

# Sense of Community in a Distance Education Course

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## Abstract

One of the biggest challenges facing distance education programs is that of attrition. One potential way of reducing attrition is to foster a sense of community among students. Students who are emotionally and intellectually invested in each other and in their program are more likely to prosper in a multi-year distance program. This paper briefly explores those effects ascribed to community that we believe are crucial for distance education programs to succeed, and then focuses on a theoretical framework that seeks to define community known as the Psychological Sense of Community (PSOC). From this basis, we explore the communication between graduate students in a distance education cohort to see how well the PSOC can be applied to this environment.

## Introduction

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The advent of the World Wide Web has brought with it a massive proliferation of distance education options, many of them based around extensive online communication. Unlike the correspondence courses from which they spring, this new brand of distance education features opportunities for extensive student-student and student-teacher interaction, includes a radically different economic model, and often requires a long-term commitment between the student and the offering institution.

Modern pedagogical models encourage the use of group work and learning communities and cohorts to help sustain rigorous academic standards and prepare students for a work world in which teamwork plays an important role. Modern economic models demand high levels of student-student interaction (to take pressure off the instructor) and a sharp reduction in the traditionally high levels of attrition associated with distance education courses.

In response to these sets of needs, many scholars and programs have begun to focus on creating *community*, particularly *learning communities*. Unfortunately, the terms are often vaguely defined. How does one know to what degree community is present? What positive attribute can we ascribe to such a community if it does exist?

This paper briefly explores those effects ascribed to community that we believe are crucial for distance education programs to succeed, and then focuses on a theoretical framework that seeks to define community known as the Psychological Sense of Community (PSOC). From this basis, we explore the communication between graduate students in a distance education cohort to see how well the PSOC can be applied to this environment.

## Review of the Literature

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### Distance education and attrition

Among the challenges faced by those implementing a distance education program — poorly understood technology, high demands on faculty time, and an increasingly competitive atmosphere, among others — perhaps the most onerous challenge comes in the form of attrition. Reports of attrition rates at the course level in distance education vary wildly from study to study (Dille & Mezack, 1991; Kember, 1995), but are generally significantly higher than on-campus courses. If an online program lasts several years, is based around group work, and consists of a deliberately small number of students in order to enhance interaction and learning, the results of attrition can be even more extreme. From the students' perspective, the three-person team that loses two members is in serious trouble. In the institution's view, any substantive attrition rate will devastate a small cohort. By the end of a multi-year program, there will be only four or five students per class, which renders courses impossible to fund, maintain, and justify to institutional stakeholders.

One of the most prevalent reasons given for dropping out of distance education courses is a *sense of isolation* (Morgan & Tam, 1999). Students cut off from in-class as well as serendipitous encounters with their classmates, peers, and instructors lose the sense that they are part of a community and the feeling that they *belong* to something. While the complex mechanisms underlying the phenomenon are poorly understood at best, the correlation — high drop-out rates associated with a feeling of isolation — is fairly well-established (Morgan & Tam, 1999; Want & Grimes, 2000).

One potential avenue through which the problem of attrition — can be addressed is through the formation of a *learning community*, specifically by engendering in students feelings of *belonging*. Indeed, belonging to a community seems to serve both the student and the institution by reducing feelings of isolation and hence attrition (Haythornthwaite, Kazmer, Robins, & Shoemaker, 2000; McCarthy, Pretty, & Catano, 1990; Morgan & Tam, 1999; Palloff & Pratt, 1999). Of course, feelings of isolation are not the only factors influencing student drop-out (Want & Grimes, 2000; Nippert, 2000; Brown, 1996), but they do offer us a lever with which to address the issue of retention while remaining true to the pedagogical mission of the program.

## Community and attrition

Community is linked with two student attributes associated with attrition: student burnout (McCarthy et al., 1990) and feelings of isolation (Haythornthwaite et al., 2000). McCarthy et al note that undergraduate students who experience a strong psychological sense of community in their living environment reported lower burnout on the Meier Burnout Assessment and the Maslach Burnout Inventory, compared to students who did not experience a strong psychological sense of community in their living environment. The authors note that their study does not establish causality, but first seeks to “establish a relationship between burnout and sense of community, and, subsequently, to determine if burnout results in a decreased sense of community or if students with a decreased sense of community are more at risk of burnout” (p. 213-214). Further to this idea, they suggest that programs and interventions to prevent or decrease burnout should focus not simply on individual students (such as improving their coping skills), but should also be implemented at the college community level. (Haythornthwaite et al., 2000) found that the students who do not make connections with their classmates at a distance “report feeling more isolated and stressed than those who are more active; exchanges with other students become vital for validating their experiences and for overcoming isolation” (p. 1).

## Community and learning

The second major positive effect of community on learning is that it aids socialization of students into the profession, helping them to create networks with future colleagues (Haythornthwaite, 1998). Lave & Wenger (1991) and more recently Wenger (1998) explore how inclusion in a community sharing a common endeavor helps to shape (and is shaped by) students as they create a common history in their growth from novices to experts. Being part of a community of practice while learning encourages students to work together and use each other as resources. This attitude carries over into their professional life, when their peers go off to work in different areas in the field: they have

an automatic network of like-minded colleagues. Lave (1993) would put even more emphasis on the idea of social interaction and community being fundamental to learning in that “developing an identity as a member of a community and becoming knowledgeable skillful are part of the same process, with the former motivating, shaping, and giving meaning to the latter, which it subsumes” (p. 65).

Community is also linked to a collection of various improvements in performance, especially with respect to instilling the practice of life-long learning (Brown, Collins, & Duguid, 1989; Cross, 1998; Vygotsky, 1978). There is also an opportunity for mentorship; “through participating in a community, novice learners can learn through collaboration with others and work with more experienced members” (Barab, Scheckler, & MaKinster, 2001). A community model in the classroom puts the emphasis on “relationships, not individuals, shifting attention to learning experiences with a sense of authenticity holding common meaning for all participants” (Baker & Moss, 1996). Again, students who are part of a community of practice in school transfer this framework of social learning into their everyday lives and careers. In 1978, Charland described a program dedicated to creating community among its non-traditional students returning to school in mid-life, noting that such a decision “often signaled a larger decision to reshape personal identity, and that this group needed a supportive re-entry experience in order to learn successfully” (p. 1). In this case, the students were already acting as life-long learners, but as non-traditional students, required more support in re-entering the traditional learning sphere.

## Defining community from the top-down

Since the goal of retention can conceivably be served by creating a supportive learning community for distance students, the challenge is to know how to create community. One of the important parts of developing strategies for fostering community is to also implement ways of evaluating whether community has formed, and whether it has engendered the positive effects we had expected.

Eventually, we hope to associate what particular characteristics of courses and students contribute to, or lessen, a feeling of community. If we hope to do so, we must first find an operationalizable way to measure community, a model that that will help us focus on those contributing characteristics in future work.

Intimately linked to this question of how to evaluate the existence and effectiveness of community is the ways in which researchers view community. The “top-down” approach is the preponderant method used for evaluation and description of community. In this approach, the researcher establishes a list of characteristics she has identified as indicating the presence of community. Using these characteristics as a lens, she then looks for indicators of those characteristics in the available data, and determines whether (or to what extent) the group is a community (see, e.g., Kim, 2000; Schwier, 2001; Selznik, 1996; Wenger, 1998).

Another way to define community is through its structure. Social network theory uses relationships among people (as defined by “weak” and “strong” ties and relations) to determine a person’s own social network. (Wellman, 1979; Wellman, 1999; Wellman, Carrington, & Hall, 1988; Wellman & Guila, 1999a; Wellman & Guila, 1999b). In the

case of defining virtual community by interaction, a researcher would determine what kinds of exchanges are occurring among classmates, how regular and frequent they are, what the tone and level of intimacy are, and what the potential topics are (simply “work-related” or “friendship”-based). Haythornthwaite's (1998) study used this framework to examine the networks of 15 distance learners in a Master of Science in Library and Information Science. The author had students report on peer interactions at three points during the 15-week term, and had students classify the interactions based on type (class work, emotional support, receiving or giving information/advice, socializing). These data were used to create maps of how the students interacted, allowing the researchers to derive models of how information and other resources flowed through the group.

## An alternative: defining community from the bottom up

The methods and models referenced above focus on determining whether or not a group of people exhibits externally defined indicators of community. Puddifoot calls into question such quantification at all: “It is not apparent whether community identity can be established in any empirically objective way, or indeed whether this should even be the goal” (Puddifoot, 1996, p. 328). There is a construct, well known in the community psychology literature, of “psychological sense of community.” This is basically the individual’s perception of whether or not he belongs to a community. When thinking of PSOC, community (or the effects members get from community) may exist regardless of the presence of externally observable characteristics. Similarly, community is determined not to exist if people don’t feel a part of one, despite the best design and potentially observed characteristics.

In 1981, Glynn published a paper that showed the PSOC to be measurable and quantifiable. He created a scale of 120 Likert-style items, half of which referred to the participant’s own community and half to the participant’s view of the ideal community. Glynn administered this survey to members of two American towns and one Israeli kibbutz. As expected, he found that members of the kibbutz demonstrated greater real levels of sense of community than residents of the two American towns, but found no significant difference between among the three groups on the ideal scale.

## McMillan & Chavis’ Psychological sense of community

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In their seminal 1986 article, McMillan and Chavis sought to describe a sense of community and offered four criteria necessary for an acceptable definition. Any definition, they said, must be explicit and clear. It must be concrete, with its parts identifiable. Finally, it must represent the “warmth and intimacy implicit in the term;” (p. 9) and provide a dynamic description of the development and maintenance of the experience. Their model has formed the basis of much of the work done in the field of community psychology, but has not had a noticeable impact in the world of education.

The PSOC, as its name implies, is based in the idea that many of the benefits ascribed to community come from an internal *sense* of community, irrespective of any externally-observable characteristics about the group in question. While designed with

terrestrial neighborhoods in mind, McMillan and Chavis assert that their definition of sense of community will apply equally to both place-based and non-place-based communities.

The model entails four elements, each of which has a series of sub-characteristics. *Membership* is concerned with boundary issues, often represented by feelings of belonging or sharing. *Influence* looks at an individual's sense of mattering, being shaped by the group, and able to make a difference. *Needs*, more specifically the integration and fulfillment of needs, deals with reinforcement and distribution of resources. *Emotional connection* speaks to a community's shared history, similar experiences, and common world-view. These elements, shortened to the acronym MINE throughout the rest of this paper, are described in detail below.

## Membership

Membership deals not only with who is in or not in a community, but with the sense of safety that accompanies such delineation. The ability to identify another member of a community allows people to better determine how to spend resources and with whom to feel comfortable.

Integral to the idea of membership in a community is the concept of *boundaries*. It is perhaps just as important to see who is not in the community as it is to know who the members are.

Groups' use of deviants to establish boundaries has long been studied. Erikson (1966) asserts that the determination of deviants at the Salem witch trials and the persecution of the Quakers stem from a deterioration in the sense of authority and sense of order among Puritans at the time. The answer to this perturbation in order was to find a common cause around which to unite; in this case, it was a deviant that they could "denounce and punish as a whole" (p. 9). Boundaries can also be created and enforced in more subtle ways, including a group's use of language, styles of dress, and rituals. Gang members, for example, are able to tell at a glance if they are facing a friend or foe by looking at the person's colors. In this case, even more than most, the creation and maintenance of boundaries, as demonstrated by dress or rites, is a protection against external threat.

*A common symbol system* aids in creating and maintaining group boundaries. Common symbols include the afore-mentioned styles of dress, language, and rituals, as well as myths, ceremonies, holidays, etc. These symbols combined create a social convention that again delineates the "us" versus "them." Symbols may operate at the group level (black leaders using Black Power and clenched fist), the neighborhood level (name, landmark, logo, architectural style), or national level (holidays, flag, language, currency).

*Safety*, especially emotional safety, is embodied in the idea of security in one's community. Established boundaries provide structure and security, protecting group intimacy. In many cases, such support is emotional in nature, but in the case of gangs or warring factions, the security is physical; for collectives and cooperatives, the security can be financial.

The expectation that one fits the group and is accepted by the group is a *sense of belonging* and identification. The community member feels he has a place there, and is willing to make sacrifices for the group. The member identifies with the group, which is reflected in reciprocal statements such as “This is my group” or “I am part of this community.”

*Personal investment* also contributes to an individual’s feeling of group membership and feelings of belonging. McMillan (1976) asserted that working for membership will provide the feeling that one has earned a place in the group, and that consequently, this personal investment will make the membership more valuable. The idea of personal investment plays a role in the group’s development of a shared emotional connection, as well.

## Influence

Influence is the second overarching element of the psychological sense of community. Influence is bi-directional: in order to be attracted to the group, an individual must have the potential of influencing the group. The reverse case — the ability of the group to influence its members — is crucial to maintaining cohesiveness. These seemingly opposite forces do appear to work simultaneously, indeed, in concert. Note that influence often operates independently of positions of authority.

An important aspect of influence is the idea of consensual validation, which assumes that “people possess an inherent need to know that the things they see, feel, and understand are experienced in the same way by others” and people will go to great psychological and emotional lengths to reassure themselves that they are not crazy (McMillan & Chavis, 1986, p. 11). One cause, then, of group conformity, is the pressure on the individual to validate the group’s world view. Again, this pressure can move from the individual into the group as well as being imposed by the group on the individual, so that the group is “operating to consensually validate its members as well as to create group norms” (McMillan & Chavis, 1986, p. 11).

## Integration and fulfillment of needs

The third element of the psychological sense of community is the integration and fulfillment of needs, most commonly encompassed by issues of reinforcement. Obviously, the individual’s association with the group must be rewarding for the members. In many cases, a reinforcing element is just the status of being a member of that group. The benefit of being a member of the “in crowd” is simply association with that group.

Communities are also strengthened by group accomplishments. Simply stated, successes associated with group activities bring members closer together. McMillan and Chavis assert that competence is personally attractive and that people will gravitate towards groups and other people that offer the most reward.

A third way in which need fulfillment is given direction is through the concept of shared values. In general, people with shared values come together and find they have similar goals, priorities, and needs. A group with shared values is more easily able focus

resources on issues that speak to those values, encouraging the belief that, as a group, they might be better able to fulfill their needs in a continual, mutually-beneficial way. In this case, it is shared values that act as an “integrative force for cohesive communities” (p. 13). Note, however, that a group with a strong sense of community in which members do not necessarily have identical goals and priorities will still work together to fulfill all members’ needs.

## Shared emotional connection

The final component of the psychological sense of community is a shared emotional connection, which is based, in part, on a *shared history*. McMillan and Chavis point out that it is not necessary that all group members have participated in the history in order to share it, but they must identify with it.

To share a connection with others, of course, presupposes interaction with them. The “contact hypothesis” asserts that the more people interact, the more they are likely to become close. The quality of interaction is also important, in that positive experiences create greater bonds; as was noted earlier, group success creates cohesion.

Sharing emotional events is crucial in creating a sense of connection. The “shared valent event hypothesis” states that the more important the shared event is to the people involved, the greater the community cohesion. Groups who survive a crisis together feel an increased bond (for example, war veterans). Closure to events is an important part of community unity; if the group’s tasks are unresolved and interaction is ambiguous, the cohesion will suffer.

Investment in the community “determines the importance to the member of the community’s history and current status” (McMillan & Chavis, 1986, p. 14). People who expend time and energy on projects will feel more emotionally involved in their outcome.

Finally, various types of intimacy affect the shared emotional connection. Intimacy is a type of investment: the emotional risk one takes with other members of the group can affect (and be affected by) one’s sense of community. The effect of honor or humiliation on community members can make the group attractive or unattractive to a potential member. A spiritual bond can often be the primary focus of a community (religious or cultural), but even those communities not dedicated to religion will have a “community spirit.”

## Applying the PSOC

Working from this theoretical base, Chavis, Hogge, McMillan & Wandersman (1986) took these four major categories and used them to derive an instrument to measure PSOC in an individual, the Sense of Community Index (SCI).. The SCI, and hence the PSOC, have been used to describe both terrestrial and non-place-based (relational) communities. McCarthy (1990) and Pretty (1990) validated the SCI for the undergraduate university community. Pretty has used the instrument in both the corporate world (1991) and with adolescents (1994).

In 1996, Sonn (1996) developed an “open response format interview schedule” to assess the four elements of the sense of community framework, then conducted semi-

structured interviews (lasting 25-50 minutes) with 23 participants (p 420). He then used the elements of the psychological sense of community to frame themes emerging from the interview data. He determined that “most of the elements contained in the model were supported in this study, thus demonstrating the validity and applicability of the [PSOC] model” (p. 428).

Despite its preponderant use in the field of community psychology, we have been unable to find references to this model in education with the exception of unpublished dissertation work by Chao (1999). We now turn to our use of the theory underlying the PSOC to examine communications among members of an online distance education program.

## Methods

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### Context

The research proposed focuses on a particular program, a master’s degree in educational technology offered by a large, Midwestern university. The Education Technology Online Master’s (ETOM) is a three-year, cohort-based program designed to give working professionals an opportunity to earn an M.S. in educational technology. The overriding concerns center on (a) the ability to maintain high standards of academic quality at a distance, and (b) economic feasibility of the program.

The ETOM seeks to build on the success and structure of the on-campus master’s program, while taking into account the needs of full-time employees. The coursework is essentially the same; project-based with a lot of group work, some individual development projects, a substantial amount of writing, and a mastery-based assessment process. These characteristics are considered essential by the faculty of the department, and frame the problem of providing community and a viable economic model.

The ETOM is also set up as a *cohort*; each group of students will travel, substantially in lock-step, through the three-year program together. While not all students will take all the same courses, the required courses will be taken with the same group of people in an effort to instill a sense of community and trust.

### Participants

Our participants are distance students drawn from the online master’s program previously described. We were given permission to view postings and chat transcripts by 15 of the 16 students.

All of our participants hold full-time jobs, their positions split roughly equally between K–12, higher education, and the corporate world. Geographically, they are spread across three time zones. They range in age from 25 to 55. Nine of the seventeen are women. As individuals who chose to pursue an online degree in educational technology, these students all had above-average technical skills.

## Data sources and collection

All data collected were the products of a one-semester online course offered during the Fall 2000 semester. Data were collected primarily from two sources. First is a series of online chats that took place throughout the semester. These were held most Wednesday nights at 8:00, and generally lasted between 1.5 and 2 hours. These weekly chats were the only “real-time” interaction the students had with the instructor unless the students chose to call the instructor on the phone. The primary design goal of these chats, then, was to give the students access to the professor to discuss issues surrounding the content, assignments, and due dates.

Attendance at the chats (after an initial time-zone mix-up) was excellent at the beginning of the semester and grew spottier as time went on. Roughly two-thirds of the way through the semester the instructor discontinued these whole-group chats because so few people were showing up. They were reinstated at the request of a vocal minority, and attendance for the rest of the semester hovered around 7-8, or half the students. In total, there were 11 chat sessions comprising over 1000 separate entries.

The second source of data was asynchronous postings to the whole-group spaces of the course’s web-based conferencing system. These were kept open throughout the semester, but the vast majority of the almost 200 postings in the asynchronous conference took place in two distinct threads dealing with end-of-project “lessons learned”.

All these data were collected from the electronic systems and reformatted for easier reading and for import into nVivo™.

## Data analysis

We began our examination of the data by taking transcripts of both the asynchronous conference and the real-time chats and, together, going through them in order to generate low-level codes to denote types of utterances. These we generated by examining each entry in context and looking for phrases or sets of phrases that, together, offered a communication beyond simple task-oriented interaction. Our unit of analysis, then, was not specifically limited to a whole phrase or even sentence; units ranged in size from a short phrase to several sentences.

We coded together until our list of codes stabilized (at about 29 of these low-level categories). We then imported the data into nVivo™ and coded the remainder of the data, occasionally merging codes or adding to the list. Finally, we re-checked already-coded data to make sure our definitions of how to code different comments hadn’t drifted during this process.

Since our concern is with the students’ sense of community, we ignored all comments made by the instructor (although responses directed *at* the instructor were, of course, included). We also ignored those comments that involved purely giving and receiving course-related information (e.g., asking the instructor to define a term), answering a simple, information-oriented question (such as “What were we supposed to read this week?”), and in general those exchanges that were so task-oriented as to give no insight into the community feelings codified in the MINE framework. Our reading of

McMillan and Chavis leads us to believe that such purely functional transactions are of little or no value when looking for evidence of PSOC.

In the end, our original 29 codes had been modified and reduced to a list of 22 different types of comments that seemed to relate, in some way, to issues represented in the sense of community model driving our analysis. Armed with this list of codes, we returned once more to the PSOC theory. Guided by McMillan and Chavis (1986), and with ideas further refined from McMillan (1996) and Chao (1999), we determined to which of the four major components of PSOC (membership, influence, fulfillment of needs, or shared emotional connection). The full results of this categorization can be seen in appendix A.

## Findings and interpretation

Of the original 200 posts in the asynchronous conference and almost 1000 comments made in the chats (together equating to roughly 120 printed pages), we coded 187 utterances with at least one of our 22 relevant categories. These broke down into the four MINE categories as follows.

### Membership

Table 1

<i>Themes Indicating Membership</i>	<i>Number</i>
Indication this is a safe space	2
Offer of help /information without request	3
Shared symbol system	1
Basic verbal support	34
Humor of a personal nature	37
Reference by name	18
Member check	4
General question implying a request for support	2
<b>Total</b>	<b>101</b>

Membership subsumes ideas of boundaries, lingo, and other representations of a common symbol system, and a sense of belonging to the group and the emotional safety that comes from that group identification. These ideas manifested themselves in four broad categories.

**Boundaries:** In the case of this cohort, boundaries were artificially created and maintained by the enrolment structures. Only people enrolled in the program (and the professors and staff) had any contact with the group as a whole, so there was really no need to either delineate or enforce boundaries. The most significant comment we found with respect to non-student involvement was “*I was surprised that [the graduate assistants] didn’t have more to do with the class,*” and this could be interpreted as simply an expression of surprise at the roles of various staff more than a comment on members and non-members of the community.

**Common symbol system:** Working in an online format makes certain demands on students with respect to communication, but it also provides opportunities for the group

to adopt certain shared symbols. The use of emoticons (smilies, especially) was very common, and a few students had their own symbols that they attempted to share with the group (this will be discussed more in the section on influence). While these “new” symbols were not necessarily adopted by everyone, one shared symbol that did become a group commonplace was the use of the verb “see”, either in quotation marks or more often between asterisks (\*see\*) to refer to online exchanges (*But it is nice to \*see\* everyone again*). There were four instances of this new and shared use of “\*see\*”.

**Emotional safety:** A few themes emerged that showed the students felt a certain degree of emotional and intellectual safety in the group. One student implied that she felt safe in the community and with respect to the instructor: *I can't believe I'm admitting this to the teacher, but I feel much better now that I've learned what I can ignore*. One reason perhaps that people feel emotional safety in their group is that support is available. Whether asking a question implying support: (*Is everyone surviving?*) or giving basic verbal support (*I'll second that ;-)*), the feeling is that someone is out there. We found 34 instance of basic verbal support. The use of humor is also an indication of emotional safety, showing that the speaker is confident in her ability to connect with her peers on an emotional level. There were 37 uses of humor in the data set.

**Sense of belonging and identification:** The feeling that one belongs and is accepted by the group can manifest itself in a few ways. One is when individuals refer to each other by name (*Grace—I agree.*) This aids in feelings of belonging in that it creates intimacy: the group members know each other by name; students referred to each other by name 18 times.. This is akin to Riger's (1981) social bonding indicators which, for co-present communities, include the ability to identify neighbors and their children. Another is a group member checking with one another about things they've said on (*Is that a fair summary of your position?*). Yet another good indicator of sense of belonging is offering unsolicited help; this shows a willingness to invest in the community without an obvious request or immediate benefits to the speaker; one participant, for example, offered tax advice applicable to working professionals taking classes.

## Influence

Table 2

<i>Themes Indicating Influence</i>	<i>Number</i>
Voice minority opinion	9
Attempt to build/enforce symbol system	1
Ask for/give neutral/popular opinions	17
Ask for clarification	2
<b>Total</b>	<b>29</b>

As was mentioned in the section describing the characteristics of influence according to McMillan and Chavis, influence is bi-directional. Although individuals must have potential of influence over group, the group's cohesiveness is contingent on its ability to influence members.

The issue of the leader's influence is in our example a little different from a standard case. In this course, the instructor plays a role akin to community leader, by virtue of

being the final arbiter on content and assignments, as well as being perceived as the keeper of knowledge and the one who assigns grades. In many ways, she is the community leader. However, there is certainly the possibility that leaders will emerge from among the students, as they would in any group or even classroom situation. It will be most interesting to determine exactly how much of a static leadership role the instructor played when compared to the second semester class, when the instructor changed. In this case, does the new instructor automatically become the leader? Do the students who emerged as group leaders throughout the first semester retain their role? Does the group continue on leaderless? Because of the potentially artificial role of instructor as leader, the community may feel that their leader is imposed upon them, or may feel “leaderless” when the instructors change.

Although, the role of instructor is slightly different from that of leader, an instructor can definitely be considered an authority figure with whom structures (and hence influence over the class) can be negotiated. The bi-directionality of such influence was first illustrated at the face-to-face orientation. The instructor had mandated a Friday night due date for weekly assignments, but then noted that she really wouldn't look at them until Monday. The students pointed out that most of the time they had free to work on the course was on the weekend, and so negotiated with the instructor a Sunday night due date. This set the stage for later debates about due dates and assignments, immediately showing students that they had some power over the course and hence should be less hesitant to invest in the group. While the existence and use of a shared symbol system is an indication of membership (via explicated boundaries), an attempt to create or enforce such a system is a matter of influence. Some students used standard or non-standard online indicators that either were or weren't adopted by the larger group. In one case, the student explicated her use of actions between asterisks to describe asides. This is way of expressing oneself that is standard and common in many chat rooms, but it was new to the students with more limited online communication experience and was never adopted by the rest of the group. This same student, early on, attempted to “teach” the others a standard symbol use by typing *Okay. Everyone has to smile now! : )* and giving an example of a smilie; it too did not seem to have an effect on her peers.

One of the most powerful indicators of influence is expressing a minority opinion. In this case, the speaker must take the risk of “going against the grain” and taking a stand opposite that of the group, or at least, the opinions expressed thus far. The level of risk perceived by the speaker is inherent in his preface to the divergent opinion: *If I could respectfully disagree and restate I believe them to be at least equal in a highly complex subject area.* We found fewer than 10 examples of students expressing a minority opinion.

If expressing a minority or divergent opinion is a strong indicator of sense of community; a weaker — but still relevant — indication of influence is asking for or giving neutral or popular opinions: *Does everyone else agree with this view?* There were approximately 17 examples of this.

A final indicator of influence that emerged from the data was when someone simply asked for clarification. This shows a willingness to be influenced by another individual, expressing both interest in another viewpoint and a willingness to expend extra effort to understand it. *I'm intrigued by this question. Explain what you are thinking a little more.*

## Needs

Table 3

<i>Themes Indicating Integration and Fulfillment of Needs</i>	<i>Number</i>
Ask for understanding or apologize	4
Request basic or immediate info	22
Exhibit experience/expertise	9
Express thanks	8
Be self-effacing/express doubts hoping for support	6
Express frustration	1
Request elaboration	1
<b>Total</b>	<b>51</b>

According to McMillan and Chavis, an individual seeks out a group and maintains membership in that group because the group somehow fulfills his needs. Many of the utterances in this category are basically indicators of reinforcement and support, either expressing a need, or offering to fulfill another member's need. For example, when someone asks for understanding or apologizes (*Sorry, I lost my connection*) she is looking for validation and apologizing for not keeping up in the conversation. Being self-effacing or expressing doubt can "warn" the group in advance not to expect too much of the individual, and thus to provide that person with extra support: *Hello, I did not receive an e-mail so please tell me if I do something out of line.*

On a more concrete level, some needs are not emotional in nature but are resource-based. As a member "in good standing" of a particular group, an individual has access to the expertise and intellectual resources of the group. It requires a certain level of emotional security within the group to ask for help (*I can't get the Participants list to show anyone*), or to show unfamiliarity and ask for information: *I hate to admit my ignorance, but what is IRC?* Requesting elaboration is a slightly less emotionally risky endeavor, and it can fulfill other's needs of recognition and interest in their ideas: *But explain further your understanding of how minimalism lowers the margin for error, please.*

The other side of the needs fulfillment coin is the offer of help, either solicited or unsolicited. Volunteering useful information to the group — especially in the absence of a request for such information — fulfills a number of roles, including exhibiting experience or expertise that other members will find attractive (in that they feel this person and the group will be useful in fulfilling their needs): *Karl and I were looking at AOL, and think it will speed things up a little.* It's also an indication that the speaker feels it is worth her time and effort to help out another member of the group. This could be an indication that the speaker believes mutual success is linked to helping behaviors.

Finally, there is the need for external validation of suffering: the desire to complain to someone who will understand. This powerful attribute of community is used explicitly in support groups and similar counseling situations, but is no less important to a group that occasionally needs a safe space and sympathetic ears for venting: *We were dying in our group chat!*

## Shared emotional connection

Table 4

<i>Themes Indicating Shared Emotional Event/Connection</i>	<i>Number</i>
References to orientation	2
Ask about shared history	2
Express happiness being part of group	2
<b>Total</b>	<b>6</b>

With respect to shared emotional connection, we found three distinct themes: asking about shared history, expressing happiness at being part of the group, and making references to the pre-program orientation, the cohort's first shared event, and their only face-to-face event to date: *I think that [orientation] was real important for retaining people, keeping people on the program, so that they felt some sort of commitment now to this group.*

There are two quasi-competing ideas about the strength of bonds as they relate to shared experiences: one is that positive experiences create greater bonds and the other is that groups who survive a crisis together feel an increased bond. Perhaps the most powerful situations, then, are those where groups successfully overcome a crisis. In our example, the students were thrown together for a 4-day face-to-face orientation which was intentionally structured to have a “boot camp” feel. Students immediately got down to work, worked, ate, and lodged together, and had four very full days of togetherness and things they had to accomplish. The orientation fits into the shared valent event hypothesis, which states that the more important the shared event is to the people involved, the greater the community cohesion. The final indicator of a shared emotional connection is a student expressing happiness at being part of the group; there were two utterances on this theme.

## Discussion

As can be seen from the four tables, not only was there little evidence of PSOC in general (only 187 coded utterances in over 120 pages of text), but these did not represent all four areas of community well. Our data show a paucity of evidence of a shared emotional connection (only six examples), and roughly half our coded passages spoke to issues of membership.

Perhaps more importantly, the majority of these utterances are in forms that could be easily construed as not indicating community so much as polite conversation. Roughly half of the coded data refers to three items: humor, giving basic verbal support, and simple questions asking for simple information. While these items certainly represent their respective characteristics of community, they seem to be in a form that could be incorporated into the pattern of conversation, mitigating their power as indicators.

Given these two findings — lack of coverage and the preponderance of coded items that may be indicative of nothing more than etiquette — we are hesitant to speak about any substantial sense of community in this group. The discussions we studied had

an overriding task-focus, lacking many of the cues we would expect to see in a group with a high PSOC.

Why did we find so little evidence of community? While there are various limitations to the study (discussed below) that could account for us failing to find an existing community, the first and most obvious explanation is that substantial evidence of community simply isn't there to be found.

One issue may be the timeline — one semester. While some articles speak about developing community within the span of a single course (Eastmond, 1995; Hill & Raven, 2000), it simply may not be long enough using this type of analysis. The “contact hypothesis” states that people who interact more with each other will have a stronger emotional connection. At the time this study was conducted, the students had been interacting online with each other for about four months; this is perhaps too little time for the ideas behind the contact hypothesis to truly manifest themselves.

As indicated, we also saw a noticeable focus purely on the tasks under discussion. This is partially an outcome of the communications we were looking at. Given a limited time in which students could discuss course assignments and feedback with the instructor, it is not surprising that little of it would be spent providing the social cues and debates that we believe indicate PSOC.

Finally, there is some evidence to suggest that non-traditional students do not believe they need (and hence are less likely to seek out) feelings of community in their courses (Sorensen, 1995).

## Limitations

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Our study uses “found data” — data collected after the end of the course and analyzed long after its creation. While we have complete transcripts of the chat sessions and the contents of the asynchronous discussion, we are analyzing that data without the insight into changing tensions and attitudes that ongoing analysis during the course itself may have granted. A future study will take place concurrently with the course itself, allowing us to explore issues as they arise.

The present study is also limited by the small slice of data used. While we had full access to the chats and asynchronous conferences, we did no interviews and were thus unable to follow up on interesting points. Data collected by our colleagues speak to the importance of the orientation, which our current data set only begins to suggest.

Post-course communication with some students indicates that the interactions we would have found most interesting took place between individuals via personal email. Not only are we unlikely to be given access to personal email, but there is a strong sentiment that we shouldn't even ask for it. Students need at least one avenue of communication that they feel is secure.

## Future work

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Our data analysis is hampered by our lack of a rubric for determining what makes a particular utterance a “strong” one. While we don't rely heavily on counting utterances to

gain insight into the class, we do feel we need a way to indicate that saying someone's name is not as powerful an expression of sense of community as expressing a minority opinion. We hope to develop such a set of criteria and apply it to data from these same students in the upcoming semesters of their degree program.

Such an analysis will be especially interesting because of the contrasts between the course structures. The data presented here are from a course that relied exclusively on team-based projects. Extensive communication with teammates was necessary and interaction with the instructor was mandated.

This contrasts with the upcoming semesters. The second course taken by the cohort involves no group work, no mandated student-instructor interaction, and content which is highly production-oriented. Courses offered during the summer will allow non-cohort students to enroll, breaking the established boundaries and giving us an opportunity to see how cohort students react to new students.

Studying these new courses in an environment in which we can conduct our own interviews and surveys will help us to accomplish two goals. First, we will be able to refine and validate the PSOC model for use in qualitative research of an online cohort., perhaps using the SCI itself to validate our analyses. Second, we will move closer to our eventual goal of being able to correlate specific course structures and salient events to changes in the PSOC. This information can be used to inform the second round of design for the online program and, hopefully, have an impact on attrition and student satisfaction.

## Conclusions

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Despite our initial reservations, we have found the psychological sense of community, as defined in McMillan and Chavis' (1986) model, to be a meaningful, well-established and powerful tool with which we can rigorously investigate community. The model offers us a lens through which we can explore how a group of students perceives itself. Application of the sense of community to qualitative methods is in its infancy, but this model lends itself well to this type of investigation. Future work will help determine if the model is able to offer insight into real-world applications of course design and structures that may, in turn, affect attrition rates and student satisfaction.

## Appendix A: List of codes with frequencies and examples

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M&C Category	Code	Freq.	Example(s)
Membership	Explicitly express that this is a safe space	2	<i>I can't believe I'm admitting this to the teacher, but I feel much better now that I've learned what I can ignore.</i>
	Offer to help or give information without direct request	3	<i>Did you all know that for many of us, this degree, books and travel expenses (and computer supplies, I think) are tax deductible?</i>
	Display shared symbol system	1	<i>But it is nice to * see * everyone again.</i>
	Give basic verbal support	34	<i>I'll second that ;-)</i>
	Humor of a personal nature	37	<i>Because it's more fun than a root canal ;-)</i>
	Reference one another by name	18	<i>Grace—I agree.</i>
	Member check	4	<i>Is that a fair summary of your position?</i>
	General question implying a request for support	2	<i>Sara: Is everyone surviving?</i>
Influence	Give minority opinion	9	<i>If I could respectfully disagree and restate I believe them to be at least equal in a highly complex subject area.</i>
	Attempt to build/enforce symbol system	1	<i>Okay. Everyone has to smile now! :)</i>
	Ask for/give neutral/popular opinions	17	<i>Does everyone else agree with this view?</i>
	Ask for clarification	2	<i>I'm intrigued by this question. Explain what you are thinking a little more.</i>
Needs	Ask for understanding or apologize	4	<i>Sorry, I lost my connection.</i>
	Request basic or immediate info	22	<i>I hate to admit my ignorance, but what is IRC?</i>
	Exhibit experience/expertise	9	<i>Karl and I were looking at AOL, and think it will speed things up a little.</i>
	Express thanks	8	<i>Yes, it was helpful. Thank you! And thank you for getting us all connected again :-)</i>

	Be self-effacing or express doubts hoping for support	6	<i>Hello, I did not receive an e-mail so please tell me if I do something out of line.</i>
	Express frustration	1	<i>We were dying in our group chat!</i>
	Request elaboration	1	<i>But explain further your understanding of how minimalism lowers the margin for error, please.</i>
Shared emotional event / connection	References to orientation	2	<i>How was the picnic on the last evening of our orientation?</i>
	Ask about shared history	2	<i>How was the picnic on the last evening of our orientation?</i>
	Express happiness at group	2	<i>But it is nice to * see * everyone again.</i>

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