhoods, but even in such cases, proximity or shared territory cannot by itself constitute a community; the relational dimension is also essential.

Factor analysis of their urban neighborhoods questionnaire yielded two distinct factors which Riger and Lavrakas (1981) characterized as "social bonding" and "physical rootedness," very similar to the two dimensions proposed by Gusfield.

Beneficial Antecedents Found in Early Work

Early work on Psychological Sense of Community (PSC) was based on neighborhoods as the referent, and found a relationship between PSC and greater participation (Hunter, 1975; Wandersman & Giamartino, 1980), perceived safety (Doolittle & McDonald, 1978), ability to function competently in the community (Glynn, 1981), social bonding (Riger & Lavrakas, 1981), social fabric (strengths of interpersonal relationship) (Ahlbrandt & Cunningham, 1979), greater sense of purpose and perceived control (Bachrach & Zautra, 1985), and greater civic contributions (charitable contributions and civic involvement) (Davidson & Cotter, 1986). These initial studies lacked a clearly articulated conceptual framework, however, and none of the measures developed were based on a theoretical definition of Psychological Sense of Community.

Theoretical Foundation

Among theories of Psychological Sense of Community (PSC), McMillan and Chavis's (1986) is by far the most influential, and is the starting point for most of the recent research on sense of community in the psychological literature.

In their discussions of the construct of PSC, McMillan and Chavis (1986) prefer the abbreviated label "Sense of Community," and provide the following one-sentence definition: "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." (p. 9)

Four Elements of Sense of Comunity

McMillan and Chavis (1986) propose that Sense of Community is composed of four elements:

1. Membership

2. Influence

3. Integration and fulfillment of needs

4. Shared emotional connection

These will be discussed in some detail.

1. Membership

The first aspect of Sense of Community is membership in that community. Reviewing relevant literature on particular dimensions of membership, McMillan and Chavis identified five attributes:

    a. Boundaries

    b. Emotional safety

    c. A sense of belonging and identification

    d. Personal investment

    e. A common symbol system

"Boundaries" are marked by such things as language, dress, and ritual, indicating who belongs and who does not. Especially in groups that have boundaries that are less than clearly obvious, deviants or outsiders may be held in lower regard or even denounced or punished. The authors acknowledge that "boundaries" is the most troublesome feature of the "Membership" portion of the definition, but point out that "While much sympathetic interest in and research on the deviant have been generated, group members' legitimate needs for boundaries to protect their intimate social connections have often been overlooked" (p. 9).

The other four attributes of Membership are "emotional safety" (or, more broadly, security; willingness to reveal how one really feels), "a sense of belonging and identification" (expectation or faith that I will belong, and acceptance by the community), "personal investment" (cf., cognitive dissonance theorists), and "a common symbol system." Regarding this fifth attribute, the authors quote Nisbet and Perrin, asserting that:

> Understanding common symbol systems is a prerequisite to understanding community. "The symbol is to the social world what the cell is to the biotic world and the atom to the physical world.... The symbol is the beginning of the social world as we know it" (Nisbet & Perrin, 1977, p. 47).

McMillan and Chavis then cited examples in the literature of various important functions that symbols perform at a number of social levels. At the level of the neighborhood, for example, symbols might be found in its name, a landmark, a logo, or in architectural style. The integrative role of national symbols is mentioned, such as the flag, holidays, a national language. Citing Jung (1912), the authors even offer basic archetypes as symbols uniting humankind. Groups use symbols such as rituals, ceremonies, rites of passage, forms of speech, and dress to indicate boundaries of who is or is not a member.

In 1996, McMillan updated and expanded what he had written in 1986, and with regard to Membership, placed greater emphasis on the "spirit" of community deriving from "the spark of friendship" (p. 315).

2. Influence

McMillan and Chavis (1986) point out that influence in a community is bidirectional: members of a group must feel empowered to have influence over what a group does (otherwise they would not be motivated to participate), and group cohesiveness depends upon the group having some influence over its members. The authors cite several studies that suggest that these two apparently contradictory forces can be at work simultaneously, and assert that:

People who acknowledge that others' needs, values, and opinions matter to them are often the most influential group members, while those who always push to influence, try to dominate others, and ignore the wishes and opinions of others are often the least powerful members (p. 11).

The authors refer to a review by Lott and Lott (1965) in which the major finding was a positive correlation between group cohesiveness and pressure to conform. On the other hand, the authors also discuss the "consensual validation" research, which "demonstrates that the force toward uniformity is transactional—that it comes from the person as well as from the group" (McMillan & Chavis, 1986, p. 11), providing members with reassurances that they are experiencing things similarly to other group members.

In 1996, McMillan discusses this element primarily from the standpoint of "trust," pointing out that it is the salient ingredient in Influence (p. 318). He also summarizes the earlier (1986) discussion of the role of power and influence within a community in a single sentence: "This process [of bidirectional influence] occurs all at the same time because order, authority, and justice create the atmosphere for the exchange of power" (1996, p. 319).

3. Integration and fulfillment of needs

McMillan and Chavis employ the word "needs" here (as is commonly used among psychologists, though perhaps somewhat inaccurately) to mean more than survival and other needs as such, but to include also that which is desired and valued. Members of groups are seen as being rewarded in various ways for their participation, which Rappaport (1977) calls person-environment fit. Cited research indicates that this would include the status of being a member, as well as the benefits that might accrue

from the competence of other members. "Shared values" is discussed as a concept that can give direction to the issue of *which* "needs" beyond survival will be pursued.

Sarason (1974, p. 157) originally conceived nearly this same construct as "an acknowledged interdependence with others, a willingness to maintain this interdependence by giving to or doing for others what one expects from them."

McMillan's 1996 update cites several studies showing that perceived similarity to others and homogeneity contribute to group interaction and cohesion, and McMillan confessed that he had become convinced he should give greater weight to the "search for similarities" as an "essential dynamic" of community development (p. 320-321). He also recharacterized this element as "creating an economy of social *trade*" (p. 322).

4. Shared emotional connection

McMillan and Chavis's summary statement on shared emotional connection includes the assertion that "it seems to be the definitive element for true community" (1986, p. 14). They mention the role of shared history (participation in or at least identification with it). In 1996 (p. 322) McMillan adds that "shared history becomes the community's story symbolized in *art*" (in a very broad sense). McMillan and Chavis (1986) list seven important features of Shared emotional connection, citing relevant research for each.

a. Contact hypothesis. Greater personal interaction increases the likelihood that people will become close.

b. Quality of interaction.

c. Closure to events. Ambiguous interaction and unresolved tasks inhibit group cohesiveness.

d. Shared valent event hypothesis. Increased importance of a shared event (i.e., a crises) facilitates a group bond.

e. Investment. Beyond boundary maintenance and cognitive dissonance, the community becomes more important to someone who has given more time and energy to it.

f. Effect of honor and humiliation on community members. Someone who has been rewarded in front of a community feels more attracted to that community, and if humiliated feels less attraction.

g. Spiritual bond. The authors admit that this quality is difficult to describe, but maintain that it is "present to some degree in all communities" (p. 14), and give the example of the concept of "soul" in the formation of a national black community in the United States.

Dynamics Within and Between the Elements

After defining the four elements in detail, McMillan and Chavis (1986) go on to discuss the dynamics within and between the elements. Some of the discussion of dynamics within the elements is similar enough to definitional points raised above that it does not seem necessary to go into further detail here except to mention two points. With regard to the first element of Sense of Community (Membership), the authors argue that

the five attributes of Membership (boundaries, emotional safety, sense of belonging and identification, personal investment, common symbol system; see pages 16-18) fit together in a "circular, self-reinforcing way, with all conditions having both causes and effects" (p. 15), giving examples of causal and reinforcing influences among the attributes.

The dynamics within Shared emotional connection are summarized by the following "heuristic" formulae proposed by the authors (p. 15):

Formula 1: Shared emotional connection = contact + high-quality interaction

Formula 2: High-quality interaction = (events with successful closure - ambiguity) x (event valence x sharedness of the event) + amount of honor given to members - amount of humiliation.

Dynamics *between* the elements are illustrated by the authors primarily through examples, as it is "difficult to describe [their] interworkings...in the abstract" (p. 16). The first example presented is in a university setting:

> Someone puts an announcement on the dormitory bulletin board about the formation of an intramural dormitory basketball team. People attend the organizational meeting as strangers out of their individual needs (integration and fulfillment of needs). The team is bound by place of residence (membership boundaries are set) and spends time together in practice (the contact hypothesis). They play a game and win (successful shared valent event). While playing, members exert energy on behalf of the team (personal investment in the group). As the team continues to win, team members become recognized and congratulated (gaining honor and status for being members). Someone suggests that they all buy matching shirts and shoes (common symbols) and they do so (influence) (p. 16).

In their conclusion section, McMillan and Chavis suggest ways in which a well-defined, empirically validated understanding of Sense of Community might help creators and planners of programs of various kinds, including the positive impact of a high-quality

community on processes that might normally unfold in a one-on-one context or in a context where the community dimension is largely ignored.

Development of the Sense of Community Index

Though researchers on the whole have not settled on it as a definitive measure (Chavis & Pretty, 1999), the Sense of Community Index (SCI) instrument designed by Chavis, Hogge, McMillan, and Wandersman (1986) is by far the most widely used and broadly validated measure of Psychological Sense of Community (Chipuer & Pretty, 1999).

The SCI was developed using a lens model based on Brunswick's theory of probabilistic functionalism (Brunswick, 1947), as adapted by Hogge, Fellendorf, Moore, and Wescher (1979). Chavis *et al.* (1986) pointed out that the true level of "sense of community" or any similar phenomenon is not directly observable, but rather must be inferred by judgements made about "cue utilization" items in a "domain of observables" that are hypothetically related to the experienced construct (such as "sense of community"). The statistical controls in the model compensate for unconscious inferences in the perception of the construct, as Hogge explained:

> The lens model offers a theoretical basis for mathematically untangling individual and/or group perceptions by identifying the degree to which certain cues are relied on in the perception of a phenomenon or judgement about it.
> This model assumes that perception requires unconscious inference and that unconscious inferences can be statistically represented in the utilization coefficient. ...and has greater accuracy...than if judges were to

estimate the influence of each cue themselves. (Chavis, Hogge, McMillan, & Wandersman, 1986, p. 27).

Translation to linear regression allows the "cue utilization" items to be assigned least square linear regression weights corresponding to their contribution to the perception. A strength of the model is "its ability to examine the components of phenomenon within a holistic context" (p. 27), and it has the ability to establish convergences of opinion among people of diverse backgrounds and viewpoints by identifying a shared domain in the perception of reality.

Chavis *et al.* (1986) applied the lens model in asking 21 judges from four professional groupings in three different cities to rate 100 "sense of community" profiles randomly selected from 1213 interviews conducted with adults in a neighborhood in Tennessee. The judges high degree of agreement resulted in mean ratings that accounted for 96% of the variance in the regression equation with 23 predictors that were derived. These 23 predictors were then grouped by the authors on the basis of their theoretical relation to the four theoretical categories developed by McMillan and Chavis (1986). Each group was treated as a scale, summing items for the group; correlations for each item with the groups revealed that 16 of the 23 items were associated most closely with the group to which they were assigned. These results were interpreted by Chavis *et al.* as supporting the theory of McMillan and Chavis (1986).

Other instruments and frameworks for Sense of Community

Other instruments have been developed to measure Psychological Sense of Community (Allen & Allen, 1987; Berger, 1997; Davidson & Cotter, 1993; Glynn, 1981;

Royal & Rossi, 1996; Hughey, Speer, & Peterson, 1999), and these have "generally

supported the theory" (Chavis & Pretty, 1999) of McMillan and Chavis (1986). An

instrument not mentioned by Chavis and Pretty, developed by Buckner (1988),[1] which,

like Glynn's (1981), was developed previous to publication of McMillan and Chavis's

theory, seemed nevertheless also to support the theory in various ways.

Besides McMillan and Chavis's, another theoretical account with some

thoroughness and detail has also been proposed by John Gardner (1991).

Gardner proposed ten "attributes" or "ingredients" for the building and rebuilding

of community:

1. Wholeness Incorporating Diversity

2. A Reasonable Base of Shared Values

3. Caring, Trust, and Teamwork

4. Effective Internal Communication

5. Participation

6. Affirmation

7. Links Beyond the Community

8. Development of Young People

9. A Forward View

10. Institutional Arrangements for Community Maintenance

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[1]Although Buckner designed an instrument that was broader in scope than strictly defined individual level sense of community alone, he explained that "psychological sense of community...is the dominant construct being measured" (p. 787).

Although Gardner's booklet provided a useful heuristic that might help to develop the conceptualization of a healthy community, very little empirical support is provided in his discussion to undergird the ideas he puts forth. He cited none of the previously published psychological literature on Sense of Community.

Psychological Sense of Community in School

Various Referents

Early discussions of Psychological Sense of Community (PSC), as well as early empirical work on the subject, defined community in terms of the neighborhood or some level of residential surroundings. Even before McMillan and Chavis's landmark theory (1986) and the Sense of Community Index (Chavis *et al.*, 1986), Sense of Community was studied by psychologists at a variety of levels: neighborhood blocks (Wandersman & Giamartino, 1980), neighborhoods (Buckner, 1988; Unger & Wandersman, 1985; Doolittle & MacDonald, 1978), local communities (Glynn, 1981; Hunter, 1975), and the city (Davidson & Cotter, 1986; Hughey & Bardo, 1984). Of course, more recent studies have also investigated residential community at these various levels, with the benefit of having had McMillan and Chavis's theory and instrument, including Chavis and Wandersman (1990); Davidson, Cotter, and Stovall (1991); Nasar and Julian (1995); Robinson and Wilkinson (1995); Perkins, Florin, Rich, and Wandersman (1990).

A number of studies have been done on PSC in the workplace (i.e., Pretty & McCarthy, 1991; Pretty, McCarthy, & Catano, 1992; Lambert & Hopkins, 1995; Royal & Rossi, 1996; Burroughs & Eby, 1998; Klein & D'Aunno, 1986) or on some workplace-related variables (i.e., Price, 1985; Catano, Pretty, Southwell, & Cole, 1993).

Beginning with Grace Pretty in 1990, several researchers have used the Sense of Community Index to examine "sense of community" in a school setting. These studies will be taken up in more detail in the next section.

PSC has also been studied in some other settings, such as clinical treatment groups (Compass, 1981).

The School Setting

Heller (1989) makes a case for the idea that people no longer live their lives in, or strongly identify with, their neighborhoods, but rather feel a greater connection to organizations of which they are a part. In the lives of young people, school plays a central role as a context for community.

In Chipuer and Pretty's (1999) characterization of the two types of community conceptualizations of the Sense of Community model, they identify "geographical territory (neighborhood)" and "relational network (work, political, or recreational interests)" (p. 646). A residential school (where students live in dormitories or apartments on campus) obviously falls into both categories, and seems an important setting in which to study Sense of Community.

In a review of literature on social networks and social support, Seidman (1991) makes a compelling call for research which is "ecologically anchored," and recommends investigating school and neighborhood microsystems in addition to those of the family and peers. Researchers familiar with the theoretical underpinnings revealed in this assertion will recognize Bronfenbrenner's (1979) idea that contexts such as the school environment must be studied in order to have a fuller understanding of the developmental processes at work in the life of a student.

Bronfenbrenner (1979) and others have discussed the importance of the individual's relationship to the setting, and in the Pretty, Andrews, and Collett (1994) dual study of neighborhood and school (see below for more discussion of this study), an interesting feature is that these two settings could be directly compared. Sense of Community was found to be a much more salient developmental feature in the school setting, at least to the extent that the criterion variable they selected, loneliness, was far more highly correlated when school was used as the referent, as opposed to neighborhood.

Sense of Community and School Experience/Features

Pretty (1990) looked at the relationship between Psychological Sense of Community (as measured by the Sense of Community Index, or "SCI," McMillan & Chavis, 1986) and social climate factors (as measured by the University Residence Environment Scale, or "URES," Moos & Gerst, 1974). She found that 54% of the variance on the SCI was attributable to a combination of three subscales of the URES: "involvement," "support," and "academic achievement." The correlation of the SCI with

"involvement" (.53) was more than twice as high as for either "support" (.22) or

"academic achievement" (.23). Pretty characterized these first two subscales as reflective

of "personal networks and support" and of "perceptions of interactions with each other";

she described the third subscale (academic achievement) as reflecting "demands for

performance commonly perceived in the environment" and "what they felt was expected

of them as a group" (p. 64). Pretty then pointed out that these two dimensions were

acknowledged by Sarason (1974) in his original theoretical writings on the subject of

"sense of community." Of course, McMillan and Chavis (1986) discuss these dimensions

within their elements of "integration and fulfillment of needs" and "shared emotional

connection" on the one hand, as well as "influence" on the other.

Pretty also points out that her findings lend support to the construct validity of the

Sense of Community Index:

> The significant negative relationship between Psychological Sense of
> Community and independence, and the substantial positive relationship
> between Psychological Sense of Community and support and involvement,
> suggest that the Sense of Community Index 'has aspects of distinctiveness
> and coherence' (1990, p. 62-64).

Another study applying the Sense of Community Index to a school setting looked

at the relation between PSC and "burnout" as assessed by the *Meier Burnout Assessment*

and the *Maslach Burnout Inventory* (McCarthy, Pretty, & Catano, 1990). The researchers

found significant negative correlations with the SCI as a whole and also with some of its

elements, especially "integration and fulfillment of needs" and "shared emotional

connection." The authors conclude that their study supports the notion that

"Psychological Sense of Community is an important concept for researchers, counselors,

and administrators who are concerned about characteristics of university communities as they relate to student well-being" (p. 215), and that interventions to prevent student burnout should take into account the college community rather than focusing solely on the individual student. The authors also suggest that further investigation of the relation of the elements of "integration and fulfillment of needs" and "shared emotional connection" to the student setting should be fruitful.

Royal and Rossi of the American Institutes for Research (1996) acknowledged the preeminence of McMillan and Chavis's (1986) theory and instrument, but elected to devise their own measure of Sense of Community rather than adapt McMillan and Chavis's Sense of Community Index to their research on high school students. They explained that their conceptual framework was different from their predecessors, perhaps in part because of Rossi's apparent long-time interest in at-risk students and school reform, rather than a primary emphasis on a cumulative psychological theory-building effort within the field of psychology. Students at three high schools, as well as students in reform-oriented learning communities within one of these three high schools were asked a set of questions to assess the experienced Sense of Community and another set of questions to assess attitudes and behaviors such as engagement (perception that teachers work hard, thoughts of dropping out, disruptiveness in class, class-cutting), role clarity (knowing what is expected), and psychological distress (burnout). These were correlated with experienced Sense of Community. (More precisely, low scores on the negative attitudes and behaviors—and high scores on the positive ones—were positively correlated with higher experienced Sense of Community.) (p. 411).

Those who were part of a reform-oriented learning community scored higher on experienced Sense of Community than did those who were part of the "traditionally-organized section" of the school (p. 408). The learning community students scored higher than others regardless of whether the referent was the learning community or the school as a whole (both referents were used in the survey). These results were interpreted as providing "further evidence that small group size is conducive to the development of a sense of community, while at the same time highlighting for those concerned with school reform a potential benefit of this type of organization" (p. 412).

Pretty, Andrews, and Collett (1994) studied Sense of Community and its relationship to loneliness in both school and neighborhood settings of high-school aged adolescents. Loneliness, "a common transient experience inherent in the adolescent's developmental task of fulfilling needs for intimacy and peer relationships" (p. 347), was chosen as the developmental criterion to contribute to an assessment of the importance of Sense of Community in adolescent psychosocial development. Using "as comprehensive a package of social support indices as [the researchers] could find,"[2] Sense of Community was found to be even more predictive of lower scores on the Revised UCLA Loneliness Scale than these social support measures.

The Sense of Community construct entails the kind of relationship which includes interpersonal transactions, but also entails the relationship between the individual and the community as a whole; thus it goes beyond the level of, and is conceptually distinct from, constructs at the level of interpersonal interaction, including the way social support has

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[2]Barrera's (1981) Inventory of Socially Supportive Behaviors (ISSB), and Sarason, Sarason, Shearin, & Pierce's (1987) Social Support Questionnaire (SSQ6).

generally been operationalized (cf., Felton & Shinn, 1992). Pretty, Andrews, and Collett (1994) argue that Sense of Community is "extra-individual" in nature, and "should be understood at a systems level." The authors point out that "a setting (i.e., neighborhood or school) may be experienced as supportive even though one may not be able to identify particular individuals or what they do to create this psychological sense" (p. 348). They give an example in their neighborhood study of a response by one adolescent that "if he needed assistance he would feel comfortable knocking on a stranger's door in his own neighborhood, even if he hadn't met them" (p. 355).

Size Of The School Community

The relationship between Psychological Sense of Community and workgroup size has not been examined according to Burroughs and Eby (1998), though research on small group dynamics consistently finds that smaller groups have higher cohesion and member satisfaction (cf. McGrath, 1984).

Royal and Rossi (1996) convey Oxley's (1994) call for dividing large schools into smaller, semi-autonomous subunits, based on research having shown that if a school is too big there is a negative influence on attendance, engagement, climate, and other school variables. Royal and Rossi go on to suggest specifically that "learning communities" may provide a higher "sense of community." Other studies suggest school size to be inversely related to "sense of community" (Bryk & Driscoll, 1988; Newmann, Rutter, & Smith, 1989).

As of this writing, all published studies using McMillan and Chavis's Sense of Community Index in school settings have defined the community of interest as the university as a whole. Even small universities, however, are much too large a scale for thorough construction of the kind of social fabric that Ahlbrandt and Cunningham (1979) identified, or widespread formation of the social bonding that Riger and Lavrakas (1981) found. A possible reason that Lounsbury and DeNeui (1996) found that extroversion explained twice as much of the variance in Sense of Community as did size of university might be that even the small universities are quite large as communities. It might be expected that smaller programs within the university would have potential to engender more Sense of Community than does the university as a whole.

Other Aspects To Be Examined

Salience for Adolescents

The present study also seeks to expand research and theory in Psychological Sense of Community by diversification of groups studied, as has been called for by several researchers (cf. Altman, 1987, p. 625). A point made in the discussion section of the Pretty, Andrews, and Collett (1994) study with regard to McMillan and Chavis's (1986) Sense of Community Index is that "the underlying constructs that guided the development of the instrument for adults needs to be confirmed for adolescents" (p. 355).

Investigation of SCI elements for students

In addition, the present study will delve more deeply into student perceptions of aspects of each of McMillan and Chavis's (1986) four elements of Sense of Community (Membership, Influence, Integration and fulfillment of needs, and Shared emotional connection). This may make a contribution to the fulfillment of a research need identified by Pretty, Andrews, and Collett (1994) for further investigation of the components of adolescent Sense of Community. This feature may also address McCarthy, Pretty, and Catano's (1990) call for further investigation of the relation of the elements of "integration and fulfillment of needs" and "shared emotional connection" to the student setting. Chipuer and Pretty (1999) complained as well that there has been "little follow though" in "theoretical cultivation" (p. 644), and that "researchers have not worked with these four dimensions" (p. 648-9). They go on to argue for a more thorough examination of McMillan and Chavis's (1986) Sense of Community Index, and assert that "the structure of the SCI needs to be investigated" (p. 649).

Sense of Purpose (in or of a community)

Chipuer and Pretty (1999, p. 654) argue: "While the brevity of the SCI is of value for survey research, expansion of its content to comprehensively, yet concisely, depict the many facets of the PSC model should be considered." One such dimension is sense of "purpose"—that the community exists in part for, and fulfills, some meaningful function, that some positive result or benefit emerges from its activity, especially if it transcends the individual or the community. This is certainly a far less salient dimension for certain types of communities, such as the typical American neighborhood (which was the frame

of reference when the SCI was originally constructed) than for many other types of

communities, such as work, school (especially specialized programs and institutions),

groups concerned with political or social action (especially those concerned with a single

issue or focussed agenda), groups engaged in philanthropic projects, and communities of

interest (those comprised of people engaging in activities of some common interest).

Even though they were speaking about residential communities, Nisbet (1969) asserts:

"Community is the product of people working together on problems, of autonomous and

collective fulfillment of internal objectives...." and "People do not come together in

significant and lasting associations merely to be together. They come together to do

something that cannot easily be done in individual isolation" (p. xvi). The closest element

identified by McMillan and Chavis (1986) is "integration and fulfillment of needs," but

this is the integration and fulfillment of the needs of individuals. This is conceptually

quite distinct from the overall purpose (or purposes) of a community (or the perceived

shared sense of purpose that community members have in common)—or a sense of

purpose that an individual feels in a community going beyond fulfilling individual

needs—and its effect on the Psychological Sense of Community.

School Outcomes

Higher Sense of Community in school has been found to correlate with a number of variables that might be characterized as positive. These include:

• higher engagement in school activities

• less student absenteeism and class-cutting behavior

• less likelihood of disruptiveness in classes and classroom disorder

• less incidence of thoughts of dropping out of school and of actually dropping out

• more mathematics achievement

• more interest in academics

• more likelihood of reporting that they felt bad when unprepared for class

• more likelihood of reporting that they felt teachers at the school work hard for the sake of the students

• more role clarity and less role conflict

• less reported "burnout"

• better retention

(Bryk & Driscoll, 1988; Pretty, Andrews, & Collett, 1994; Royal & Rossi, 1996).

If special programs at schools can foster a Sense of Community, we might expect to see such outcomes as greater retention, more participation, and greater satisfaction. The living-learning programs in this study attempt to create a smaller community within a large research institution. An examination of Sense of Community in relation to these programs would test and to extend the theory, and contributing factors might be expected to augment Sense of Community in similar learning communities at other institutions.

CHAPTER 3: METHOD

Sample

The basic division in the sample of students (n=902) was that of students in the living-learning programs and students who were not in these or other special academic programs (such as the university honors program).

Description of the Living-Learning Programs

The living-learning programs (hereafter "LLPs") at this university began many years after the somewhat similar university honors program was established. Like the honors program, the LLPs are selective (though slightly less so) two-year programs for talented freshmen and sophomores, with an academic emphasis and some special classes. Unlike the honors program, each of the LLPs has its own academic theme as well as a common residence. The LLP students live on one of several adjacent floors in an LLP dorm, the LLP dorms being clustered around a joint classroom building in the LLP quad. The faculty of each program have an office on the first floor in one of buildings on the LLP quad where students live on the upper floors. There are opportunities for special activities outside of class, both at the program level, such as field trips, and inter-program, such as sports or service activities which are usually organized and/or coordinated by the central LLP staff. Collectively, the LLPs have a name (which has been omitted here), an

identity, a mission statement, and a presence on campus that is more known at the collective level than in terms of the individual programs.

The Individual Living-Learning Programs

Four of the LLPs were selected for this study. Three of the original four programs were included, but one of the original four (which was excluded) had temporary structural artifacts that was judged likely to have led to misleading data. Additionally the program in which this researcher was involved, which began the following year, was included. These four groups may or may not have been representative of all of the LLPs, but no obvious reason could be found to make the contrary assumption. These four include two programs with themes closely related to a natural science and two programs whose themes were not related to a natural science. One of the science programs had a high proportion of males to females, and one of the non-science programs had a high proportion of females to males.

Dormitory setting and classroom setting

In attempting to compare the experience of Sense of Community of students in the LLPs with students who are not in any special academic program (hereafter "non-program students"), a decision needed to be made as to whether to survey students in the academic or residential setting. The LLPs have a strong component in both dimensions, and of course non-program students also experience both academic and residential dimensions, though perhaps in a less integrated way.

A pilot study was conducted in which LLP students were surveyed in their dorms during a mandatory "floor meeting" as was a comparison group of non-program students in a nearby, non-LLP dorm. Although the residential setting had the slight advantage of controlling to some extent for potential differences between the physical dormitory characteristics of LLP students and non-program students, there were drawbacks. Most significantly, resident assistants (dorm floor supervisors) mentioned after administering the survey in the non-program dormitory that the students who did not attend the meeting were probably the very ones who felt the least Sense of Community, and that students generally feel less compulsion to attend a mandatory meeting in their dormitory than they do to attend their classes. Also, informal feedback from LLP students indicated that they regarded the academic component of their LLP to be clearly more important than the residential component, as well as a far more significant source of Sense of Community.

Thus, a decision was made to administer the questionnaire to LLP students in their classrooms. These LLP students were freshmen, primarily, from the four LLPs, representing a wide variety of majors. In order to survey non-program students in a similar setting, classes needed to be identified that were likely to be most representative of freshmen as a whole. Consulting with professors in the social sciences who are familiar with sampling issues as well as with these university students and with courses on campus, and additionally consulting with professors in other fields who are even more familiar with the students in certain large survey courses, there was a consensus regarding the courses that would most likely be representative. The largest freshmen survey courses that would allow the administration of a non-departmental questionnaire were selected:

those in history, sociology, and government and politics; psychology courses were not available. While the courses themselves are not representative of the wide spectrum of departments across campus or of the character of fields that can be studied at the University, the salient point is that the freshmen students in those courses, who generally take them in fulfillment of distribution requirements, were judged to be likely to be from a wide variety of majors and to be fairly representative of the University as a whole.

Comparability of LLP and Non-program Students

The main qualification for entry into the LLPs (living-learning programs) during one of these early years that this researcher was involved was a combination of the student's SAT score and high school grade point average. This combined scale put them roughly in the top half of the applicant pool of entering freshmen. Non-program students who met the minimum guidelines for combined SAT and GPA in the year in which the first surveys were administered (who were not in any special academic program such as university honors or another, even more selective, program) were selected to be compared to the LLP students. This elimination of non-program students with low scores was done in order to control to a large extent for the possible effects related to those previous academic scores. Non-program students also were eliminated if they were beyond their fifth semester in school, or if they were over 21 years old. Because the LLPs are two-year programs for freshmen and sophomores, non-program students were eliminated who were judged to be sufficiently different in semester in school or in age, according to the criteria immediately above, so that again possible effects related to this

would be greatly diminished. A total of 636 LLP students were included in at least some part of the analysis. Some early versions of the questionnaire for LLP program students did not include all of the questions that were in the final version that most LLP students took, so these early students could not be included for certain parts of the analysis. Nevertheless, all questions were answered by more than 100 students in each of the four LLPs. After eliminating non-program students as described above, 266 were included in the analysis.

The Questionnaire

Part 1: Sense of Community Index

The questionnaire consists of two parts (see Appendix). Part One is the 12-item "short form" of the Sense of Community Index, which though originally constructed to assess Sense of Community in a neighborhood setting, was designed to be easily adaptable to other settings such as workplace and school. The twelfth question, "I expect to live on this [block] for a long time" was reasonably adaptable to the University situation, but not as well to special two-year programs, so this question was reformulated to capture the apparent spirit of the original twelfth question. Then the twelfth question in essentially its original form, adapted slightly as needed, was also retained, as question 13. The reformulation, "I would recommend this program to others," was an attempt to provide greater coherence in the two major types of academic settings to be studied (the university as a whole and special two-year programs within it), and keeping the original

was done in order to allow comparisons with other research done using the SCI "as is."
The data were analyzed twice, each time using a 12-point scale for the SCI, once in its
original version and once with a modified twelfth question. The two versions yielded
similar results, but the modified version was more discriminating, resulting in even
greater differences between groups that differed in levels of Sense of Community.
Certain items were designed to require reverse scoring.

Part 2: School Sense of Community Questions

The second part of the questionnaire was designed primarily to delve more deeply
into the SCI, and Sense of Community generally, in academic settings. This longer
section consisted of 40 questions, developed by this researcher, with the intention of
targeting the salient meeting points between, on the one hand, important features of
student experience within the academic setting, and on the other hand, the four elements
of Sense of Community identified in 1986 by McMillan and Chavis (Membership,
Influence, Integration and fulfillment of needs, and Shared emotional connection) as well
as a potential fifth element, the sense of "Purpose" (of a community), as discussed near
the end of Chapter 2.

These 40 questions consisted of 33 quantitative, multiple choice (5-point Likert-
type scale) questions and 7 related qualitative questions. These quantitative questions
were not originally intended to be something as ambitious (and perhaps somewhat
redundant) as the first step in creating a new scale or index, but rather simply to explore
the elements of Sense of Community, and to test and to extend the theory as applied to

two levels of academic settings (LLPs and similar special academic programs, as well as the university as a whole).

Almost right away upon beginning to review responses to these questions in part 2 of the questionnaire it became immediately apparent from related qualitative questions and from comments written in the margin that four of the quantitative questions were not being interpreted as intended, and after reexamining them it became clear that they were inherently problematic. These four questions, 7, 23, 26, and 27, were dropped from the analysis. The remaining 29 quantitative questions are referred to in the following chapters as the "School Sense of Community Questions" or "SSCQ."

Four of these 29 quantitative questions were designed to assess the proposed element of sense of Purpose and will hereafter be known as the "Purpose component" or simply as "Purpose." These four questions (35-38) of the SSCQ were worded as follows, each with a multiple choice of: A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

35. My program activities include doing good work that helps people.

36. My program encourages me to think about helping people.

37. There is a sense of purpose in my program.

38. Being in the program has contributed to my having more of a sense of the value of my contribution.

Certain items on both parts of the questionnaire were designed to require reverse scoring.

As Chipuer & Pretty (1999) point out, the SCI is by far the most broadly validated measure of Psychological Sense of Community, and a number of aspects of its validity have been discussed. The validity of newly designed questions in part 2, however, has not been established. Because the questions were intended as exploratory rather than as a serious effort in instrument design, attempts to establish some kind of validity up front were not ambitious. A certain level of face validity was apparent from the questions having been reviewed by two faculty members who led one of the LLPs. The creation of the questions was also guided by the results of informal interviews with students. It was assumed, however, that most of the validation would come not from the opinions of those with presumed expertise on the subject, but from the harder evidence resulting from statistical analysis. Validating evidence would include convergence or correlation with the SCI, though the questions are distinct from those of the SCI; the ability of the SSCQ to differentiate between groups expected to have differences on Sense of Community, even after controlling for potentially confounding variables; the discovery through factor analysis of sense of Purpose as a principal component of the SSCQ; and answers to qualitative questions that confirm the researcher's basic expectations about patterns of experienced Sense of Community. Specific threats to validity such as sampling bias and setting-instrument interaction have already been discussed earlier in this chapter.

Hypotheses

First, the presumption that the living-learning programs (LLPs) do in fact foster a Sense of Community needed to be examined.

Hypothesis 1: LLP students will respond positively (more positive than negative answers) on the Sense of Community Index.

The second step will be to compare Sense of Community in various LLPs with Sense of Community in the University as a whole for those who do not have the benefit of such programs.

Hypothesis 2: LLP students will score higher on the Sense of Community Index in relation to their program than non-program students in relation to the University.

An additional community has been created for the LLP students that does not exist for non-program students; thus this is the salient comparison. As mentioned above, Sense of Community correlates with beneficial outcome variables in relation to academics, such as more and better-quality participation, better attitude and achievement, greater interest, and greater retention. While testing such outcome variables was beyond the scope of this study, we might conclude that if LLPs are shown to have a high Sense of Community, it may be that living-learning programs at other universities with features similar to these LLPs might also be expected to have a positive relation to outcome variables associated with Sense of Community.

The LLPs are academic, and thus have a purpose in the narrower sense of cultivating learning in their students. The thematic character of each program, as well as

program activities in which students engage, may also give rise, however, to a sense of "purpose" that the program fulfills beyond simply learning. To the extent that this transcends the individual or group needs, it becomes clearly distinct from the element of Integration and fulfillment of needs (see fuller discussion in the "Sense of Purpose" section of Chapter 2 and in "The Element of Purpose" section of Chapter 5).

Hypothesis 3: Students in LLPs will respond positively (more positive than negative answers) on questions related to Purpose (questions 35-38).

Hypothesis 4: Students in LLPs will score higher on questions related to Purpose (questions 35-38) in relation to their program than non-program students in relation to the University.

Students in LLPs will also be expected to answer questions related to Purpose in a similar way to answers related to Sense of Community.

Hypothesis 5: Scores for students in LLPs on questions related to Purpose will be positively correlated with scores on the Sense of Community Index.

Assuming LLP students feel a greater Sense of Community than they would have in the university setting without the benefit of the LLPs, it would seem unlikely that the structural features that the LLPs have in common are fully responsible for whatever additional Sense of Community students feel. Thus it is expected that characteristics of each of the LLPs, which can easily vary among programs, will be influential in determining the extent to which LLP students feel a Sense of Community.

Hypothesis 6: Comparing average scores on measures of Sense of Community for each of the LLPs studied, there will be significant differences among programs.

Additional Explorations

The internal structure of Sense of Community measures, namely their principal components, was to be explored using factor analysis.

Seven of the questions in Part 2 were open-ended, qualitative questions, which attempted to explore features of the LLPs (or of the University) related to Sense of Community, and possibly even what some of the characteristics might be that led to varying scores among LLPs on Sense of Community.

CHAPTER 4: RESULTS

Demographic Characteristics

In order to control as much as possible for differences between LLP (living-learning program) and non-program students that might conceivably arise from differences in background or demographic characteristics, students surveyed in the large survey (non-LLP) classes were eliminated from the sample: (a) if they were in a special academic program (LLP, university honors, or the other selective program); (b) if either their SAT score or high school grade point average (HS GPA) was below the minimal level required for entry into LLPs; (c) if they were beyond their fifth semester in school; or (d) if they were over 21 years old. (See discussion of sampling method above for more details.) After these eliminations, there were still more than enough non-program students (n=266) for adequate statistical power. Of the total sample (n=902), most were LLP students (n=636). This larger number of LLP students allowed for comparisons among LLPs. Because the university grade point average (U GPA) is for the previous semester, there were no data for first-year freshmen.

Table 1: Demographic Characteristics

	Number responding	Min	Max	Mean	SD
HS GPA*:	864	2.70	4.86	3.60	0.311
SAT:	878	1000	1580	1236	93.3
U GPA:	645**	1.08	4.00	3.14	0.597
Gender:	902	Male=372 (41.2%)	Female=530 (58.8%)		
Class:	902	Freshmen=720 (79.8%)	Sophomore***=182 (20.2%)		
Living:	902	On LLP floor=461 (51.1%)	LLP non-floor=90 (10%)		
		Non-LLP dorm=193 (21.4%)	Off-campus=156 (17.3%)		

*High School Grade Point Average
**first-semester freshmen have no U GPA (University Grade Point Average,
    previous semester)
***includes 12 fifth-semester non-program students

Analysis

Measures of Sense of Community

For the first two hypotheses (see immediately below), both the original version of

the SCI (Sense of Community Index) and the version of the SCI with a reformulated

twelfth question as discussed above—hereafter referred to as the "MSCI" for "Modified

Sense of Community Index"—were used. Additional quantitative questions in Part 2,

excepting the four questions that were dropped (see previous chapter), received clear

validation in certain respects as a result of the various statistical analyses described below.

So it was decided to treat it as a coherent whole, and to analyze it as another measure of Sense of Community, hereafter referred to as "SSCQ" (for "School Sense of Community Questions").

Hypothesis 1 was that LLP students would respond positively (more positive than negative answers) on the Sense of Community Index (a score above 6.0). LLP students scored a mean of 9.37 out of 12 (78%) on the SCI, a mean of 9.43 out of 12 (79%) on the MSCI, and a mean of 118.9 out of 145 (82%) on the SSCQ. Thus Hypothesis 1 was confirmed (p<0.0005 for all three measures).

Hypothesis 2 was that LLP students would score higher on the Sense of Community Index in relation to their program than non-program students in relation to the University. Non-program students scored a mean of 8.01 out of 12 (67%) on the SCI, a mean of 7.99 out of 12 (67%) on the MSCI, and a mean of 106.2 out of 145 (73%) on the SSCQ. Thus Hypothesis 2 was confirmed (SCI: t=7.40 df=601 p<0.0005 ΔX=1.37; MSCI: t=8.37 df=841 p<0.0005 ΔX=1.44; SSCQ: t=10.90 df=544.9 p<0.0005 ΔX=12.7; see Table 2).

Table 2: Sense of Community measures for LLP vs. non-program students

	SCI	MSCI	SSCQ	Purpose
LLP students:	9.37* (78%)	9.43* (79%)	118.9** (82%)	15.36***(77%)
Non-program:	8.01* (67%)	7.99* (67%)	106.2** (73%)	13.36***(67%)
difference:	1.37* (11%)	1.44* (12%)	12.7** (9%)	2.04***(10%)
t (t-test):	7.40	8.37	10.90	7.06
df:	601	841	544.9	605.7
p:	<0.0005	<0.0005	<0.0005	<0.0005

SCI = Sense of Community Index
MSCI = Modified Sense of Community Index
SSCQ = School Sense of Community Questions
*out of 12 true/false questions
**out of 29 multiple choice questions with a 5-point Likert-type scale
***out of 4 multiple choice questions with a 5-point Likert-type scale

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The Element of Purpose

Questions 35-38 of the SSCQ (additional quantitative questions in Part 2 of the questionnaire) had to do with sense of "purpose," and will be referred to as the "Purpose component " or simply as "Purpose."

Hypothesis 3 was that students in LLPs would respond positively (more positive than negative answers) on questions related to Purpose (a score above 3.0). LLP students scored a mean of 15.36 out of 20 (77%). Thus Hypothesis 3 was confirmed (p<0.0005).

Hypothesis 4 was that students in LLPs would score higher on "Purpose" in relation to their program than non-program students in relation to the University. Non-

program students scored a mean of 13.36 (67%) on "Purpose." Thus Hypothesis 4 was confirmed (t=7.40 df=601 p<0.0005 ∆X=2.00).

Hypothesis 5 was that scores for students in LLPs on questions related to "Purpose" would be positively correlated with scores on the Sense of Community Index. The Pearson product-moment correlation between the SCI (or MSCI) and the "Purpose component" was 0.489 (p<0.01) for the SCI and 0.495 (p<0.01) for the MSCI. Thus Hypothesis 5 was confirmed.

Comparisons among Living-Learning Programs

Hypothesis 6 was that there would be significant differences among LLPs on average scores on measures of Sense of Community. The LLPs were compared to each other (as well as to non-program students) on Sense of Community to investigate whether there were differences. Analysis of Variance and the Student-Newman-Keuls test were used to evaluate whether these differences among groups on average scores were significant. Three measures of Sense of Community were used: SCI (Sense of Community Index), MSCI (Modified Sense of Community Index), and SSCQ (School Sense of Community Questions). Differences between groups (the four LLPs and the group of non-program students) for all three measures were highly significant (SCI: F=20.5 p<0.0005; MSCI: F=28.4 p<0.0005; SSCQ: F=42.7 p<0.0005).

This issue of differences was further refined using the Student-Newman-Keuls test, identifying which differences among the five groups (again, the four LLPs and the group of non-program students) were statistically significant (α=0.05).

Mean scores on the SCI were, in ascending order, non-program students: 8.01, LLP 3 (science): 8.84, LLP 4 (non-science): 9.17, LLP 1 (non-science): 9.43, LLP 2 (science): 10.46. LLP 2 (P2) was significantly higher than LLP 1 (P1), LLP 3 (P3) was significantly higher than the non-program (NP) group, but LLPs 1, 3, and 4 were not significantly different from each other. These relations can be summarized (using the abbreviations for the groups above) as:

$$NP < P3 \_ P4 \_ P1 < P2.$$

It also may be summarized as in Table 3, where differences of column indicate differences which are statistically significant.

Table 3: Differences in SCI* scores among groups (4 LLPs** and non-program)

Non-program:	8.01 |	|	
P3 (science):	|	8.84 |	
P4 (non-science):	|	9.17 |	
P1 (non-science):	|	9.43 |	
P2 (science):	|	|	10.46

Scores in different columns are significantly different from each other ($p<0.05$, Student-Newman-Keuls test of homogenous subsets). These groupings can be summarized by the following equation:

$$NP < P3 \_ P4 \_ P1 < P2$$

ANOVA difference among groups: $F=20.5$, $p<0.0005$.

*SCI = Sense of Community Index
**LLPs = Living-Learning Programs

Mean scores for the five groups on the MSCI are summarized in Table 4. As on the the SCI, P2 (LLP 2) was significantly higher than P1, P3 was significantly higher than NP (the non-program group), but P1 was significantly higher than P3. P4 was not significantly different from either P1 or P3. These relations can be summarized as:

$$NP < (P3 \_ P4) < (P4 \_ P1) < P2.$$

As explained in Chapter 3, the difference between the Sense of Community Index and the Modified Sense of Community Index was only the reformulated question 12 for the modified version. This difference in only one question between the SCI and MSCI led to the greater discrimination demonstrated immediately above among LLPs.

Table 4: Differences in MSCI* scores among groups (4 LLPs** and non-program)

Non-program:	7.99			
P3 (science):		8.67		
P4 (non-science):		9.08	9.08	
P1 (non-science):			9.39	
P2 (science):				10.34

Scores in different columns are significantly different from each other ($p<0.05$, Student-Newman-Keuls test of homogenous subsets). These groupings can be summarized by the following equation:

$$NP < (P3 \_ P4) < (P4 \_ P1) < P2$$

ANOVA difference among groups: F=28.4, $p<0.0005$.

*MSCI = Modified Sense of Community Index
**LLPs = Living-Learning Programs

Mean scores on SSCQ were also more discriminating than the SCI, and are summarized in Table 5. Unlike on the SCI and MSCI, P2 (LLP 2) was not significantly higher than P1, but every other group was distinct: P1 was significantly higher than P4, which was significantly higher than P3, which was significantly higher than NP. These relations can be summarized as:

$$NP < P3 < P4 < (P1 \_ P2).$$

Table 5: Differences in SSCQ* scores among groups (4 LLPs** and non-program)

Non-program:	106			
P3 (science):		112		
P4 (non-science):			118	
P1 (non-science):				122
P2 (science):				126

Scores in different columns are significantly different from each other (p<0.05, Student-Newman-Keuls test of homogenous subsets). These groupings can be summarized by the following equation:

$$NP < P3 < P4 < (P1 \_ P2)$$

ANOVA difference among groups: F=42.7, p<0.0005.

*SSCQ = School Sense of Community Questions
**LLPs = Living-Learning Programs

Thus Hypothesis 6, that there would be significant differences among LLPs on average scores on measures of Sense of Community, was confirmed.

Controlling for other variables

Multiple regression was employed to check whether the demographic variables gender, SAT score, high school grade point average, university grade point average (for those other than first-semester freshmen), or semester (or year) in school made a significant contribution to differences in measures of Sense of Community. In comparing LLP students and non-program students on the same three measures we looked at above, the Sense of Community Index (SCI), the Modified Sense of Community Index (MSCI), and the School Sense of Community Questions (SSCQ), no significant contribution was found by any of the demographic variables listed. The differences between LLP students and non-program students were still highly significant after controlling for these demographic variables (SCI: $\beta=0.365$ t=5.80 p<0.0005; MSCI: $\beta=0.346$ t=7.69 p<0.0005; SSCQ: $\beta=0.528$ t=9.41 p<0.0005).

Because students in LLPs have the opportunity to live in the same dormitory and on the same floor as other students in their program, a direct comparison of the impact of living situation between LLP and non-program students is somewhat problematic. So the contribution of living situation to Sense of Community measures was examined separately for LLP and non-program students.

For non-program students, living situation was coded either as on-campus or off-campus. Living situation made a significant contribution for the SCI (t=2.38 df=249 p<0.02 ΔX=.70) and MSCI (t=2.36 df=249 p<0.02 ΔX=.71), but not for the SSCQ. This study did not look into the reasons students live off-campus. Living on campus may

engender a greater Sense of Community, or, on the contrary, those who feel less of a Sense of Community may choose to live off-campus. There could be causal relationships in both directions. We cannot determine from these data which, if any, of the three of these alternatives is most likely.

For LLP students, living situation was coded as one of four categories:

1. living on one's LLP floor in one's LLP dorm

2. living in another LLP dorm

3. living on-campus, in a non-LLP dorm

4. living off-campus.

Living situation was more complex for the LLP students. As was the case for the non-program students, living situation was significantly related to the SCI (F=3.18 p<0.025) and MSCI (F=7.80 p<0.0005), but not to the SSCQ. The Student-Newman-Keuls test specified further that the Sense of Community of those in living situation 1 (living on one's LLP floor in one's LLP dorm) was significantly higher than of those in living situation 3 (living on-campus but in a non-LLP dorm). Other differences among groups were non-significant. It cannot be determined whether those who feel less Sense of Community choose to live outside the LLP quad or whether those who live on their LLP floor develop greater Sense of Community, or whether some combination is at work here.

Internal coherence of measures

The coherence of the SCI (and of its elements), and that of the SSCQ, for these university settings were explored by examining the reliability of each and performing several factor analyses.

Reliability

Reliability coefficients were as follows: SCI: $\alpha=0.68$; MSCI: $\alpha=0.68$; SSCQ: $\alpha=0.93$; SSCQ+MSCI (as a single measure): $\alpha=0.94$. Reliabilities for the subscales were not as high, but this may be primarily because each subscale consists of only three questions. The order in which the subscales appear in the SCI is different from the order in which they are presented in the theory, so the latter order (which the reader saw in Chapter 2) is preserved here:

Element 1. (Q4-6) Membership $\alpha=0.58$

Element 2. (Q7-9) Influence $\alpha=0.37$

Element 3. (Q1-3) Integration and fulfillment of needs $\alpha=0.46$

Element 4. (Q10,11,13) Shared emotional connection $\alpha=0.31$

Element 4m. (Q10-12) Shared emotional connection (modified) $\alpha=0.49$

Another reason that reliabilities are likely to vary from one study to the next is that there are different populations being examined. Even greater variation may arise from the SCI being applied to various types of communities which are rather different from one another, such as neighborhood, workplace, school, and communities of interest. As was mentioned above, the two versions of the SCI used in this study (original and

modified) differ on only question 12/13, as the original question was thought not to apply well to two-year academic programs. This question falls under element 4, Shared emotional connection, so the difference above between "Shared emotional connection" and "Shared emotional connection (modified)" is due only to that question. (Question 12 is the reformulated final question and question 13 is the original final question, adapted slightly as needed). As can be seen immediately above, the reliability for this particular population on the the original (α=0.31) versus the modified (α=0.49) version of element 4 is striking. Among other reasons, the original question 12 may not in fact work as well for two-year academic programs as for neighborhoods.

Factor analysis: Sense of Community Index

Factor analysis yielded similar results for the SCI and MSCI. These two version were analyzed three times each, once for all students, once for LLP students only, and once for non-program students only; these three grouping also produced similar results. Extraction by principal component analysis with Varimax rotation and Kaiser normalization resulted in four factors, but they did not correspond closely with the theoretical assignment of the questions to the four elements of Sense of Community. In Table 6, the four factors derived correspond to the four columns, and questions with a value above 0.50 (indicated in bold) in a particular column are judged to "load on," or cluster with, that factor. The loadings can then be compared with what would be predicted theoretically, or, alternatively, they can then be characterized subjectively

based on the common characteristics of the questions that make up that cluster. Theoretically predicted loadings appear at the bottom of the table.

The element that held up best was Influence. Questions 8 and 9 loaded on this factor 3, as predicted. Even though question 7 did not make the 0.50 cutoff used, it was 0.43 (values above 0.4 indicated in italics), and came closer to loading on factor 3 than on any other factor. Question 10 also loaded on this factor, though its association was especially strong. Questions 4 and 6, which are very similar, loaded on factor 2 (and no other questions did), but question 5 (which theoretically should ideally have loaded on this factor also) loaded instead on factor 1 along with questions 1 and 13. Question 11 did not load, and certainly not on this factor 1. Factor 4 consisted of questions 2 and 3, which are also rather similar; question 1 did not load at all on this factor, but instead loaded very strongly on factor 1 (as did question 13).

Table 6: Factor analysis of the Sense of Community Index (SCI)

	Factor 1		Factor 2		Factor 3		Factor 4
Q1:	**.82**	|	-.02	|	.14	|	.10
Q2:	.01	|	.08	|	.03	|	**.78**
Q3:	.15	|	-.04	|	.07	|	**.74**
Q4:	.10	|	**.81**	|	.06	|	-.07
Q5:	**.58**	|	.23	|	.17	|	.26
Q6:	.06	|	**.84**	|	.12	|	.09
Q7:	.02	|	.14	|	*.43*	|	.29
Q8:	.06	|	.33	|	**.61**	|	-.02
Q9:	.05	|	-.10	|	**.76**	|	.10
Q10:	*.43*	|	.05	|	**.54**	|	.10
Q11:	.08	|	-.03	|	.12	|	.37
Q13:	**.81**	|	.07	|	-.04	|	.02
Eigenvalues...							
% variance:	23.5	|	11.9	|	10.3	|	8.4
Cumulative %:	23.5	|	35.5	|	45.8	|	54.2
Theoretical factors:	Q 10,11,13, Shared emotional connection		Q 4-6, Membership		Q 7-9, Influence		Q 1-3, Integration and fulfillment of needs

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Looking over the questions as they grouped together in this way, without any reference to the theoretical underpinnings, the four factors might be characterized as follows:

Factor 1: Person-community "fit"

Factor 2: Knowing people

Factor 3: Cooperative efficacy (or Influence)

Factor 4: Common values (part of Integration and fulfillment of needs)

Of course any such summary characterizations are rather subjective, and these characterizations are intentionally narrow in order to contrast them with the original theoretical subscale elements.

Factor analysis of the MSCI produced very similar results, with the notable exception that question 10 loaded on factor 1, as theoretically predicted, rather than on factor 3 with the Influence questions. The fact that question 10 loaded on factor 1 for the MSCI was taken into account in a small way in characterizing Factor 1 as Person-community "fit" above.

Question 7, however, did not come close to loading on any factor, certainly not as expected. A slightly higher total variance was explained than was the case for the SCI. See Table 7 for details.

Table 7: Factor analysis of the Modified Sense of Community Index (MSCI)

	Factor 1		Factor 2		Factor 3		Factor 4
Q1:	**.79**	|	.02	|	.15	|	.02
Q2:	-.01	|	.05	|	**.76**	|	.20
Q3:	.18	|	.002	|	**.79**	|	-.04
Q4:	.08	|	**.81**	|	-.05	|	-.04
Q5:	**.62**	|	.33	|	.24	|	-.02
Q6:	.07	|	**.82**	|	.10	|	.09
Q7:	.14	|	.26	|	.27	|	.14
Q8:	.10	|	.39	|	-.04	|	**.63**
Q9:	.17	|	-.02	|	.10	|	**.77**
Q10:	**.58**	|	.17	|	.06	|	.37
Q11:	.10	|	-.09	|	.27	|	.37
Q12:	**.82**	|	-.03	|	-.04	|	.21
Eigenvalues...							
% variance:	25.0	|	11.9	|	9.9	|	8.6
Cumulative %:	25.0	|	36.8	|	46.8	|	55.4
Theoretical factors:	Q 10-12, Shared emotional connection		Q 4-6, Membership		Q 1-3, Integration and fulfillment of needs		Q 7-9, Influence

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Again, different populations would be expected to yield different results in the
extraction of principal components through factor analysis, so some degree of difference
from the theoretical subscales is expected. On the other hand, the high degree of
difference between the theoretical loadings (or clustering of questions around the
theoretical subscales), and those derived for this population, raises a concern about how

well the theoretical model as operationalized in the SCI fits this kind of academic population.

The factor analyses of the SCI and the MSCI using only LLP students or using only non-program students yielded very similar results to those above, so these results are not reported.

Factor analysis: School Sense of Community Questions

The SSCQ was also factor analyzed three times, once for all students, once for LLP students only, and once for non-program students only. The three analyses yielded similar results. See Table 8 for results of factor analysis of the SSCQ for all students.

Table 8: Factor analysis of the School Sense of Community Questions (SSCQ)

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Q1:	.27	-.08	-.01	*.44*	.13
Q2:	**.70**	.11	.16	.29	.09
Q3:	.24	.10	.11	.03	**.68**
Q4:	**.68**	.21	.16	.22	.31
Q5:	.26	.18	.35	.07	**.64**
Q6:	.11	.11	.16	.17	**.65**
Q8:	**.70**	.21	.15	.15	.14
Q9:	**.70**	.11	.05	.15	.22
Q10:	**.78**	.10	.14	.12	.13
Q11:	**.68**	.09	.14	.06	.10
Q12:	.32	**.60**	.01	.27	.12
Q14:	**.57**	**.51**	.10	.12	-.03
Q16:	**.58**	*.45*	.13	.22	-.06
Q17:	**.50**	.29	.35	.24	.03
Q18:	.27	*.41*	.16	.23	.03
Q19:	*.42*	.18	.27	.06	.24
Q20:	*.40*	*.40*	*.45*	.02	.04
Q22:	.10	**.72**	.25	.08	.13
Q24:	.28	.15	**.65**	.04	.03
Q29:	.03	**.80**	.17	-.03	.19
Q31:	.27	.26	**.68**	.08	-.05
Q32:	.07	.11	**.78**	.15	.24
Q33:	.07	.16	**.80**	.11	.25
Q34:	.10	.07	**.72**	.18	.20
Q35:	.21	.22	.29	**.75**	.05
Q36:	.18	.28	.16	**.80**	.07
Q37:	.22	**.52**	.11	**.55**	.12
Q38:	.17	**.54**	.16	**.55**	.06
Q39:	.16	**.72**	.18	.18	.15
Eigenvalues...					
% variance:	36.0	7.5	6.9	4.4	3.9
Cumulative %:	36.0	43.6	50.4	54.8	58.7

Five factors emerged, characterized (rather narrowly, as above) post-hoc (except

"Purpose," which was intended) as follows:

Factor 1: Faculty responsiveness

Factor 2: Benefit and Attachment (Benefit to the community member and Attachment to the community)

Factor 3: Interpersonal emotional security

Factor 4: Purpose

Factor 5: Peer respect

The four questions intended to assess the proposed element of Sense of Community "Purpose" (sense of purpose in, or of, the community) loaded on factor 4 (and no others did). This loading was particularly strong for the LLPs, for whom it was expected to be a salient feature (see Table 9). Table 9 was abbreviated in order to highlight this point about the Purpose component; however, no other question had a loading value greater than 0.37 for this "Purpose" factor.

A similarity between some of the factors derived in this analysis of the SSCQ and McMillan and Chavis's elements of Sense of Community is apparent. Factor 3, Interpersonal emotional security, is similar to Shared emotional connection as well as to the "Emotional safety" component of the Membership element. Factor 2 was interpreted as being composed of Benefit and Attachment, which seemed to emerge as reciprocal dynamics in this study (Benefit to the community member may engender Attachment to the community). The "Benefit" portion seems like an important part of Integration and fulfillment of needs, which goes beyond shared values. "Attachment" seems quite similar to the ideas of "Personal investment" (component of the Membership element) and to "Spiritual bond" (component of the Shared emotional connection element). Factor 1,

Faculty responsiveness is certainly an important part of Influence in this setting, and it, as

well as Factor 5, Peer respect, are surely important to "Quality of interaction"

(component of the Shared emotional connection element).

Table 9: Factor analysis of the SSCQ, LLP students only, Purpose subscale

	Factor 1		Factor 2		Factor 3		Factor 4		Factor 5
	.	|	.	|	.	|	.	|	.
	.	|	.	|	.	|	.	|	.
	.	|	.	|	.	|	.	|	.
Q35:	.18	|	.21	|	.20	|	**.81**	|	.12
Q36:	.20	|	.15	|	.09	|	**.87**	|	.08
Q37:	*.49*	|	.24	|	.12	|	**.62**	|	.13
Q38:	*.47*	|	.15	|	.15	|	**.66**	|	.07
Q39:	**.70**	|	.17	|	.23	|	.27	|	.15
Eigenvalues...									
% variance:	37.2	|	8.9	|	7.2	|	4.9	|	3.8
Cumulative %:	37.2	|	46.0	|	53.3	|	58.1	|	61.9

Qualitative measures

Open-ended, qualitative questions, each of which was followed by a blank space for students to write whatever they wished, were mixed in with the multiple choice (5-point Likert-type scale) questions, and the multiple choice questions sometimes made reference to the preceding qualitative question. Results from the qualitative questions were not as fruitful as expected. Most students wrote nothing at all. Those who did usually wrote something very brief, often listing one single, specific activity that they liked, but didn't say why or what the benefits were, even though these were specifically asked. Nevertheless, some insights were possible from the small number of answers that were fully responsive.

Non-program students

A number of students answered questions in terms of the benefits of the university experience. Some reported general benefits such as: "accepting people as they are...diversity," "made me into a better worker," "encouraged my sense of self," "I have become a more conscientious student," "made me more open," "made me think more deeply," "a common sense of working to learn through our experiences." Other benefits were specific: "public speaking skills," "time management, study skills, more responsibility," "improved my vocabulary." Some students said that they highly valued internships and field trips such as going to a museum (mentioned as best experience of the semester).

Typical values exemplified by the University included: "independence" (mentioned most often), "academic honesty," "the honors system," "self-worth, trust."

Sometimes a student would relate an experience of very personal interaction with faculty: "My _____ professor had a dinner for the entire class at her home. It was nice to be able to talk and discuss things outside of the classroom." (This was reported as best experience of the semester.) Personal interaction with faculty was, however, more likely to be mentioned by LLP students.

Some specifically addressed a feature that might be expected to run couter to Sense of Community: "It is easy to get lost in a university this big" and "unity may sometimes be lacking...in such a huge institution ."

Living-Learning program (LLP) students

Some of the comments by LLP students could just as easily have been made by non-program students. Comments of a general nature were things like: "broadened my perspectives," "made me aware of the situation of others," "sharing same interests," "gave me a good sense of responsibility," and "helped me center my goals." Comments of a specific nature included: "enabled me to gain a respect [for] and liking of teaching" and "I learned what real research is like." In this sample LLP students made such comments which reported positive benefits of their experience in the University more often than the non-program students.

Some of the comments reported benefits that sounded like they were of a greater degree (at least in emotional tone) than the benefits reported by non-program students, for

example: "helped mold me into who I am today," "prepared me for what I want to do in life," "changed my whole life."

Some students asserted that a sense of unity was engendered by the living-learning environment, and cited "close faculty interaction" and similar phrasing of essentially the same experience. Several students mentioned something like "similar goals and values," which was not described in like manner by non-program students. Some mentioned "having an identity in such a large university" (or similar), which reflects one of the values of LLPs, even taking the form of a motto: "Making the big store (e.g., the large, impersonal university) small."

Values exemplified by the program had some similarities to those reported by non-program students, but other values listed had a slightly different flavor; examples include: "dedication" "encouragement [of students]," "understanding, open-mindedness."

Service to others

One of the LLPs studied has a service component, and there were quite a few comments related to this. All of the quotations below are from students in this program. Besides values like those listed in the previous paragraph, other values exemplified by the program include: "altruism," "helping," "volunteerism," "kindness."

This program's students talked about "giving back to the community," "learning that I have the power to help others," that "my actions count," and spoke of "serving other organizations," "common cause," working for a "good cause," "working for the same cause," and indicated pride in "helping."

They claimed the program "made me realize I could make a difference" and "It has given me the means and knowledge and power to work for something that I believe in. It has equipped me with the tools to make a difference."

CHAPTER 5: CONCLUSIONS AND DISCUSSION

Because of the somewhat subjective nature of the characterization of principal components that were derived from factor analysis and the interpretation of qualitative results, much of the discussion was begun in the previous chapter. Nevertheless, there are a number of issues that deserve further comment.

Review of Main Results

To review briefly some of the main results, it was found that the Living-Learning Program (LLP) students had undeniably higher scores on all measures of Sense of Community than did non-program students. These measures included the Sense of Community Index (SCI), the Modified Sense of Community Index (MSCI), the School Sense of Community Questions (SSCQ), and the sense of Purpose component of the SSCQ. These differences were not due to gender, SAT score, high school grade point average, university grade point average, or semester (or year) in school. The sense of Purpose component was also closely related to the SCI, in spite of the fact that its questions were conceptually distinct from the theoretical elements of the SCI. Clear differences on all measures of Sense of Community were found among the LLPs when compared to each other. Students not in any special academic program felt more of a Sense of Community if they lived on campus than if they lived off-campus, according to some measures (SCI and MSCI). These same measures also indicated that LLP students who lived in their program's dormitory and also on one of their program's dormitory

floors felt more of a Sense of Community than if they lived on campus but in a non-LLP

dormitory. Statistical analysis indicated that the measures of Sense of Community were

reliable, and would be expected to perform similarly if used again. An analysis of the

principal components of the SCI for the students in this survey indicated that those

components were not especially well-aligned with the components that would be

predicted by the underlying theory. On the SSCQ on the other hand, a component was

discovered that was clear and distinct corresponding to the questions about sense of

Purpose, and this was especially true for the students in the LLPs. Open-ended,

qualitative questions revealed a variety of opinions about dimensions of the LLPs or the

University that may be related to Sense of Community, but one of the common responses

of LLP students was that there was close faculty interaction. This seemed related to the

finding of a principal component of the SSCQ, indeed the strongest principal component,

of faculty responsiveness.

Accuracy of measures in comparing two levels of community

The differences between Living-Learning Program (LLP) students and non-

program students on measures of Sense of Community (SCI, MSCI, SSCQ) were still

highly significant even after controlling for the demographic variables gender, SAT score,

high school GPA, university GPA, and semester in school. Even so, it is difficult to say

with certainty that comparing these two groups in this way is as accurate as the numbers

would suggest. A major goal of this study was to compare sense of community for those

students in LLPs with those who do not have the benefit of such programs, but in one

case the community is a relatively small program and in the other a large university, so some might expect a large difference in Sense of Community measures. For example, it is easier to know people if class sizes are smaller, and whatever adjustment might be made in terms of the reasonable expectations (for, in this case, knowing people) for either large or small classes may not fully compensate for the actual differences in what portion of the class a student knows in small vs. large classes. One could make the argument that if class size explains part of the difference (in Sense of Community between LLP vs. non-program students), actual Sense of Community is not overestimated because smaller class size is one of the benefits. The counter-argument here would seem to be that it could be the case that the difference in Sense of Community can be reduced to a relatively small number of factors, and that perhaps these could be achieved in other ways that have equal benefits with fewer costs. One line of research that could explore such questions is to try to identify the specific factors or characteristics that contribute most to Sense of Community.

Alternatively, the difference in Sense of Community between LLPs and non-program students may have been *underestimated* because of the baseline expectations in relation to the community of reference. So, for example, the level of influence I might expect to have in affecting the nature of my program might be much greater than the level of influence I might expect to have in affecting the nature of the university as a whole. Thus respondents may make quite an adjustment depending on what might be reasonably *expected* in relation to the two communities at issue. Also, many of the questions on the survey for the non-program students asked not about the university as a whole, but rather

about the student's classes, which is a more intimate setting. This choice of "my classes" rather than "the University" was used whenever the comparison to the situation of LLP students seemed to be more nearly equivalent. The point was to make the comparison as fair as possible in assessing the situation of the two groups. It is possible that the differences between the LLP students and the non-program students would have been even greater had the questions on the survey for the non-program students consistently referred to "the University" rather than to "my classes."

Certain aspects of selection bias were eliminated in order to ensure that the comparison group was as similar as possible to the LLP group. The same qualifications for entry into the LLPs were used to eliminate those in the comparison group who would not have been admitted. Nevertheless, entry into an LLP is voluntary, so there is a self-selection into LLPs at work, and it is possible that those who value elements of Sense of Community—or who have some other characteristic that correlates to Sense of Community—are more likely to self-select into an LLP. Also, there is no guarantee that the LLP students surveyed were representative of their LLPs, or that the particular LLPs that were studied were representative of all the LLPs, though steps were taken as described above to minimize both these threats. The students in the large survey courses may not have been representative of non-program students generally, though this threat was also minimized as much as was practicable.

The Element of Purpose

Another major goal of this study was to explore a proposed fifth element of Sense of Community, namely "Purpose." When the SCI was developed, the community of reference was the neighborhood. One would not necessarily expect the there should be a strong sense of the Purpose *of* the community, or even of Purpose *in* the community (except perhaps for those with a high degree of local civic involvement). On the other hand, most other types of communities that have been studied, such as the workplace, school, and communities of interest, might well have, in varying degrees, one or both of these two types of "Purpose." The perceived Purpose *of* the community would consist of a meaningful sense of the purpose of the community as a whole, either to its members— which is quite similar to the element of Integration and fulfillment of needs—or to those outside the community, as in the case of a community which serves or otherwise benefits someone beyond that community in some way. The perceived Purpose *in* the community would consist of a meaningful sense of one's purpose in serving or benefiting the community and the importance of one's role in making such a contribution. Some workplaces (including non-profits) probably have a strong, measurable sense of mission (even if it is to provide the best possible customer service or the most creative toys) that might play a big part in how they identify with that workplace or how they see themselves functioning within it. Communities of interest would seem to need to have a clear purpose by definition, and this would often go beyond mere fulfillment of needs— whenever one's actions or intentions transcend the needs of the self, or whenever the actions or intentions of the community transcend the needs of the community.

In the school setting, Purpose probably depends upon the character of the educational program. But even the non-program students at the University scored significantly higher than a neutral score on the "Purpose" questions in this study. It was also found that the "Purpose" questions were highly correlated with the SCI ($r=0.489$, $p<0.01$), and factor analysis showed that these four questions had a coherence as a group as well as a clear differentiation from other questions in that they loaded as a distinct factor.

One possibility for how this might benefit Sense of Community research would be to include an element of Purpose in some way, especially when studying communities that are relatively more purposeful. One problem with creating new questions, scales, and indexes is that such research cannot easily be compared directly with research using other instruments, and may or may not be easily related to previous theory. The SCI has been used by many if not most researchers in this field, and this commonality allows for certain kinds of theoretical and empirical development. On the other hand, as Chipuer and Pretty (1999) acknowledge, there is a need to depict the facets of Sense of Community comprehensively. It would seem to make sense to retain the SCI, but to build upon it in order to fully explore the emerging understanding of Sense of Community. There may be also dimensions of Sense of Community that are far more salient for some communities than for others. It may be much more important to investigate whether "Purpose," for example, is indeed an element of Sense of Community in settings such as communities of interest, especially those with a service component, than for neighborhoods. In developing new questions, scales, and indexes that attempt to

contribute to a more comprehensive picture of Sense of Community, as well as to specialize in understanding the unique character of various types of communities (such as neighborhoods, workplace, school, and communities of interest), building upon the SCI rather than ignoring it would seem to be the strategy of choice.

Concerns regarding the SCI

Concerns have been voiced regarding the SCI as it stands currently. The reliability of the instrument as a whole has generally been considered adequate. In this study the reliability was 0.68 (MSCI=0.68), and Perkins *et al.* (1990) report a reliability of 0.80 for the SCI in a neighborhood setting (for which the instrument was originally designed). The reliabilities in this study of the subscales, however, were not as high (α=0.31 to 0.58). Nevertheless, these subscales consist of only 3 questions each, so it is not at all clear that these levels of reliability are problematic. On the other hand, factor analysis showed the questions not loading very well on the factors theoretically predicted. The theoretical underpinnings of the four subscales are strong, but it would seem, from this study at least, that it might be worthwhile to attempt to strengthen the operationalized subscales somehow. This alternative seems preferable to simply abandoning the notion that there are subscales and treating the instrument as a single scale. Also, as the SCI is applied to a variety of communities, the results of factor analyses would be expected to differ based on this variation. Again, the development of our understanding of Sense of Community is likely to be enhanced by supplementing the SCI and perhaps by developing it, but certainly by retaining and building upon it rather than ignoring it.

Qualitative findings

Qualitative responses in this study did not yield as many insights (such as the characteristics that might lead to the differences in Sense of Community among programs discussed immediately above) as was hoped. It could be that once respondents were in a mode to select true/false or multiple choice answers, questions asking for thoughtful answers seemed bothersome. An alternative to mixing quantitative and qualitative questions might be to have one page (and perhaps *not* the last page) consist entirely of qualitative questions.

Nevertheless, there are a few things worth mentioning in addition to the quotations (which largely speak for themselves) and this researcher's comments in the qualitative results section of Chapter 4 above.

Several LLP students who did not live in an LLP dormitory reported that they felt less connected, and attributed it to the fact that they lived off-campus. As a group, off-campus LLP students had Sense of Community scores that appeared to be numerically lower than those who lived in an LLP dormitory, but the difference was not statistically significant. It could be that the off-campus students did in fact have a lower Sense of Community, but that the instrumentation in this study could not establish the difference. It is also possible that the feeling of alienation expressed by some of these students, if common to off-campus LLP students, was at least partially offset by the desire to be a part of the LLP community and/or similar factors, some of which may be factors about which the subject is not fully consciously aware. As Hogge points out in employing

Brunswick's lens model (Chavis, Hogge, McMillan, & Wandersman, 1986), several indirect measures can sometimes produce a more valid measure of, in this case, Sense of Community, than simply asking people how much Sense of Community they feel.

Some of the comments that sound like they might have been made by any student, such as "I learned what real research is like." were in fact much more likely to have been made by LLP students because of special opportunities for undergraduate research in the LLPs.

Inter-program comparisons and further research

This study looked at sense of community at two levels. Beyond comparing the LLP setting with the University setting, LLPs were compared to each other, and significant differences were found. In any university setting where there is more than one special program, any differences found in Sense of Community could be explored in greater depth in order to attempt to uncover the factors that make one program score higher than another. As mentioned above, greater Sense of Community has been shown to be associated with a variety of positive outcomes such as more and better-quality participation, better attitude and achievement, greater interest, and greater retention (see Chapter 2 for a more comprehensive list). So examining specific differences between programs to find contributing factors to greater Sense of Community could be worthwhile for its practical benefits. Qualitative interviews of those who know the programs well might be a place to start.

In any case, comparing programs is quite valuable in another way, as it is one method of studying communities as ecological systems. Most research on Sense of Community is carried out by aggregating individuals' scores on measures of perceived Sense of Community. Comparing communities within the same study allows them to a greater degree to be considered as entities with certain characteristics that can be compared and contrasted.

APPENDIX

Questionnaire

The first page (part one) of the questionnaire is the Sense of Community Index (SCI). Question 12 is the modified question, and question 13 is the original twelfth question of the SCI. Some early questionnaires were administered without question 13. The first three questions of the SCI correspond to its third subscale (Integration and fulfillment of needs), questions 4-6 to its first subscale (Membership), questions 7-9 to its second subscale (Influence), the final four questions (10-13) to its fourth subscale (Shared emotional connection).

Five-point Likert-type scale questions in part two (the second-fourth page of the questionnaire) comprise what is referred to in the text as the SSCQ (School Sense of Community Questions). Questions 7, 23, 26, and 27 were dropped from the analysis because of poor response rates and misunderstandings that became clear in responses to qualitative questions. In addition, there are seven qualitative questions in part two.

Two versions of the survey follow. The first four pages comprise the LLP version of the survey; the four pages after that comprise the version of the survey for non-program students.

Formatting of the surveys that follow was condensed where necessary to meet dissertation publishing guidelines. The text above refers to the original pagination, so that had to be preserved. The original was not crowded, and font size was consistent and large (12 point).

While the version of the Sense of Community Index (SCI) that appears in part one is adapted to the academic setting, the original version of the SCI (Chavis et. al., 1986) appears on the web (www.capablecommunity.com/pubs/SCIndex.PDF).

Also appearing on the web is an excerpt from Chapter 2 above summarizing the McMillan and Chavis (1986) theory of Psychological Sense of Community (community.StephenWright.org). This latter URL (web address) is permanent; if the former URL changes, the new link can be found on the latter page.

PAGE 1   Name _____

....
(Your name will be torn off of this sheet as soon as I cross-check to put you in the right group.)

Please fill in the following (again, these will be anonymous as soon as you are given a code):
❏ male   ❏ female   Major: _____   Program within [LLP]:
_____
High school grade point average (GPA): weighted_____   unweighted_____   (either or both, if known)
SAT score: _____   Last semester's University of [   ] GPA: _____
I live: in [LLP dorm], on the _____ floor   in another dorm, _____   ❏ off-campus

Below are some statements people might make about their program. "Program" or "[LLP] program" refers to the [LLP] program you are in ([examples]). "The people in the program" means everyone in your program, including students, faculty, and staff. Check the box according to whether the statement is mostly true or mostly false. Please read carefully.

1. I think this program is a good place for me to be.   ❏ mostly true   ❏ mostly false

2. People in this program do not share the same values.   ❏ mostly true   ❏ mostly false

3. The people in this program and I want the same things from the program.
                                                             ❏ mostly true   ❏ mostly false

4. I can recognize most of the people in my program (in my year).   ❏ mostly true   ❏ mostly false

5. I feel at home in this program.   ❏ mostly true   ❏ mostly false

6. Very few of the people in my program know me.   ❏ mostly true   ❏ mostly false

7. I care about what the people in my program think of my actions.   ❏ mostly true   ❏ mostly false

8. I have no influence over what this program is like.   ❏ mostly true   ❏ mostly false

9. If there is a problem in this program, the people here can get it solved. ❏ mostly true   ❏ mostly false

10. It is very important to me to be in this particular program. ❏ mostly true   ❏ mostly false

11. People in this program generally don't get along with each other.   ❏ mostly true   ❏ mostly false

12. I would recommend this program to others.   ❏ mostly true   ❏ mostly false

13. I expect to be in this program a year from now.❏ n/a (will have graduated) ❏ mostly true ❏ mostly false

v. 3Pf.3

Please circle the best/closest answer.

1. I have done what was expected of me as a member of this program.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

2. The faculty are willing to listen to and consider suggestions I might make about the program.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

3. People don't really listen to what I have to say during class discussions.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

4. The faculty respect my opinions.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

5. Other students respect my opinions.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

6. I respect other students' opinions.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

7. [If you joined [LLP] after the first semester, please skip this question.] By the end of my first couple weeks at the university, I had confidence I would find my "place" or "niche" and feel comfortable here.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

8. The faculty are nice (kind, generous, friendly).
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

9. The faculty are fair.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

10. The faculty are interested in feedback.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

11. The faculty are not responsive to feedback. [Notice the negative phrasing]
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

12. The program has provided me with unique & valuable educational/learning opportunities.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

13. Can you think of any specific examples (question 12)? If possible, please mention several and how you benefitted from them.

14. The program has provided me with opportunities to do things that were fun or interesting.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

15. Can you think of any specific examples (question 14)? Please mention several and what you liked about them.

16. There are things we get to do in the program that are special and rewarding.
  A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

17. The quality of my interaction with the faculty is personable.
  A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

18. People in this program care about the issues discussed in their CPS program classes.
  A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

19. People in this program are able to share criticisms, suggestions, and differences of opinion.
  A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

20. People in this program have a sense of unity.
  A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

21. What contributes to this sense of unity (if any)? (please explain several factors)

22. I feel a sense of loyalty toward my program.
  A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

[If you don't live on your program floor, please skip question 23.]
23. I have more friends from my residence hall than from my non-CPS-program classes.
  A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

24. The people in my program don't care about me.
  A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

25. What was the single program (your program in CPS) event that was most rewarding (either fun, educational, interesting, meaningful, etc.) to you? Why?

26. This event (in question 25) was the best experience of the semester, compared to experiences I had as part of <u>non</u>-CPS-program classes.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

27. During this event (in question 25), the personal interaction I had with people was good / high quality.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

28. Can you think of any values or virtues that are exemplified by the program?

29. I will miss this program after I graduate from it.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

30. What will you miss the most?

31. My program is a good place to make friends.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

32. When I'm talking to other people in my program, I feel I can be myself.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

33. When I'm talking to other people in my program, I feel accepted.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

34. When I'm talking to other people in my program, I feel comfortable saying what I think.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

35. My program activities include doing good work that helps people.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

36. My program encourages me to think about helping people.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

37. There is a sense of purpose in my program.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

38. Being in the program has contributed to my having more of a sense of the value of my contribution.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

39. The program has had some positive effect on me.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

40. It may be hard to put your finger on it, but can you specify examples of ways in which the program has had positive effects on you?

PAGE 1   Name _____

....

(Your name will be torn off of this sheet as soon as I cross-check to put you in the right group.)

Please fill in the following (again, these will be anonymous as soon as you are given a code):
❏ male   ❏ female   Major: _____
High school grade point average (GPA): weighted_____   unweighted_____   (either or both, if known)
SAT score: _____   Last semester's University of [   ] GPA: _____
I live: ❏ on campus, in _____ dorm   ❏ off-campus
I'm in a special program: ❏ Honors ❏ [LLPs],_____Program ❏ [third program] ❏ other:_____

Check the box according to whether the statement is mostly true or mostly false. Please read carefully.

1. I think this university is a good place for me to be.   ❏ mostly true   ❏ mostly false

2. People at this university do not share the same values.   ❏ mostly true   ❏ mostly false

3. The people in this university and I want the same things from the university.
                                                               ❏ mostly true   ❏ mostly false

4. I can recognize most of the people in my classes.   ❏ mostly true   ❏ mostly false

5. I feel at home at this university.   ❏ mostly true   ❏ mostly false

6. Very few of the people in my classes know me.   ❏ mostly true   ❏ mostly false

7. I care about what the people at this university think of my actions.   ❏ mostly true   ❏ mostly false

8. I have no influence over what this university is like.   ❏ mostly true   ❏ mostly false

9. If there is a problem in this university, the people here can get it solved.❏ mostly true   ❏ mostly false

10. It is very important to me to be at this particular university.   ❏ mostly true   ❏ mostly false

11. People in this university generally don't get along with each other.   ❏ mostly true   ❏ mostly false

12. I would recommend this university to others.   ❏ mostly true   ❏ mostly false

13. I expect to be a student at this university a year from now.❏ mostly true   ❏ mostly false

v. 3Pf.3

Please circle the best/closest answer.

1. I have done what was expected of me as a student.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

2. The faculty are willing to listen to and consider suggestions I might make about my classes.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

3. People don't really listen to what I have to say during class discussions.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

4. The faculty respect my opinions.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

5. Other students respect my opinions.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

6. I respect other students' opinions.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

7. By the end of my first couple weeks at the university, I had confidence I would find my "place" or "niche" and feel comfortable here.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

8. The faculty are nice (kind, generous, friendly).
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

9. The faculty are fair.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

10. The faculty are interested in feedback.
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11. The faculty are not responsive to feedback. [Notice the negative phrasing]
    A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

12. My classes have provided me with unique & valuable educational/learning opportunities.
    A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

13. Can you think of any specific examples (question 12)? If possible, please mention several and how you benefitted from them.

14. The program has provided me with opportunities to do things that were fun or interesting.
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15. Can you think of any specific examples (question 14)? Please mention several and what you liked about them.

16. There are things we get to do in my classes that are special and rewarding.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

17. The quality of my interaction with the faculty is personable.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

18. People at this university care about the issues discussed in their classes.
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19. People at this university are able to share criticisms, suggestions, and differences of opinion.
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20. People at this university have a sense of unity.
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21. What contributes to this sense of unity (if any)? (please explain several factors)

22. I feel a sense of loyalty toward the university.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

23. I have more friends from my residence hall than from my classes.
   A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

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26. This event (in question 25) was the best experience of the semester, compared to university-related experiences I had that were not class-related.
    A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

27. During this event (in question 25), the personal interaction I had with people was good / high quality.
    A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

28. Can you think of any values or virtues that are exemplified by the university?

29. I will miss this university after I graduate from it.
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33. When I'm talking to other people in my classes, I feel accepted.
    A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

34. When I'm talking to other people in my classes, I feel comfortable saying what I think.
    A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

35. My class activities include doing good work that helps people.
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36. My classes encourages me to think about helping people.
    A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

37. There is a sense of purpose in my classes.
    A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

38. Being in this university has contributed to my having more of a sense of the value of my contribution.
    A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

39. The university has had some positive effect on me.
    A. definitely false   B. probably false   C. neither true nor false   D. probably true   E. definitely true

40. It may be hard to put your finger on it, but can you specify examples of ways in which the university has had positive effects on you?

REFERENCES

Ahlbrandt, R.S. & Cunningham, J.V. (1979). *A new public policy for neighborhood preservation*. Westport, CT: Praeger Publishers.

Allen, R.F., & Allen, J. (1987). A Sense of community, a shared vision and a positive culture of health promotion. *American Journal of Health Promotion*, 1(3), 40-47.

Altman, I. (1987). Community psychology twenty years later: Still another crisis in psychology? *American Journal of Community Psychology*, 15, 613-627.

Bachrach, K.M. & Zautra, A.J. (1985). Coping with a community stressor: The threat of a hazardous waste facility. *Journal of Health & Social Behavior*, 26(2), 127-141.

Bell, C. & Newby, H. (1972). *Community studies: An introduction to the sociology of the local community*. New York: Praeger Publishers.

Berger, J.B. (1997). Sense of community in residence halls, social integration, and the first-year persistence. *Journal of College Student Development*, 38(5), 441-452.

Booth, D. J., & Brosnan, D.M. (1995). The role of recruitment dynamics in rocky shore and coral reef fish communities. *Advances in Ecological Research*, 26, 309-385.

Bronfenbrenner, U. (1979). *The ecology of human development*. Cambridge, MA:

    Harvard University Press.

Brunswick, E. (1947). *Systematic and representative design of psychological experiments:*

    With results in physical and social perception. Berkeley, CA: University of California

    Press.

Buckner, J. (1988). The development of an instrument to measure neighborhood cohesion.

    American Journal of Community Psychology, 16(6), 771-791.

Burroughs, S. & Eby, L. (1998). Psychological sense of community at work: A

    measurement system and explanatory framework. *Journal of Community Psychology*,

    26(6), 509-532.

Bryk, A.S., & Driscoll, M.E. (1988). *The high school as community: Contextual*

    influences and consequences for students and teachers. Madison, WI: National

    Center on Effective Secondary Schools, University of Wisconsin.

Catano, V., Pretty, G., Southwell, R., & Cole, G. (1993). Sense of community and union

    participation. *Psychological Reports*, 72, 333-334.

Chavis, D.M., Hogge, J.H., McMillan, D.W., & Wandersman, A. (1986). Sense of

community through Brunswick's lens: A first look. *Journal of Community*

Psychology, 14(1), 24-40.

Chavis, D.M., & Wandersman, A. (1990). Sense of community in the urban environment:

A catalyst for participation and community development. *American Journal of*

Community Psychology, 18(1), 55-81.

Chavis, D.M., & Pretty, G. (1999). Sense of community: Advances in measurement and

application. *Journal of Community Psychology*, 27(6), 635-642.

Chesson, P. L., and Case, T.J. (1986). Overview: nonequilibrium community theories,

chance, variability, history, and coexistence. In Diamond, J. & Case, T.J., eds.

Community ecology. pp. 229-239. Harper & Row, New York.

Chipuer, H. & Pretty, G. (1999). A review of the Sense of Community Index: Current

uses, factor structure, reliability, and further development. *Journal of Community*

Psychology, 27(6), 643-658.

Compass, B. (1981). Psychological sense of community among treatment analogue group

members. *Journal of Applied Social Psychology*, 11, 151-165.

Davidson, W.B., & Cotter, P.R. (1986). Measurement of sense of community within the sphere of city. *Journal of Applied Social Psychology*, 16, 608-619.

Davidson, W.B., & Cotter, P.R. (1993). Psychological sense of community and support for public school taxes. *American Journal of Community Psychology*, 21, 59-66.

Davidson, W.B., Cotter, P.R., & Stovall, J. (1991). Social predispositions for the development of sense of community. *Psychological Reports*, 68, 817-818.

DeNeui, D. L. (1998). A Longitudinal Investigation of the Psychological Sense of Community on Campus. *Higher Education Abstracts*, 34(1), 18.

Doolittle, R. & MacDonald, D. (1978). Communication and a sense of community in a metropolitan neighborhood: A factor analytic examination. *Communication Quarterly*, 26, 2-7.

Durkheim, E. (1933). *The division of labor in society*. Simpson, G., trans. New York: The Free Press.

Etzioni, A. (1993). *The spirit of community: Rights, responsibilities and the communitarian agenda*. New York: Crown.

Felton, B., & Shinn, M. (1992). Social integration and social support: Moving "social

    support" beyond the individual level. *Journal of Community Psychology*, 20, 103-115.

Gardner, J.W. (1991). *Building community*. Washington, DC: Independent Sector.

Glynn, T.J. (1981). Psychological sense of community: Measurement and application.

    Human Relations, 34, 789-818.

Harper, E.H. & Dunham, A. (1959). *Community organization in action: Basic literature

    and critical comments*. New York: Association Press.

Heller, K. (1989). The return to community. *American Journal of Community Psychology*,

    17, 1-15.

Hillery, G. (1955). Definitions of community: areas of agreement.

Rural Sociology, 20, 111-123.

Hogge, J.H., Fellendorf, G.W., Moore, J.W., & Wuescher, L. (1979). A delivery service

    index: Basis in evaluative judgements. *Evaluation Quarterly*, 3, 643-660.

Hughey, J.B. & Bardo, J.W. (1984). The structure of community satisfaction in a

    southeastern American city. *Journal of Social Psychology*, 123, 91-99.

Hughey, J., Speer, P.W. & Peterson, N.A. (1999). Sense of community in community

   organizations: Structure and evidence of validity. *Journal of Community Psychology*,

   27(1), 97-113.

Hunter, A. (1975). The loss of community: An empirical test through replication.

   American Sociological Review, 40, 537-552.

Jung, C.G. (1912). *The psychology of the unconscious*. Leipzig, Germany: Franz

   Deutiche.

Klein, K., & D'Aunno, T. (1986). Psychological sense of community in the workplace.

   Journal of Community Psychology, 14, 365-377.

Lambert, S., & Hopkins, K. (1995). Occupational conditions and workers' sense of

   community: Variations by gender and race. *American Journal of Community*

   Psychology, 23, 151-179.

Lott, A.J. & Lott, B.E. (1965). Group cohesiveness as interpersonal attraction: A review

   of relationships with antecedent and variables. *Psychological Bulletin*, 64, 259-309.

Lounsbury, J., & DeNeui, D. (1995). Psychological sense of community on campus.

   College Student Journal, 29, 270-277.

Lounsbury, J. W., & DeNeui, D. L. (1996). Collegiate psychological sense of community in relation to size of college/university and extroversion. *Journal of Community Psychology*, 24(4), 381-394.

Luhmann, N. (1995). *Social Systems*. Stanford, CA: Stanford University Press.

McGrath, J.E. (1984). *Groups: Interaction and performance*. Englewood Cliffs, NJ: Prentice Hall.

McCarthy, M., Pretty, G. & Catano, V. (1990). Psychological sense of community and burn-out. *Journal of Community Psychology*, 18, 211-216.

McMillan, D.W. (1996). Sense of community. *Journal of Community Psychology*, 24(4), 315-325.

McMillan, D.W., & Chavis, D.M. (1986). Sense of community: A definition and theory. *American Journal of Community Psychology*, 14(1), 6-23.

Moos, R. & Gerst, M. (1974). *University Residence Environment Scale manual*. Palo Alto, CA: Consulting Psychologists Press.

Nasar, J., & Julian, D. (1995). The psychological sense of community in the neighborhood. *Journal of the American Planning Association*, 61, 178-184.

Newmann, F.M., Rutter, R.A., & Smith, M.S. (1989). Organizational factors that affect school sense of efficacy, community, and expectations. *Sociology of Education*, 62, 221-238.

Nisbet, R.A. (1966). *The sociological tradition*. London, UK: Heinemann.

Nisbet, R. (1969). *Quest for community*. Oxford: Oxford University Press.

Nisbet, R. & Perrin, R.G. (1977). *The social bond*. New York: Knopf.

Perkins, D., Florin, P., Rich, R., Wandersman, A. (1990). Participation and the social environment of residential blocks: Crime and community context. *American Journal of Community Psychology*, 18(1), 83-116.

Pickett, S.T.A., & White, P.S., eds. (1985). *The ecology of natural disturbance as patch dynamics*. Academic Press, New York.

Pretty, G. (1990). Relating psychological sense of community to social climate characteristics. *Journal of Community Psychology*, 18, 60-65.

Pretty, G., Andrews, L. & Collett, C. (1994). Exploring adolescents' sense of community and its relationship to loneliness. *Journal of Community Psychology*, 22, 346-358.

Pretty, G., & McCarthy, M. (1991). Exploring psychological sense of community among women and men of the corporation. *Journal of Community Psychology*, 19, 351-361.

Pretty, G., McCarthy, M., & Catano, V. (1992). Psychological environments and burn-out: General considerations in the corporation. *Journal of Organizational Behaviour*, 13, 701-711.

Price, R.H. (1985). Work and Community. *American Journal of Community Psychology*, 13(1), 1-12.

Putnam, R.D. (2000). *Bowling alone: the collapse and revival of American community*. New York: Simon & Schuster.

Rappaport, J. (1977). *Community Psychology: Values, research, and action*. New York: Rhinehart and Winston.

Riger, S. & Lavrakas, P. (1981). Community ties patterns of attachment and social interaction in urban neighborhoods. *American Journal of Community Psychology*, 9, 55-66.

Robinson, D. & Wilkinson, D. (1995). Sense of community in a remote mining town: Validating a neighborhood cohesion scale. *American Journal of Community Psychology*, 23, 137-148.

Royal, M.A. & Rossi, R.J. (1996). Individual-level correlates of sense of community: Findings from workplace and school. *Journal of Community Psychology* Vol 24(4), 395-416.

Sarason, S.B. (1974). *The psychological sense of community: Prospects for a community psychology*. San Francisco: Jossey-Bass.

Sarason, S.B. (1986). Commentary: The emergence of a conceptual center. *Journal of Community Psychology*, 14, 405-407.

Seidman, E. (1991). Growing up the hard way: Pathways of urban adolescents. *American Journal of Community Psychology*, 19, 173-206.

Tonnies, F. (1957:1887). *Community and Society*. Loomis, C.P., trans. New York: Harper & Row.

Unger, D. & Wandersman, A. (1985). The importance of neighbors: The social, cognitive, and affective components of neighboring. *American Journal of Community Psychology*, 13, 139-169.

Wandersman, A. & Giamartino, G. (1980). Community and individual difference

characteristics as influences on initial participation. *American Journal of Community*

Psychology, 8, 217-228.