Community Connections: Psychological Sense of Community and Identification in Geographical and Relational Settings

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Psychological Sense of Community, Social Identity, Choice, Relational Communities, Internet Communities, Virtual Communities, Geographical Communities.

Abstract

This thesis examines the construct of Psychological Sense of Community (PSOC). Within the discipline of community psychology, there is debate as to the dimensions underlying the construct PSOC. One of the few theoretically proposed structures is that put forward by McMillan and Chavis (1986), who hypothesized four dimensions: Belonging; Fulfilment of Needs; Influence; and Shared Connections underlying PSOC. Further, there is some deliberation in the literature as to the existence of PSOC in relational, as well as geographical, communities. Discussion has also emerged regarding the role of social identification within PSOC. It has been suggested that differences in PSOC may be understood in terms of the degree to which members identify with their community (Fisher & Sonn, 1999). However, few studies have explored the place of identification in PSOC. In addition, while PSOC has been applied to both relational and geographical communities, little research has looked in depth at PSOC within relational communities. Thus, the principle aims of the current program of research were to elucidate the underlying dimensions of PSOC and their consistency across geographical and relational communities. Further, the research also aimed to explore the role of identification in PSOC.

The first stage of this research endeavoured to clarify the underlying dimensions of PSOC by utilising a questionnaire which included multiple measures of PSOC and social identification, administered to both relational and geographical community members. The first paper of the current research explored PSOC in a relational community, science fiction fandom ($N = 359$) and the third paper in a sample of residents of rural, regional and urban geographical communities ($N = 669$). In both the relational and geographical communities, support emerged for McMillan and Chavis' (1986) four dimensions of PSOC. In regards to identification, the

affective and ingroups ties aspects of social identification were subsumed within the PSOC dimensions; however, the Conscious Identification aspect emerged as separate to the existing PSOC dimensions.

The study presented in paper three also examined the role of demographic factors in predicting PSOC in geographical communities. The demographic factors significantly associated with PSOC were: type of region, with rural participants displaying higher PSOC than their urban counterparts; participation in local organizations; having children; and a vision of one's neighbourhood as broader than just a street or block.

To date, little research has compared a single group's PSOC with a relational community to their PSOC with their geographical communities. The second paper presented in this manuscript explored PSOC with participants' relational and geographical communities in the sample of members of science fiction fandom (N = 359). All the PSOC dimensions and Conscious Identification emerged as significant predictors of overall sense of community in both community types. Participants reported higher levels of global PSOC with fandom than with their geographical communities, a pattern that also emerged across the four dimensions and Conscious Identification. It was proposed that the degree of choice of community membership may be one reason for this finding. However, stronger conclusions could not be drawn from this study as situational salience may have influenced the results as data was collected in the relational community context.

The second phase of the current research aimed to validate the multidimensional nature and related measures of both social identification and PSOC. The fourth paper presented in this thesis examined the construct validity of the three-factor model of social identification as measured by the Three Dimensional Strength of Identification Scale proposed by Cameron (1999, 2004). The 12 item

version of the scale was used to collect data from an undergraduate sample ($N = 219$) to assess their social identification across three distinct group memberships (sex, student and interest group). This data was subjected to confirmatory factor analysis to examine the fit of the three-factor model of social identity in comparison to fit indices for one and two-factor models. The results indicate that the three-factor model was the most parsimonious and best fit to the data across all groups. In addition, the fact that different patterns of means and correlations emerged across groups on the three dimensions provided further evidence for a multidimensional model of social identification and, moreover, the greater depth of exploration it allows.

The fifth paper examines The Sense of Community Index (SCI), one of the most commonly used measures of PSOC. There is much discussion in the literature as to the validity of the scale as a measure not only of overall PSOC, but of the dimensions (Membership, Influence, Needs Fulfillment and Emotional Connection) theorized by McMillan and Chavis (1986) to underlie the construct. This paper examines the factor structure of the Sense of Community Index in a study ($N = 219$) that examined neighborhood, student and interest group communities. The results showed that the Sense of Community Index, in terms of its original factor structure, did not adequately fit the data. The scale was revised, utilizing confirmatory factor analysis indicators, to produce a new four-factor structure based on the original items. This revised model was tested and found to display adequate fit indices to the data in all three community types. The results of the study provide empirical support for retaining measures that encapsulate the four dimensions of PSOC.

The sixth paper further explores the interplay between PSOC and the dimensions of social identification. In particular, the study ($N = 219$) examines the relative strength of the separate aspects of social identification (based on Cameron's

2004, Three Factor Model of Social Identification) as predictors of overall PSOC, accounting for situational salience. Results indicate that Ingroup Ties is consistently the strongest predictor of PSOC and that the strength of Ingroup Affect and Centrality alter according to the group or community context.

The seventh and final paper from the current research program emerged from the results of paper two indicating that choice may influence individuals' social identification and PSOC with their respective communities. The study presented in this paper examined participants' (N = 219) level of social identification and PSOC across multiple group memberships that differ in the degree of choice associated with membership (low choice: neighborhood community; medium choice: student community; and high choice: self chosen interest group). Results indicated that, controlling for contextual salience, choice was positively associated with levels of social identification and PSOC.

Overall, the current program of research provides some important findings which add significantly to the theoretical understanding of PSOC in today's society. The research provides clarification of both the dimensions underlying PSOC, their application to both geographical and relational communities and the measurement of overall PSOC and these dimensions. Further, it provides empirical evidence of the importance of the Centrality aspect of identification in PSOC in both geographical and relational settings. The theoretical and practical implications of the findings of the overall program of research are discussed.

List of Publications and Submitted Manuscripts Included in this Thesis

Paper 1: Obst, P., Zinkiewicz, L. & Smith, S. (2002). Sense of Community in Science Fiction Fandom, Part 1: Understanding Sense of Community in an International Community of Interest. *Journal of Community Psychology, 30*, 87-103.

Paper 2: Obst, P., Zinkiewicz, L. & Smith, S. (2002). Sense of Community in Science Fiction Fandom, Part 2: Comparing Neighborhood and Interest Group Sense of Community *Journal of Community Psychology, 30*, 105 – 117.

Paper 3: Obst, P., Zinkiewicz, L. & Smith, S. (2002). An exploration of Sense of Community, Part 3:Dimensions and Predictors of Psychological Sense of Community in Geographical Communities *Journal of Community Psychology, 30,* 119-133.

Paper 4: Obst, P. & White, K. (2003) Three-Dimensional Strength of Identification Across Group Memberships: A Confirmatory Factor Analysis. In Press: *Self and Identity*

Paper 5: Obst, P. & White, K. (2003) Revisiting the Sense of Community Index: A Confirmatory Factor Analysis. *Journal of Community Psychology, 32,* 691-705.

Paper 6: Obst, P. & White, K. (2004). An exploration of the interplay between Psychological Sense of Community, Social Identification and Salience. Under Review. *Journal of Community and Applied Social Psychology.*

Paper 7: Obst, P. & White, K. (2003). Choosing to Belong: The Influence of Choice on Social Identification and Psychological Sense of Community. Under Review: *Journal of Community and Applied Social Psychology*

Conference Papers Related to this Thesis

Obst, P., & White, K. (2004). *The influence of choice on Psychological Sense of Community.* Paper presented at the 9th Biennial Australia-Aotearoa/New Zealand Community Psychology Conference, Tauranga New Zealand, July 5 -7.

Obst, P. (2003). *Community theory in action: An exploration of sense of community***.** Paper presented at QUT School of Psychology and Counselling Postgraduate Symposium, Brisbane, Australia, September 11.

Obst, P., Smith, S. & Zinkiewicz, L. (2000). *The role of identification in sense of community across geographical and relational communities***.** Paper presented at 1st School of Psychology and Counselling Postgraduate Conference, QUT, Brisbane, Australia, August 25.

Obst, P., Zinkiewicz, L. & Smith, S. (2000). *The role of identification in sense of community within science fiction fandom.* Paper presented at the Sixth Annual Conference of the Society of Australasian Social Psychologists, Perth Australia, April 28-30.

Obst, P., Zinkiewicz, L. & Smith, S. (2000). *Sense of Community in Science Fiction Fandom: Understanding Sense of Community and Identification in an International Community of Interest*. Paper presented at the Queensland University of Technology School of Psychology and Counselling Seminar Series, Brisbane, Australia, April 6.

Notes

Please note that Chapters Four to Ten are taken from papers published or submitted for publication in American Journals and, therefore, utilise American spelling and grammar.

All papers are published in or submitted to peer reviewed international journals listed in the Social Science Citation Index and recognised for the DEST publication collection.

Permission has been granted by publishers for the inclusion of published papers to appear in this manuscript.

The candidate is the first author on all published and submitted papers. The second and third authors are or have been members of the candidate's supervisory team and their contribution to the papers has been of a supervisory nature. Permission has been granted by all co-authors for the inclusion of the papers in this manuscript.

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Statement of Original Authorship

The work contained in this thesis has not been previously submitted for a degree or diploma at any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

Signed: *P.Obst*

Dated: 30/11/04

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This thesis did not simply begin with my PhD candidature, but grew from past experiences and interest. Community is a diverse and interesting area of work and I am lucky to have had the opportunity of working with a wonderful diversity of people during my time as a project officer with the Ethnic Communities Council of Queensland. My experience here sparked my interest in what it is that holds people together as a community.

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We were born to unite with our fellow men, and to join in community with the human race." (Cicero)

1.1 Introduction to Community

The word community has been in the English language since the 14th century, and comes from the Latin communitas, from the base word communis, meaning common or shared by many (Oxford Dictionary Online, 2004). Current dictionary definitions in terms of human communities focus around the ideas of "A group or society of people, living under the same laws and regulations, having common rights and privileges, or common interests or common identity" (Oxford Dictionary Online, 2004). This definition contains two senses, both a social group of some kind, and/or a quality of relationship. An enormous body of literature encompassing many disciplines has built up around this somewhat ambiguous term, resulting in a plethora of definitions and uses of the word. In a detailed examination of the literature surrounding community, Hillery (1955) discovered no less than 94 distinct definitions. Fifty years on, this number has increased in line with the continually changing nature of society and the numerous new forms of community, such as 'virtual communities', which have come into existence. The human experience of community has always been characterised by change and evolution.

Given the ambiguity and over-encompassing nature of the word, it nonetheless remains a term highly familiar to the general population, used frequently in everyday conversation. Recently, the concept of community has seen a return to great popularity. Loss of community is decried and blamed for a multitude of evils. Politicians use the language of community to capture votes. Urban planners promote the development of sense of community as a cure to many social ailments, including crime. Not only has community returned to the political agenda as something lost,

but also as something that should be actively rekindled. This revived interest in community has been matched by the research interests of social and political scientists, with community studied within many disciplines.

1.2 Early Sociological Theories of Community

In the early twentieth century, three prominent thinkers wrote extensively on the changing nature of community. Ferdinand Tonnies (1955) documented the change in the nature of community that came with industrialisation. He coined the now frequently used terms *Gemeinschaft* (community) and *Gesellschaft* (society). Essentially, Tonnies believed that, as Western society became industrialised, we moved away from communal ways of life towards a societal existence. The communal life (*Gemeinschaft*) was characterised by geographical isolation, similarity of beliefs among members, holistic social relationships, and the consciousness of belonging together and the affirmation of a condition of mutual dependence (Tonnies, 1988). In contrast, in *Gesellschaft,* unity is based on common traits, activities or other external phenomena rather than being defined by shared feelings. This shift is exemplified in geographical mobility, heterogeneity, the decline of tradition, a greater division of labour, and a move from the sacred to the secular.

Emile Durkheim (1964) expanded on Tonnies' (1955, 1988) work. He focused on the division of labour as the major cause of the erosion of homogeneity which had maintained the cohesiveness of traditional societies. He believed that, as society became more differentiated in regards to individual roles, the collective consciousness declined and social control became an external function of the law. Part of this collective consciousness was also the idea of collective representation, which refers to symbols that have a common meaning or represent a common history for the whole group. Durkheim believed that modern society is characterised by a

high degree of differentiation, thus cohesion is based on interdependence, rather than homogeneity. Individuals, then, tend to develop social bonding around common interests and need fulfilment rather than geographical locality (Durkheim, 1964).

Finally, Karl Marx viewed community, or lack of community, as a consequence of the economic substructure which consists of the forces of production (Antonio, 2003). In his view, the fundamental relationship is between those who own the forces of production and those who do not. Marx theorised that society passed through various stages, from primitive communism, where hunting and gathering were the means of production, through several stages where community is lost with the advent of the capitalist substructure, through to the restoration of community with the development of communism.

These three theorists have been most influential in current thought regarding community and its meaning in our society. As can be seen in this brief overview of sociological theory, this notion of community as location versus community as relations is a theme which emerges in each theorist's writings.

1.3 Types of Communities

Gusfield (1975) distinguished between two major uses of the term community. The first use is the territorial or geographical notion of the word, where a community refers to a neighbourhood, town city, or region. This usage is reflective of the idea of Tonnies' (1955, 1988) *Gemeinschaft*. The second is the more relational usage, concerned with the quality and character of human relations without reference to location, as described by Tonnies' (1955, 1988) *Gesellschaft*. We use community in this sense when we refer to communities of interest (e.g., religious affiliations, work settings, hobby clubs, sports groups or even internet groups). These two uses,

of course, are not mutually exclusive; many interest groups are also location based. However, as Durkheim (1964) observed, modern society tend to develop community around interest rather than locality. This observation has been shown to be true, particularly in large urban centres, where choice is much broader and population density high, reflecting a movement from place-based to process-based communities (Dunham, 1986). A modern example of this shift is the advent of communities which have developed over the internet due to some kind of common interest. These so called virtual communities are an extreme example of a community which is completely non-geographically based, as members can be from anywhere in the world as long as they have a computer with internet access.

1.3.1 *Virtual Communities*

Virtual communities are a new, evolving kind of relational community attracting more and more interest. Rheingold (1994) was one of the earliest writers to document the evolution of these new online communities. Rheingold (1994) defines a virtual community as a social aggregation that emerges from the internet when enough people carry on public discussions long enough and with sufficient human feeling to form webs of personal relations in cyberspace. Virtual communities are dynamic communities accessed via information technology and based on shared interests of some kind (Wellman & Gulia, 1999).

The term 'virtual community' is now commonly used, although debate remains as to whether a true community can exist in cyberspace. Some theorists claim that community is more than interaction based on text and mediated via a computer screen (Kling, 1996). However, others suggest that the distinction between primary and secondary relationships provides a framework for considering "virtual communities" as real communities. In primary relationships, we are connected in

multiple dimensions whereas in secondary relationships people know each other in only a single or few dimensions, such as a special interest or generalised identity (Katz & Rice, 2002). Thus, in this sense, virtual communities, like many interest based communities, operate at a secondary level.

Other authors suggest that, if affective bonds and a sense of community exist, then a virtual community is every bit as much a community as a local neighbourhood (Blanchard, 2000; Roberts, Smith, & Pollock, 2002). The results of recent research in this area indicate that those who belong to a virtual community do feel strongly that they belong to a community and experience a sense of community with a great variety of virtual environments. For example, a feeling of community has been identified in computer based social support sites for single mothers (Dunham et al., 1998); a global internet support site for school psychologists (Kruger et al., 2001); an internet newsgroup for sports people (Blanchard & Markus, 2002); internet game cultures (Blanchard, 2000; Roberts et al., 2002) and computer assisted long distance learners (Haythornthwaite, Kazmer, & Robins, 2000).

While such research points strongly to virtual communities having the elements of a community, per se, it is worth noting some of the major differences in communication and interaction style between virtual and real communities that have also been identified. Of most significance is the possibility to be completely anonymous on the internet or to even create an identity that is completely different from our real identity. Secondly, physical distance becomes meaningless, so virtual communities are unrestricted by any kind of regional or national boundaries (McKenna & Bargh, 2000). Online ties are likely to be less sustainable and more easily left than physical communities; we can disengage from an online community with little consequence (Katz & Rice, 2002). The degree of choice in which

community to belong to, and for how long to belong is beyond anything that exists in the physical world. Thus, there exist several important elements unique to virtual communities, which have also generated debate within the broader community psychology arena.

1.4 Community Psychology

This advent of new and evolving communities has promoted much new research within the field of psychology, in particular within the domain of community psychology. Community psychology emerged as part of a paradigm shift during the 1960s away from an individually oriented psychology that was unresponsive to social needs. The field originally emerged as a new mental health model, which encompassed a shift away from institutionalisation to new ideas of education, prevention and services at a community level (Levine & Perkins, 1997).

This shift from hospitals and clinics into the community necessitated a new analogy for thinking and research in the field. By moving into the community, psychologists needed to look outside the individual and into the environment in which they lived and functioned. To introduce change into communities, psychologists must understand the community at its broadest level of social organisation. To find a new ideology to match their interests, community psychologists looked to the field of environmental biology known as ecology. Ecology is the study of organisms in their natural environment. The logic behind ecology is that reductionist concepts can never lead to a full understanding of all the parts; for example, to understand a tree, we must understand the forest as well as the individual parts of the tree (Odum, 1977). Thus, most community psychologists work within an ecological framework, viewing individuals as part of an environmental system. This system includes the individual, a

population (a group of individuals sharing a similarity such as geographic location, workplace, ethnicity, gender or similar interests), a community (a population sharing a defined area such as a suburb, a city, a nation, a workplace, or a dedicated space on the internet), an ecosystem (the inanimate parts of the environment such as state of the housing, air quality, access to resources) and a biosphere (the larger global environment) (Kelly, 1966).

1.4.1 Psychological Sense of Community

From this new framework of working within communities came the need to define, in psychological terms, what was meant by community. In 1974, Seymour Sarason presented the concept of psychological sense of community (PSOC) as the overarching value by which community psychology itself should be defined. At the same time, he recognised the inherent difficulties associated with the empirical study of the concept. He noted that it necessarily implies a value judgement not compatible with hard science and, yet, he stated "there is no psychologist who has any doubt whatsoever about when he is experiencing the presence or absence of the psychological sense of community…you know when you have it and when you don't" (p. 157). Sarason noted the basic characteristics of sense of community as " the perception of similarity with others, an acknowledged interdependence with others, a willingness to maintain this interdependence by giving to or doing for others what one expects from them, the feeling that one is part of a larger dependable and stable structure" (p. 157). This important work provided the new field with a unifying theme and a core value to examine the essential state of a community's well being (Dalton, Elias, & Wandersman, 2001).

Within the community psychology field, the development of scales to measure sense of community have necessarily added to the definition of sense of

community. The development and revision of scales has been an ongoing process. However, many of these scales have been developed in specific contexts and, thus, do not necessarily apply to all types of communities. Nevertheless, there are certain dimensional communalities which arise across different studies.

Bardo (1976) was one of the earliest to examine community feelings through an exploration of community satisfaction. He found several dimensions underlying the term: quality of interaction; belongingness; courtesy; physical attraction; institutional responsibility; entertainment; comparative housing quality; adequacy of housing and income; and status affect (i.e., prestige or lack of prestige, associated with the community).

Doolittle and MacDonald (1978) developed the 40 item Sense of Community Scale to examine communicative behaviours and attitudes at the neighbourhood level. They examined five factors: informal interaction, safety, pro urbanism (privacy), neighbouring preference (interaction frequency preference), and localism (desire to participate in local activities). Riger and Lavrakas (1981) studied sense of community as reflected in neighbourhood attachment, and found two distinct but correlated factors: social bonding, encompassing such aspects as belonging and knowing neighbours, and behavioural rootedness, referring to such factors as length of residence. Riger, Le Bailey and Gordon (1981) examined types of community involvement and found four distinct types: feelings of bondedness, extent of residential roots, use of facilities, and degree of neighbourly interaction. Bachrach and Zautra (1985) developed a brief scale, based on work by Kasarda and Janowitz (1974) and Rhoads (1982), which examined feeling at home and belonging in the community, satisfaction with the community, shared beliefs with other community members, interest in the community and attachment to the community.

Glynn (1981), based on the work of Hillery (1955), identified 202 behaviours or subconcepts relating to sense of community. From these, he developed 120 items to examine the construct in terms of real and ideal communities. Factor analysis revealed six underlying dimensions: evaluation of community structure, supportive relationships in the community, similarity of community members, individual involvement in community, quality of community environment and security. Nasar and Julian (1995) revised Glynn's scale to create a more convenient instrument to use. They reduced the 60 items examining real communities to 11 items and showed that the shortened scale covered the same dimensions and remained a valid and reliable instrument.

Focusing on the human ecological perspective, researchers have worked on the concept of neighbourhoods as a social unit, examined under the construct of neighbourhood cohesion. Smith (1975), in an early review of the literature in this area, highlighted two important aspects of the concept. Firstly, Smith argued that sense of community should be seen as a multidimensional concept and, secondly, that it is a condition of a group rather than of individuals. Smith's review highlighted four levels or types of neighbourhood cohesion. The first, Smith suggests, is the use of physical facilities (the extent to which local space and commercial, service and recreational facilities are used by residents of that neighbourhood). The next aspect is personal identification of individual residents with the area and other residents. The third dimension is that of social interaction; both formal, such as community group membership and informal, such as neighbourly interaction. Lastly, Smith saw cohesion as involving consensus among residents, ranging from a common set of values to simply agreeing on minimal behavioural codes within the neighbourhood.

He also saw these four dimensions as interrelated, but separate in that neighbourhoods can be high on some dimensions but low on others.

Buckner (1988) developed the 18 item Neighbourhood Cohesion Index (NCI) to measure neighbourhood cohesion. This measure attempts to combine the individual's sense of community and the overall social cohesion of the community in which they live. Buckner conducted an extensive review of the literature on cohesion, using both the social psychological literature into small group processes and the sociological tradition examining cohesion within neighbourhoods. From this review, he drew three dimensions of importance to cohesion: residents' sense of community; residents' degree of attraction to live and remain in the community and the degree of neighbourly interaction. However, in a factor analysis during the development of his scale, he found that only one factor emerged. Thus, he hypothesized that the concept of neighbourhood cohesion subsumed these individual level dimensions. He concluded the instrument could be used to examine these individual level dimensions and also to provide a mean neighbourhood cohesion score for whole communities to indicate the strength of cohesion at the system level. Several researchers have presented validating data in different contexts for Buckner's NCI (e.g., Robinson & Wilkinson, 1995, Sampson, 1991).

Skjaeveland, Garling and Maeland (1996) aimed to develop a measure of neighbouring that extended on previous efforts by providing empirically homogenous dimensions of neighbourhood social characteristics which they claim previous scales had not accomplished. Further, they introduced the possibility of negative relations and the traditionally environmental psychological concept of place attachment. This latter concept highlights the importance of the socio-physical environment for social interactions and positively experienced bonds (Brown &

Perkins, 1992). Skjaeveland et al. hypothesised six dimensions underlying neighbouring: overt social interactions; weak social ties; psychological sense of community; sense of mutual aid; neighbourhood attachment; and neighbour annoyance.

An analysis of their data, however, revealed only four distinct dimensions. As proposed, weak social ties, neighbourhood attachment and neighbourhood annoyance emerged as distinct factors. Overt social acts, sense of mutual aid, and sense of community amalgamated into a single factor which they authors labelled supportive acts of neighbouring, tapping similar dimensions to Buckner's (1988) Neighbourhood Cohesion Index. As a result of this study, the 14 item four dimensional Multidimensional Measure of Neighbouring (MMN) was developed.

In summary, there are two major issues which can be seen in this brief review of PSOC and related constructs. Firstly, much of the work has been conducted in specific contexts and some of the dimensions arising from this work are unique to their respective context. This finding is particularly true for the neighbouring dimensions. Secondly, there is a commonality of dimensions arising repeatedly, such as belonging, ties and interaction with other community members and a sense of support, which suggests that there are dimensions of sense of community which are common to a variety of communities. The major theoretical perspective on PSOC is that of McMillan and Chavis (1986) which was an early attempt to integrate findings on PSOC. One of the principle aims of the current program of research was to focus on the commonalties between findings to elucidate the common core dimensions underlying PSOC. The current research also sought to examine how these dimensions are related to those proposed by McMillan and Chavis.

1.4.2 McMillan and Chavis' (1986) Theory of Psychological Sense of Community

McMillan and Chavis (1986) conducted an in-depth review of the literature on the psychological sense of community and concluded that this work was being conducted in the absence of any overarching theoretical base. They developed a psychological definition and the first theory of sense of community, which to date, has remained one of the few theoretical discussions on the concept and is still widely used and accepted in the literature. Their definition contains four elements: (1) membership, (2) influence, (3) integration and fulfilment of needs, and (4) shared emotional connection.

Membership refers to the feeling of belonging to, or being part of, a collective. A major part of membership is boundaries; if you belong, this implies there are those who do not. This concept intuitively seems to be a necessary part of any definition of community; to have a sense of community, first you must feel that you belong to a community. From the earliest sociological research into communities, this notion of membership and boundaries has been present (e.g., Parks & Burgess, 1921). McMillan and Chavis (1986) extend the concept to include the emotional safety derived from membership, the sense of belonging and identification with the respective community, and personal investment into the community.

The second dimension is that of *Influence*, which is a bi-directional concept. For a group to be attractive to individual members, an individual must feel they have some control and influence over the group. On the other hand, for a group to be cohesive, the group must also influence its individual members. McMillan and Chavis (1986) cite several studies which show that members who acknowledge others' needs, values and opinions are often the most influential members of the group (e.g., Taguiri & Kogan, 1960, Thrasher, 1954).

The third dimension, *Integration and Fulfilment of Needs*, refers to the idea that, for a community to maintain a positive sense of togetherness, the individual-group association must be rewarding for the individual members. Some of the more obvious reinforces examined by McMillan and Chavis (1986) include status of membership, success of the community and the perceived competence of other members. The authors also suggest the importance of shared values to the construct of fulfilment of needs, suggesting that common needs, goals and beliefs actually provide an integrative force for a cohesive community.

The last dimension is that of *Shared Emotional Connection*. McMillan and Chavis (1986) suggest that this is, in part, based on a sense of shared history or identification with a community. The authors call on several psychological theories to underpin the importance of this dimension. They quote the central tenet of the contact hypothesis (Allport, 1954) to suggest that, the more people interact, the more likely they are to form close relationships. The more positive this interaction is, the stronger the bonds developed from this interaction (Cook, 1970). Further, the more important a shared event is to those involved, the greater the community bond (Myers, 1962). Investment into the community determines the importance to individuals of the community's success and current status. Homeowners who have invested their life savings in a particular neighbourhood will be more concerned about the community status than those merely renting. Equally, those who give time and effort to community organisations and events will be more concerned in seeing the positive effects of these events than those who have not been involved. Lastly, within the confines of this dimension, McMillan and Chavis talk about a spiritual bond or, as labelled by Bernard (1973), a community spirit.

McMillan and Chavis (1986) argue that all these sub-elements work together to create each dimension which, in turn all work dynamically together to create and maintain an overall sense of community. To date, this theory is the most widely used theory of PSOC in the community psychology literature.

McMillan (1996) revisited the theory in the light of 10 years research into the area. He replaced *Membership* with *Spirit* and emphasises friendship and belonging over boundaries. *Trust* replaces *Influence*, emphasising the development of community norms leading to order, and the equal distribution of power leading to authority based on principle. This trust leads to a clear decision making capacity, and together allow spirit to grow and flourish. *Trade* replaces *Fulfilment of Needs,* acknowledging the myriad kinds of rewards individuals gain from belonging to communities. The importance of similarity between members is also highlighted as an important bonding force. The final dimension, *Shared Emotional Connection*, is replaced with *Art*, or collective memories, which McMillan describes as stories of shared dramatic moments in which the community shares in a fate of common experience representing the community's values and traditions. Art supports spirit, spirit with respected authority becomes trust, trust forms the basis of social trade and, together, these elements create a shared history symbolised in art. In this way, McMillan's four elements of sense of community are linked together in a reinforcing circle. While, McMillan's new conception integrates new research, it still contains the essence of the original theory. Further, research into PSOC, even after 1996, has remained focussed on the original theory and model.

There has been strong empirical support found for the model of PSOC consisting of the four dimensions originally proposed by McMillan and Chavis (1986). Several studies have found evidence for this four factor structure in a range

of populations. Plas and Lewis (1986) found that residents of a planned town referred to the importance of environmental aspects indicative of McMillan and Chavis's (1986) dimensions. In comparing immigrants' experience of community in their countries of origin to their country of migration, Sonn and Fisher (1996) and Sonn (2002) found evidence in favour of McMillan and Chavis's conceptualisation of PSOC. Brodsky (1996), in interviews with single mothers in high risk neighbourhoods, also found evidence for the existence of these four elements of PSOC. Garcia, Giulani, and Wiesenfield (1999), in interviews about community and sense of community with residents of an urban barrio in Caracas, found clear evidence for the presence of the elements that make up PSOC. Evidence for the four elements of PSOC, has also been found in virtual communities (e.g., Roberts et al., 2002).

While much of this research has used qualitative measures, quantitative research into PSOC has also been conducted. The main measure of PSOC used to date is the Sense of Community Index.

1.4.3 Sense of Community Index

The most widely used measure of PSOC is the Sense of Community Index (SCI), developed to capture the four elements of the McMillan and Chavis (1986) model, as well as overall PSOC. Using 44 items extracted from a Neighbourhood Participation Project, Chavis, Hogge, McMillan, and Wandersman (1986) applied a Brunswick-Lens methodology (in which independent judges rated a series of individual community member profiles on the basis of their conceptualisation of PSOC and then the degree of agreement is statistically assessed) to examine the validity of McMillan and Chavis' theory. The data showed support for the four proposed dimensions of PSOC. As the measure designed to tap these four elements,

the SCI, in its current 12 item form, was developed from data gathered in the large New York City Block Booster project by Chavis, Perkins, Florin, Prestby, Rich, and Wandersman (see Long & Perkins, 2003) and was published in their 1990 paper (Perkins, Florin, Rich, Wandersman, & Chavis, 1990).

The importance of the Sense of Community Index in community psychology literature is twofold. Firstly, it is one of the few scales that can be, and has been, used to measure PSOC in diverse settings such as the workplace (Brodsky, 2001; Catano, Pretty, Southwell, & Cole, 1993; Mahan, 2000; Pretty & McCarthy, 1991; Pretty, McCarthy, & Catano, 1992), religious communities (Miers & Fisher, 2002), immigrant communities (C. Sonn, 2002), student communities (Pretty, 1990) as well as residential or geographical communities (Brodsky, 2001; Brodsky, O'Campo, & Aronson, 1999; Perkins et al., 1990). Secondly, the Sense of Community Index has evolved from a sound theoretical basis that has empirical support.

In line with the current debate surrounding the Sense of Community Index , several papers examining the psychometric properties of the Sense of Community Index have been presented. These papers take different analytic paths, presenting results from both exploratory and confirmatory factor analyses. Chipuer and Pretty (1999) examined the psychometric properties of the Sense of Community Index in neighbourhood and workplace settings. In both adult and adolescent neighbourhood data, four factor solutions were found. However, items did not load on these factors as proposed by the SCI. In the workplace data, three factors emerged; again, items from the Sense of Community Index did not load as expected. However, Chipuer and Pretty concluded that the SCI, as the one of the few measure of PSOC grounded in theory, provides a good foundation for further PSOC research. These authors suggest taking a theory driven integrative approach to PSOC, which should include re-

examining Sense of Community Index items to better represent McMillan and Chavis'(1986) four dimensions.

In a recent paper examining the psychometric properties of the SCI, Long and Perkins (2003) criticize previous research utilizing exploratory factor analytic techniques stating that, as theoretical precedence exists for a four factor solution, confirmatory factor analysis is a more appropriate analysis in this instance. Examining both a one factor model and the theoretically-based four factor model, their results indicated only small improvements in the model fit and parsimony indices in the four factor model compared to the one factor model, which, they argue, does not provide sufficient evidence for the Sense of Community Index as a four factor scale. As a result, Long and Perkins reverted to the original data based on clustered resident surveys taken from the New York Block Booster project and generated a new eight-item scale, the Brief Sense of Community Index (BSCI). The authors then conducted an exploratory factor analysis on this new scale that revealed a three-factor structure, representing Social Connections, Mutual Concerns and Community Values. This new factor structure was then confirmed via confirmatory factor analysis, which showed moderate to good fits across all fit indices.

In their new factor structure, Long and Perkins' (2003) Social Connections dimension encompasses some items originally part of the Membership and Influence dimensions. Mutual Concerns is reflective of some aspects of Needs Fulfilment and encompasses items from this dimension and from the Influence Dimension. The last factor, Community Values, is comprised entirely of new items and reflects the importance to community members of having a sense of community. Little theoretical justification is provided by the authors for this shift to a new dimension

structure. Further, little critical analysis is provided to identify the conceptual limitations of the original four dimensional theory of McMillan and Chavis (1986).

Other authors have also examined the psychometric properties of the Sense of Community Index in relational communities. In a recent investigation of the SCI, Proescholdbell (2003) examined the structure of the Sense of Community Index via confirmatory factor analysis in a sample of gay and bisexual men. Extra items were developed for each of the four dimensions, and the new scale was subjected to confirmatory factor analysis. As the data was not supportive of a four factor structure, an exploratory factor analysis was conducted revealing a three factor structure reflecting the original Sense of Community Index factors of Influence, Emotional Connection and a new factor which was a combination of the original Membership and Fulfilment of Needs factors. Confirmatory factor analysis was conducted on this new three-factor structure, based on 17 items, and revealed good model fits and reliabilities.

Thus, there is still considerable debate in the literature as to the validity of the Sense of Community Index as a measure of the four dimensions of PSOC proposed by McMillan and Chavis (1986). The most recent work conducted in this area has reverted to rediscovering and renaming the dimensions which underlie PSOC rather than developing a scale which adequately measures the four theorized dimensions of PSOC. Thus, a further aim of the current research project was to re-examine the Sense of Community Index as a measure of PSOC and, more importantly, its adequacy in measuring the four dimensions proposed by McMillan and Chavis.

1.4.4 Factors Influencing PSOC

In addition to identifying the underlying dimensions of PSOC, much research has also been conducted on the factors influencing and influenced by PSOC. Several demographic variables have been shown to be associated with PSOC. Research has shown that length of residence is positively associated with PSOC, (Kasarda & Janowitz, 1974; Royal & Rossi, 1996) as is age, home ownership, and having children (Buckner, 1988; Davidson, Cotter, & Stovall 1991; Lounsbury, & De Neui, 1996; Robinson, & Wilkinson, 1995). Females report higher levels of PSOC than males (Buckner, 1988; Davidson, Cotter, & Stovall 1991; Lounsbury, & De Neui, 1996; Robinson, & Wilkinson, 1995). PSOC has been shown to be greater in smaller towns than in larger urban areas (Prezza & Costantini 1998), and to be associated with environmental variables such as town design and architecture (Plas & Lewis, 1996). PSOC has been also been reciprocally linked with participation in various contexts such as local organisations and politics (Catano, Pretty, Southwell, & Cole, 1993; Colombo, 2001; Davidson & Cotter, 1989; Wandersman & Giamartino, 1980). Perceived supportiveness of the community has been positively associated with PSOC (Lambert & Hopkins, 1995; Pretty, 1990). Ahlbrant and Cunningham (1979) viewed sense of community as an integral part of an individual's commitment to, and satisfaction with a community, and found empirical evidence for this relationship.

Interestingly, links have also been made between PSOC and personality traits. Those with higher levels of extroversion, agreeableness, conscientiousness and lower levels of neuroticism showed higher levels of PSOC (Lounsbury & Deneui, 1996; Lounsbury, Loveland, & Gibson, 2003). Need for affiliation, and having been raised with siblings have also been shown to be positively associated with PSOC (Davidson, Cotter, & Stovall, 1991) Finally, PSOC has been positively related to

sense of well being (Bramston, Bruggerman & Pretty, 2002; Davidson & Cotter, 1991). However, not all of these relationships emerge consistently across all studies.

1.5 Chapter Summary

In summary, this chapter has endeavoured to give an overview of community and what this everyday word signifies to theorists. The chapter began with a brief overview of the work of the major sociological theorists of the last century which has had a significant influence on how we view community in our contemporary world. This overview was followed by an examination of what types of groups are labelled a community. It appears that the use of the word today has extended beyond the traditional sense of a local neighbourhood or town to encompass the many and varied groups to which we belong such as work places, religious groups, political associations, sports clubs and extends to virtual communities that exist only via computer-mediated environments.

The chapter then set the scope of the thesis by examining community from the perspective of community psychology, the branch of psychology which emerged in the 1960s, with a focus on the community, rather than individual, perspective. While there is still debate as to its make-up, the existence of a Psychological Sense of Community is presented as the keystone of community for most community psychologists. This concept and the body of work conducted to define the underlying dimensions of PSOC were then reviewed. Finally, the chapter concluded with an examination of the factors that influence, and are influenced by, PSOC.

As can be seen from this brief review, many of the dimensions of PSOC highlighted in the literature overlap. Further, some concepts, such as quality of housing and participation, which are included by some authors as aspects of sense of

community, are viewed by others as factors impacting on sense of community. Understanding of the construct PSOC could be improved by the reduction of these many dimensions into a common core. Further, clarification of what is a part of sense of community and what impacts on and is impacted by sense of community, is also needed to give a common basis for future community research. Thus, the principal objective of the research presented in this thesis was to expand and clarify our current understanding of the construct, PSOC.

It is understood that the quality of research as a whole is dependant on the quality of the data gathered; hence, it is extremely important that PSOC is examined empirically as broadly as possible. Thus, the first and third papers in this thesis examine the underlying dimensions of PSOC by building on the large body of previous research and including questions designed to tap the multitude of dimensions previously associated with PSOC. The first three papers examine PSOC in both relational and geographical communities, and aimed to discover if there are consistent dimensions of PSOC that can be applied to diverse communities.

Chapter Two introduces the concept of identification as a potentially important variable for understanding PSOC. Chapter Three will then detail the publications presented in Chapters Four to Nine and describes the contribution of each paper to the overall aim of building understanding of PSOC.

Chapter Two: Identification

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2.1 Introduction

As is seen in McMillan and Chavis's (1986) theory, identification with the community appears to play an important part in several of the dimensions of PSOC. In particular, identification plays an important role in the dimensions of *Membership*, and *Shared Emotional Connection*. An essential part of *Membership* is a sense of identification with the community. In terms of *Shared Emotional Connection,* identification with other community members and a shared identification with the community, as a whole, is central. In much of the literature on community, the notion of identification with the community arises in understanding members' attachment to their community, be it their primary community or geographical area (Hedges & Kelly, 1992; Puddifoot, 1994, 1995, 1996, 2003) or memberships in multiple communities, both geographical and relational (Brodsky & Marx, 2001).

Several theorists (Chavis & Pretty, 1999; Chipuer & Pretty, 1999; Fisher & Sonn, 1999, 2002) have suggested that differences in levels of PSOC may be understood in terms of the degree to which members identify with their community. However, few PSOC studies have explored the role of identification or incorporated measures of identification with the community into their research. Studies that have incorporated identification (Fisher & Sonn, 1999; Smith & Ryall, 1999) suggest that identification with the community may be an important aspect of PSOC. Many authors, such as McMillan and Chavis' (1986) writings on the topic of PSOC or related constructs, have used theories and ideas developed from a social psychology perspective. Social psychology has a long history of research into intergroup relations which can aid those working with communities. Some recent research (e.g., Smith & Ryall, 1999) has shown the utility of using a Social identity theory (SIT) framework to understand the relationship between social identification and PSOC.

2.2 Social Identity Theory

Social identity theory is a well-established social psychological theory of group processes and intergroup relations (Abrams & Hogg, 1990; Hogg & Abrams, 1988; Tajfel, 1978; Tajfel & Turner, 1979). Social identity theory rests on the assumption that groups are not just aggregates of individuals in which processes of interpersonal behaviour operate among a larger group of people. Rather, groups are seen as qualitatively different, with the processes that are operating being distinct from those of interpersonal interaction (Abrams & Hogg, 1990; Tajfel & Turner, 1979). Broadly, this theory proposes that our self concept is drawn from several components; a personal identity, as well as various social identities that derive from the groups to which we belong. Social identity refers to the individual's knowledge of belonging to a certain social group, together with the emotional and value significance of that group membership (Tajfel, 1972). According to SIT, when an individual is strongly aware of their group membership, and it is of strong value and emotional significance to them, they are said to have strong ingroup identification (Hogg, 1992). Thus, ingroup identification has both affective and cognitive consequences. Ingroup identification is strongly associated with, amongst other things, group cohesiveness (Hogg & Hains, 1996), and stronger influence of the group in determining individual members' attitudes and behaviours (Terry & Hogg, 1996; Terry, Hogg, & White, 1999). These outcomes are both clearly related to McMillan and Chavis' conception of PSOC.

Another important feature of SIT is that the processes it investigates, including social identification, apply not only to small groups, where all members interact, but also to larger groups and social categories, where it is impossible to interact with or even know all the members of the group (Hogg, 1992). Social

identity theory is, therefore, clearly applicable to the diverse array of communities to which we may belong. Thus, social identity theory can add insight into how people view and identify with their communities, and how this relates to PSOC.

2.2.1Measures of Social Identification

Within social identity theory literature, social identification traditionally has been measured as a uni-dimensional concept. However, recently evidence has emerged in favour of a multidimensional conceptualization of social identity. In fact Tajfel's (1972) original definition of the construct of social identity, referring to an individual's knowledge of belonging to a social group, together with the emotional and value significance of that group membership, reflects multidimensionality. Knowledge of belonging points towards a cognitive awareness, while the emotional value indicates an affective dimension, and value points towards an evaluative aspect. There has been mixed evidence arising from the research as to whether social identity is made up of distinct elements or is, in fact, a single construct. However, much research into social identification utilises the popular Brown, Condor, Mathews, Wade, and Williams (1986) scale, which was shown in their original development, to form a single factor. More recently, Cameron (1999, 2004) has developed a measure of social identification which has been shown to reliably measure social identity as a multidimensional construct.

Cameron's (1999, 2004) scale measures three aspects of social identification: *Cognitive Centrality*, that is the cognitive prominence of a given group membership; *Ingroup Affect*, the emotional evaluation of that group membership; and *Ingroup Ties*, the perception of similarity and bonds with other group members. Evidence for this conceptualization of social identity has been found across several studies exploring gender, race, nationality and university student identification (Boatswain &

Lalonde, 2000; Cameron & Lalonde, 2001). Further, the three factor model was shown to be the best fitting model in a confirmatory factor analysis across several studies (Cameron, 2004).

As this thesis is interested in making an initial exploration of the role of Social Identity within PSOC, both the uni-dimensional and three-dimensional models of Social Identity were incorporated to allow for a detailed exploration of Social Identification. Thus, both the Brown et al. (1986) scale and Cameron's (2004) multidimensional scale were used to measure social identification.

2.2.2 Salience

Research from a SIT perspective has shown that the salience of group membership can have an impact on social identification measures (e.g., Hewstone, Hantzi & Johnston, 1991; Stangor, Lynch, Duan & Glas, 1992). Oakes (1987) suggests that the salience of a particular social category in a particular situation is a product of the interaction of the relative accessibility of the categorisation to the perceiver and the fit between the social stimulus and the category.

The fit has two aspects: comparative fit, which refers to the extent to which stimulus characteristics are similar within but not between categories, and normative fit, the match between the group category and the characteristics of the stimulus (Oakes, Turner & Haslam, 1991). Group membership accessibility is defined as the relative readiness of a given group membership to be activated (Oakes, 1987). This accessibility can be separated into two components: chronic accessibility and situational accessibility. Chronic accessibility refers to the ease with which that category can be cognitively activated across all sorts of social situations. For example, categories such as race, gender, or age are likely to be chronically accessible categories. A category is more likely to be chronically accessible if it has

been recently activated (Wyer & Srull, 1981), frequently activated (Higgins & King, 1981), affectively charged, or if one is otherwise motivated to use it (Klinger, Barta, & Maxeiner, 1980). Research shows that, when categories are chronically accessible, individuals use them more strongly (Hewstone, Hantzi & Johnston, 1991; Stangor, Lynch, Duan & Glas, 1992). Situational accessibility is the availability of a given categorisation in a particular social context. This accessibility may be enhanced by contextual factors such as priming (Devine, 1989), visible differences in dress or physical arrangement of members (Gaertner & Dovidio, 1986), competition (Myers, 1962) and direct intergroup contact (Rodriguez & Gurin, 1990). Thus, methodologically, if data are collected within the context of a specific community or group, salience may well be a confounding variable when examining social identity and PSOC and its potential influence should be noted.

2.3 Choice

As stated in Chapter One, this program of research is interested in exploring PSOC and Social Identity in both geographical and relational communities. One obvious difference between membership in a geographical community and a community of interest is the notion of choice. For most of us, there is a degree of choice in where we live; however, the choice is constrained by many variables such as work, finances, significant others, schools and other conveniences. In relational groups, members are likely to have a much greater degree of choice to belong to such communities and are drawn together through a common interest.

While little research has been conducted on the influence of choice in the community psychology literature, perception of choice has been shown to have a positive impact on a number of psychological and behavioural variables. A sense of choice or freedom has been linked with greater intrinsic motivation (Zuckerman,

Porac, Lathin, Smith & Deci, 1978), greater trust in leaders (Deci & Ryan, 1987), and enhanced environmental climate (Ryan & Grolnick, 1986). In the community psychology literature, an early study by Compas (1981) examined, among other factors, the influence of perceived choice on the PSOC of group members in a minimal groups design. Compas found that individuals who perceived a greater degree of choice in belonging to an experimental group reported a greater sense of community with that group than those who felt they had less choice.

In the literature exploring ingroup identification, the notion of choice has arisen in few studies. In a study examining ingroup bias, Finchilescu, (1986) found that participants categorized into a group to which they had chosen to belong displayed more ingroup bias than those who were categorized into a group that differed from their choice. Other more recent studies have found that participants only identified with the group when the assigned categorization coincided with their self categorization of group membership (Barreto & Ellemers, 2002) and that affective commitment to the group was higher when participants self selected their group membership (Ellemers, Kortekaas, & Ouwerkerk, 1999). Thus, there seems to be some support for the notion that group processes, including identification, are stronger in groups to which members choose to belong.

Hence, there is some indication from previous research that higher levels of PSOC and social identification with a community may be associated with the level of choice we have regarding our membership. Thus, the current research aims to explore the influence that choice may have on PSOC and social identification.

2.4 Chapter Summary

This chapter has introduced the construct of social identification. Past research indicates that identification may play an important role in PSOC. To date,

however, this is a little explored area. Social Identity Theory is raised as a body of literature with an in-depth knowledge of social identification that could aid in the understanding of how social identification and PSOC interact. From within the SIT literature, a scale has recently been developed that measures three facets of social identification; *Centrality*, *Ingroup Affect* and *Ingroup Ties*. This scale in comparison to a unidimensional measure potentially allows a more complex exploration of the interplay between social identification and PSOC by providing information about individuals social identification on a multidimensional level.

Research from a SIT perspective has indicated the impact that salience can have on research into ingroup identification, particularly when considering the context in which data are collected. Thus, salience is an important construct to be taken into account when conducting research into group behaviour. Finally, as this thesis is interested in PSOC and Social Identification in both geographic and relational communities, the notion of choice is raised as one of the differences between these two types of communities. However, there has been little empirical exploration to testify to this idea. The final paper in this thesis aims to examine empirically the idea that the degree of choice in group membership may be positively associated with individuals' levels of Social Identification and PSOC. The study presented in this paper also controls for any potential influence that situational salience may have on PSOC or Social Identification.

The next chapter will highlight the scope and overall aims of the current research drawn from the theory discussed in these first two Chapters. The contribution made by each publication or manuscript presented as Chapters Four to Nine in the thesis in relating to these aims is then presented.

Chapter Three: Overview of Research by Publication

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3.1 Overview and Scope of Research

As can be seen in Chapter One, the term community encompasses a broad range of definitions and subject areas. It is a topic of interest for many academic disciplines such as sociology, built environment, and political studies. However, when examining a topic as broad-ranging as community, it is necessary to narrowly define a particular aspect of community to allow an in-depth examination. Thus, the focus of this thesis is on one construct central to community psychology, that of psychological sense of community (PSOC).

The literature examined in Chapter One highlighted the importance of this construct to those working in the community psychology arena. As stated in the introduction, PSOC has been cited as the overarching value by which the field should be defined (Sarason, 1974). However, Chapter One also emphasises the lack of clarity, in terms of both theory and measurement, which clouds the construct of PSOC in the literature to date. Thus, the primary aim of the current research was to bring together previous work in the area, to evolve a common meaning and measure of PSOC. The research program endeavoured to achieve this aim by empirically elucidating the core dimensions underlying the concept of PSOC and devising a measure which captures these dimensions.

The literature presented in Chapter One also shows that the nature of community is changing. The term community no longer refers simply to a neighbourhood, town or village, but has evolved to encompass a wide range of settings, where community is derived from shared interests and experiences. Thus, community can mean anything from a local area, a work setting, a religious community, right through to a virtual community which exists only on the internet. Hence, the construct PSOC needs to be one that has meaning in the multitude of

community settings that exist in modern society. Therefore, the current research examining PSOC was conducted on various community settings, including both geographical communities, and a variety of interest based communities, including a virtual community. This allowed the current research to examine the consistency of the dimensions underlying PSOC across both geographical and interest communities.

Chapter Two introduces the construct of social identification and examines discussion and research in the community psychology literature which suggests that identification may play an important role in PSOC (e.g., Chavis & Pretty, 1999; Chipuer & Pretty, 1999; Fisher & Sonn, 1999, 2002; Smith & Ryall, 1999). Thus, the second major aim of this thesis is to explore the relationship between identification and PSOC in various community settings. Chapter Two then presents social identity theory (SIT), with its strong theoretical and empirical understanding of social identification, as a theoretical basis for exploring the role of identification in PSOC. Social identity theory is a well established and researched theory on identification with social groups, which can provide an excellent knowledge base for research into communities. By using theory and measures from a SIT perspective to further investigate the construct of PSOC, this thesis also aims to show the value of an integrative approach, using theory and principles from both social psychology and community psychology, in understanding community processes.

Chapter Two also introduced the notion that social identity may be a multidimensional construct and, by using a multidimensional model, the relationship between social identification and PSOC may be examined in more detail. Thus, to achieve the objective of examining the role of social identification in PSOC, the current research included multidimensional measures of both constructs to allow for this in-depth exploration of the association between these variables.

Finally, Chapter Two presented the suggestion that one of the major differences between geographical and interest communities may lie in the amount of choice members have in belonging to that community. Choice is a little examined notion in terms of both PSOC and social identification. However, there is some research which indicates that greater choice can lead to higher levels of PSOC and social identification (e.g., Barreto & Ellemers, 2002; Compas, 1981; Finchilescu, 1986). This chapter also raises an important variable, salience, that research from a SIT perspective indicates can have an effect on group processes and social identification. Thus, salience is an important construct to be taken into account when conducting research into group behaviour, especially in relation to the context in which data are collected. The influence of salience is considered in the examination of the relationship between social identification and PSOC.

The final aim of the current research was to examine the effect that the degree of choice of membership in a community can have on individuals' PSOC and social identification with that community. The final study also controls for any impact situational salience may have on results.

3.2 Contribution of Each Article to the Aims of the Research Project

The previous section sets out the overarching aims of this research project. The next section will show the contribution of each publication to the aims of the research as a whole. There are seven manuscripts which form the body of the thesis. The publication status of each paper is indicated below with its title. Figure 3.1 presents an overview of the research project and where each of the individual papers fits into the overall process.

Papers one, two and three form the first stage of the research project which was designed to develop and clarify the theoretical underpinnings of the concept of

PSOC. This research attempted to extend research into PSOC in a number of ways. Firstly, by using many of the measures and perspectives highlighted in the PSOC literature, it endeavoured to clarify the dimensions underlying PSOC and, in particular, to investigate how these dimensions related to those hypothesized by McMillan and Chavis (1986). The research extended on the broad array of work that has been conducted in the conceptual domain of PSOC by including multiple measures of PSOC developed by researchers in the area. In this way, rather than revising or adding dimensions, as many past authors have done, the project sought to bring past work together in a cohesive manner. In addition, the project provided an initial examination of the role of identification within PSOC. Finally, the first phase of the project examined PSOC in both geographical and relational communities.

Papers four and five comprise the second stage of the project which examined the measurement of both social identity and PSOC. The papers from the first stage of the research project examined the dimensionality of PSOC and introduced the notion of social identification as a multidimensional construct. Thus, the focus of the second stage of the research was to provide validation and improvement of existing measures of social identification (The Three Dimensional Strength of Identification Scale; Cameron 2004) and PSOC (The Sense of Community Index; Perkins et al., 1990) as measures of the dimensions found in the first studies. The Three Dimensional Strength of Identification Scale (TDSIS) is a new scale only recently published; thus, further empirical examination of its validity as a measure of the three aspects of social identification, *Centrality*, *Ingroups Ties*, and *Ingroup Affect* was warranted. As stated in Chapter One, the Sense of Community Index has little supportive evidence that it is a reliable measure of the underlying dimensions of PSOC. Research that validates or allows improvement to the Sense of Community

Index as a multidimensional measure of PSOC is needed. Thus, these two scale validation papers precede the sixth paper, examining the interplay between the dimensions of PSOC and social identification, and the seventh paper which examines the influence of choice on these constructs.

Paper six presents an overview of the relationship between PSOC and social identification and includes an examination of any influence that salience may have on the relationship between these variables. The paper is based on data collected in all the previous studies to focus specifically on the interplay between the major variables of interest to this thesis, PSOC and social identification.

The final manuscript, paper seven, focused on the influence that the degree of choice an individual has in belonging to a community may have on the individuals' social identification and PSOC with that community. Data was collected examining several community memberships for each participant. The memberships differed in the amount of choice members had in belonging to each community. The potentially confounding effect of salience was also controlled for in this study to add strength and clarity to results. The multidimensional measures of both PSOC and Social Identity, examined in papers four and five, were employed to allow for an examination of the influence of choice at the dimensional levels of these constructs as well as overall PSOC and social identification.

The outline of the aims of each paper and their contribution to the research aims of the thesis are given below. The detailed theoretical rationale and hypotheses are developed in the introduction to each paper and are not duplicated in this section.

3.2.1 Paper One

Obst, P., Zinkiewicz, L. & Smith, S. (2002). Sense of Community in Science Fiction Fandom, Part 1: Understanding Sense of Community in an International Community of Interest. *Journal of Community Psychology, 30*, 87-103.

This paper examines the dimensions of PSOC in an international community of interest, science fiction fandom. In this study, several existing measures of PSOC were utilized: the Sense of Community Index (Perkins et al., 1990); the Psychological Sense of Community Scale (Nasar & Julian, 1995) the Neighborhood Cohesion Instrument (Buckner, 1988); the Community Satisfaction Scale (Bardo & Bardo, 1983); the Multidimensional Measure of Neighboring (Skjaeveland et al., 1996); and the Urban Identity Scale (Lalli, 1992). Unidimensional and multidimensional measures of identification, from the SIT literature, (the Strength of Identification Scale, Brown et al., 1986 and the Three Dimensional Strength of Identification Scale, Cameron, 1999, 2004) were also utilized, to examine the role of identification in PSOC. Whether community members primarily interacted with each other face-to-face, on the phone or through various text based media (internet, letters, fanzines), and how this related to PSOC, was also explored. This paper contributes to the first two aims of the thesis, clarifying the theoretical underpinnings of PSOC and examining the role of social identification in PSOC.

3.2.2 Paper Two

Obst, P., Zinkiewicz, L. & Smith, S. (2002). Sense of Community in Science Fiction Fandom, Part 2: Comparing Neighborhood and Interest Group Sense of Community. *Journal of Community Psychology, 30*, 105 – 117.

The second paper also examines PSOC of members of SF fandom, but extends the first study in two ways. Firstly, the structure of PSOC with participants' community of interest is compared with that of PSOC with their geographical communities. This study uses only the Sense of Community Index (Perkins et al., 1990) and the Three Dimensional Strength of Identification Scale (Cameron, 1999, 2004). Further, the second paper assesses the contributions of the PSOC dimensions and social identification in generating and maintaining overall sense of community, the consistency of these dimensions, and the use of these dimensions across the two types of communities. Thus, this paper contributes to the first aim of the thesis by further clarifying the underlying dimensions of PSOC and examining the consistency of these dimensions across community types, contributing to a theory of PSOC which is applicable to a broad variety of communities.

3.2.3 Paper Three

Obst, P., Smith, S, & Zinkiewicz, L. (2002). An exploration of Sense of Community Part 3: Dimensions and Predictors of Psychological Sense of Community in Geographical Communities. *Journal of Community Psychology, 30*, 119-133.

The third and final paper in the first series reports a large scale study using multiple measures of PSOC (as in Obst, Zinkiewicz & Smith, 2002a), conducted in rural, regional and urban geographical communities. It examines the consistency of

the dimensions found in the first paper in a geographical community sample. The paper also examines the influence of demographic factors on PSOC. Thus, this paper also contributes to the principal aim of the thesis by examining the consistency and applicability of the dimensions of PSOC found in the virtual community in the more traditional geographical community setting. It also adds to information on PSOC by examining the influence of demographic variables in this context.

3.2.4 Paper Four

Obst, P. & White, K. (2004) Three-Dimensional Strength of Identification across Group Memberships: A Confirmatory Factor Analysis. In Press *Self and Identity.*

The purpose of this paper was to provide further assessment of the validity of the three-factor model of social identity as measured by the Three-Dimensional Strength of Identification Scale proposed by Cameron (1998, 2004). As part of the final study, the 12 item version of the Three-Dimensional Strength of Identification Scale was used to collect data from an undergraduate sample to assess their social identification with various group memberships. This data was then subjected to confirmatory factor analysis to examine the fit of the three factor model (cognitive centrality, ingroup affect and ingroup ties) in comparison to fit indices for one (social identification) and two (cognitive and affective) factor models. Thus, this paper provides validation of the three dimensional model and measure of social identification, allowing stronger conclusions to be drawn in the final paper which employs Cameron's Three Dimensional Strength of Identification Scale.

3.2.5 Paper Five

Obst, P. & White, K. (2004) Revisiting the Sense of Community Index: A Confirmatory Factor Analysis. *Journal of Community Psychology, 32,* 691-705.

This paper set out to examine the original Sense of Community Index via confirmatory factor analysis, with the aim of utilizing the indicators available through this statistical technique to improve the model fit. Further, with the aim of improving the utilization of this scale across various types of communities, model fits were tested across multiple community memberships, both geographical and relational. Hence, the study aimed to re-examine the Sense of Community Index to investigate whether modifications to the scale could improve the model fit, while maintaining McMillan and Chavis' theoretical structure of PSOC developed by (1986), supported by the results of the first stage of the current project.

3.2.7 Paper Six

Obst, P. & White, K. (2004). An exploration of the interplay between Psychological Sense of Community, Social Identification and Salience. Under Review. *Journal of Community and Applied Social Psychology*.

The objective of this paper was to examine the relationship between PSOC and social identification. The paper examines the strength of each of the aspects of social identification, Centrality, Ingroup Ties and Ingroup Affect as predictors of overall PSOC, while accounting for the influence of situational salience. Thus, this paper presents a final examination of the relationship between the dimensions of social identification and PSOC and the role salience may play in their association.

3.2.6 Paper Seven

Obst, P. & White, K. (2004). Choosing to Belong: The Influence of Choice on Social Identification and Psychological Sense of Community. Under Review. *Journal of Community Psychology*.

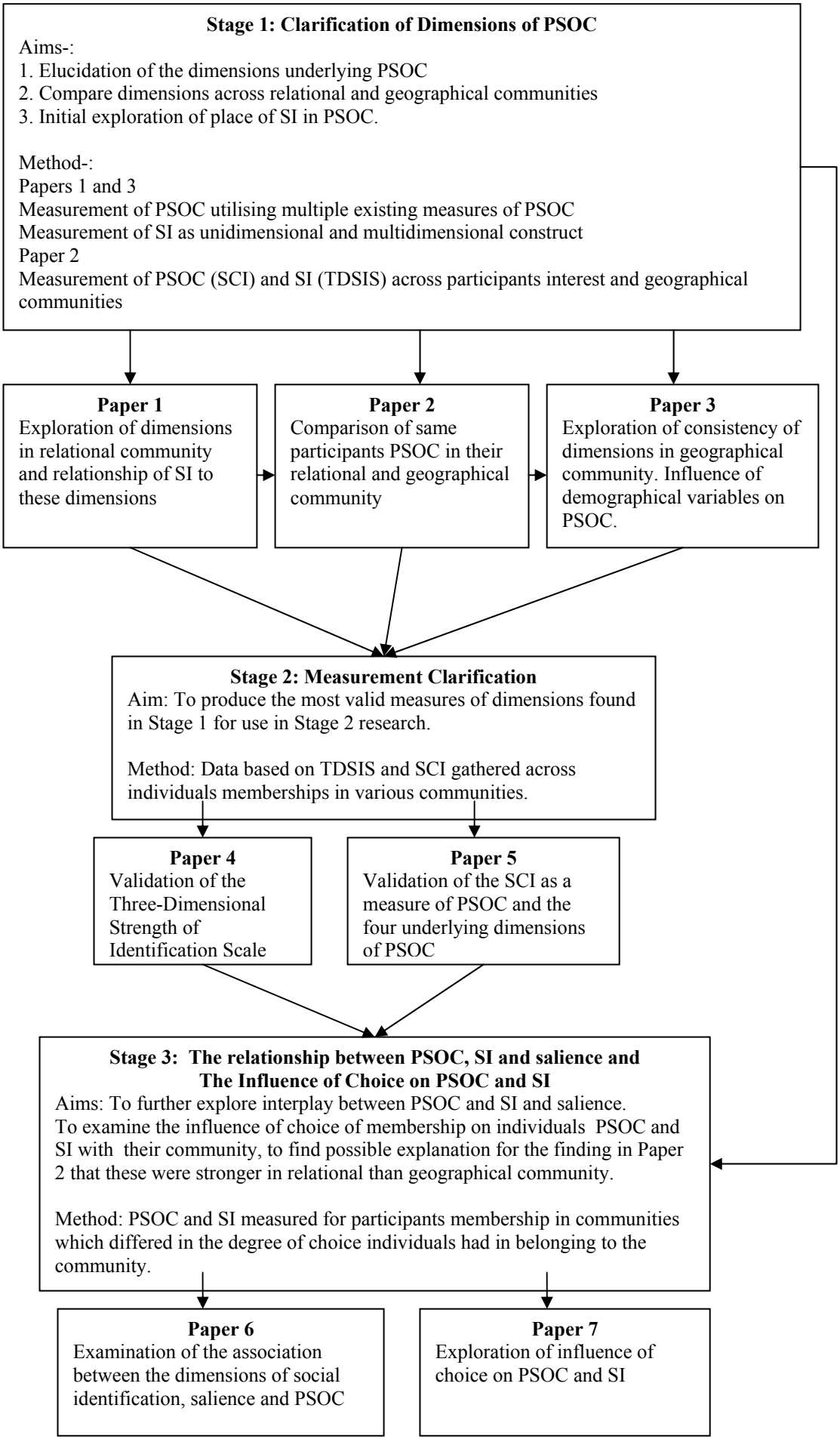
The last paper had two major objectives. Firstly, the research aimed to control for any influence of the salience of group membership may have had on participants' identification and PSOC with their group memberships. Situational salience was controlled for by priming techniques, salience checks included in the questionnaire, and salience being entered as a covariate in all analyses.

Secondly, the current research set out to examine empirically the proposal that the degree of choice individuals have in community membership was associated with higher levels of PSOC and social identification. Data regarding participants' level of PSOC and social identification with three distinct group memberships was collected. These group memberships differed in the degree of choice available to participants in becoming members. The first group membership was participants' local neighbourhood. Although there can be a degree of choice in where we live, a number of factors, such as financial, practicality, work and family related factors, impinge on our decision. Deciding to be a student at a particular university (the next category) has more choice involved; however, it is still restricted by factors such as place availability, prior academic achievement, and convenience factors. The last category is one with the most choice of membership that is a self chosen interest group (e.g., sports, religious, environmental, or internet groups). As membership is based on personal interest, there are negligible constraints on membership choices.

Hence, this paper presents an initial exploration of the influence that choice in community membership may have on community processes.

3.3 Chapter Summary

This chapter described the major scope and aims of the research project which form the body of this thesis. As this manuscript is a thesis by publication, details of each paper and their links to the aims of the overall project were presented. Chapters Four to Ten present each paper or manuscript as a separate chapter. Manuscripts are presented as published or submitted, except that, for convenience and clarity, all references have been removed to the references section at the end of the thesis. The first and third papers presented in Chapters Four and Six, respectively, contain appendices; these appendices appear at the end of each paper. All questionnaires used in each study can be found in the appendices at the end of the manuscript. Chapter Eleven presents an overarching discussion of the contribution the results presented in each paper make to the overall aims of this program of research.


Stage 1: Clarification of Dimensions of PSOC
Aims-:
1. Elucidation of the dimensions underlying PSOC
2. Compare dimensions across relational and geographical communities
3. Initial exploration of place of SI in PSOC.
Method-:
Papers 1 and 3
Measurement of PSOC utilising multiple existing measures of PSOC
Measurement of SI as unidimensional and multidimensional construct
Paper 2
Measurement of PSOC (SCI) and SI (TDSIS) across participants interest and geographical communities
Paper 1
Exploration of dimensions in relational community and relationship of SI to these dimensions
Paper 2
Comparison of same participants PSOC in their relational and geographical community
Paper 3
Exploration of consistency of dimensions in geographical community. Influence of demographical variables on PSOC.
Stage 2: Measurement Clarification
Aim: To produce the most valid measures of dimensions found in Stage 1 for use in Stage 2 research.
Method: Data based on TDSIS and SCI gathered across individuals memberships in various communities.
Paper 4
Validation of the Three-Dimensional Strength of Identification Scale
Paper 5
Validation of the SCI as a measure of PSOC and the four underlying dimensions of PSOC
Stage 3: The relationship between PSOC, SI and salience and The Influence of Choice on PSOC and SI
Aims: To further explore interplay between PSOC and SI and salience.
To examine the influence of choice of membership on individuals PSOC and SI with their community, to find possible explanation for the finding in Paper 2 that these were stronger in relational than geographical community.
Method: PSOC and SI measured for participants membership in communities which differed in the degree of choice individuals had in belonging to the community.
Paper 6
Examination of the association between the dimensions of social identification, salience and PSOC
Paper 7
Exploration of influence of choice on PSOC and SI

Chapter Four: Sense of Community in Science Fiction Fandom: Understanding PSOC in an International Community of Interest.

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Taken from Obst, P. Zinkiewicz, L., & Smith, S. (2002). Sense of Community in Science Fiction Fandom: Understanding Sense of Community in an International Community of Interest. *Journal of Community Psychology, 30 (1),* 87-103.

4.1 Abstract

Within the discipline of community psychology there is debate as to the dimensions underlying the construct psychological sense of community (PSOC). One of the few theoretical discussions is that of McMillan and Chavis (1986), who hypothesized four dimensions: Belonging; Fulfillment of Needs; Influence; and Shared Connections. Discussion has also emerged in the literature regarding the role of identification within PSOC. It has been suggested that differences in PSOC may be understood in terms of the degree to which members identify with their community (Fisher & Sonn, 1999). However, few studies have explored the place of identification in PSOC. In addition, while PSOC has been applied to both communities of interest and geographical communities, little research has looked in depth at PSOC within communities of interest. The current study therefore explored PSOC in science fiction fandom, a community of interest with membership from all over the world, by means of a questionnaire distributed at an international science fiction convention ($N = 359$). In an endeavor to clarify the underlying dimensions of PSOC, the questionnaire included several measures of PSOC, and measures of identification with the community. Results showed that science fiction fandom reported high levels of PSOC. Support emerged for McMillan and Chavis' (1986) four dimensions of PSOC, with the addition of a fifth dimension, that of Conscious Identification. These results, and implications for PSOC research, are discussed.

4.2 Introduction

Much has been written on the idea of community, from many perspectives, resulting in a plethora of definitions and uses of the term. Hillery (1955), in a detailed examination of uses of the term 'community', discovered no less than 94 distinct definitions. The term is highly familiar to the general population and is used frequently in everyday conversation.

Within the psychological framework, a field of psychology has come to be known as community psychology. From this framework of working within communities came the need to define in psychological terms what was meant by 'community'. In 1974, Sarason presented the concept of psychological sense of community (PSOC) as the overarching value by which community psychology itself should be defined. At the same time he recognized the inherent difficulties associated with the empirical study of the concept. He noted that it necessarily implies a value judgment not compatible with hard science and yet he stated "you know when you have it and when you don't" (p. 157). Sarason (1977) noted the basic characteristics of sense of community as "The perception of similarity with others, an acknowledged interdependence with others, a willingness to maintain this interdependence by giving to or doing for others what one expects from them, the feeling that one is part of a larger dependable and stable structure" (p. 157).

Gusfield (1975) distinguished between two major uses of the term community. The first is the territorial or geographical notion of the word. In this sense community refers to a neighborhood, town, city or region, thus sense of community implies a sense of belonging to particular area. The second is a more relational usage, concerned with quality and character of human relations without reference to location. This is the sense we use community when we refer to

communities of interest, for example work settings, hobby clubs or religious groups. Of course, these two uses are not mutually exclusive; many interest groups are also community (location) based. However, as Durkheim (1964) observed, modern society appears to develop community around interest rather than locality. This has been shown to be true particularly in large urban centers, where choice is much broader, population density high and the need for interdependence for survival lessened.

Within the psychological field, the development of scales to measure PSOC have necessarily added to its definition, with the majority of scales developed subjected to factor analysis to examine the underlying factor structure of PSOC. The development and adjustment of such scales has been an ongoing process. Bardo (1976) was one of the earliest to examine community feelings, through an exploration of community satisfaction. He found the construct to have several underlying dimensions: Quality of Interaction, Belongingness, Courtesy, Physical Attraction, Institutional Responsibility, Entertainment, Comparative Housing Quality, Adequacy of Housing and Income, and Status Affect.

Glynn (1981), based on the work of Hillery (1955), identified 202 behaviors relating to sense of community. From these he developed 120 items to examine the construct in terms of both real and ideal communities. Factor analysis revealed six dimensions: Evaluation of Community Structure, Supportive Relationships in the Community, Similarity of Community Members, Individual Involvement in Community, Quality of Community Environment, and Security. Nasar and Julian (1995) revised Glynn's scale to be a more convenient instrument to use, reducing the 60 items examining real communities to 11 items, and showed the shortened scale retained the same dimensions and remained a valid and reliable instrument.

McMillan and Chavis (1986) conducted an in depth review of the literature on PSOC, and found that this work was being conducted in the absence of any overarching theoretical base. They developed the first psychological theory of PSOC, which to date has remained one of the few theoretical discussions of the concept and still the most widely used and accepted one.

They suggest that PSOC consists of four elements: Membership, Influence, Integration and Fulfillment of Needs, and Shared Emotional Connection. Membership refers to the feeling of belonging, of being part of a collective. A major part of membership is boundaries; if you belong to a particular community, this implies there are those who do not. This concept seems to be intuitively a necessary part of any definition of community; to have a sense of community, first you must belong to a community. From the earliest sociological research into communities this notion of membership and boundaries has been present (e.g., Parks & Burgess, 1921). McMillan and Chavis (1986) extend the concept to include emotional safety derived from membership, the sense of belonging and identification with the community of interest, personal investment in the community, leading to stronger bonds, and some kind of common symbol system, which unites a community.

The second dimension is that of Influence, a bi-directional concept, as for a group to be attractive, an individual must feel they have some control and influence over it, while, on the other hand, for a group to be cohesive it must also influence its individual members. McMillan and Chavis (1986) state that pressure of conformity from community members actually comes from the needs of individual members for consensual validation. In turn conformity serves as a force for cohesiveness.

The third dimension, Integration and Fulfillment of Needs, refers to the idea that for a community to maintain a positive sense of togetherness, the individual-

group association must be rewarding for the individual members. Some of the more obvious rewards examined in their paper are status of membership, success of the community, and the perceived competence of other members.

The last dimension is that of Shared Emotional Connection. McMillan and Chavis (1986) suggest that this is in part based on a sense of shared history and identification with the community. The authors suggest that the more people interact, the more likely they are to form close relationships. The more positive this interaction, the stronger the bond developed. Investment in the community determines the importance to individuals of the community's success and current status. Those who give time and effort to community organizations and events will be more concerned about seeing the positive effects of these events than are those who have not been involved.

McMillan and Chavis (1986) state that these aspects of community contribute to create each of the dimensions, which in turn work dynamically together to create and maintain an overall sense of community. Based on this theory, Chavis, Hogge, McMillan and Wandersman (1986), using a Brunswick's lens methodology, developed the twelve item Sense of Community Index (SCI) from the responses of 1200 adults in a Neighborhood Participation Project. The development of the Sense of Community Index set the stage for the widespread use of the theory. This theory and questionnaire are to date the most widely used theoretical base and instrument in PSOC research, especially within community psychology.

McMillan (1996) revisited the theory developed in 1986 in the light of ten years' research into the area. Membership was reinterpreted as Spirit, emphasizing friendship and belonging over boundaries. Influence was replaced with Trust, emphasizing the development of community norms leading to order, and the equal

distribution of power leading to authority based on principle and clear decision making capacity, all of which allow spirit to grow and flourish. Fulfillment of Needs was replaced with Trade, acknowledging the myriad kinds of rewards individuals gain from belonging to communities. The importance of similarity between members was also highlighted as an important bonding force previously neglected in this dimension. The final dimension, Shared Emotional Connection, was replaced with Art, or collective memories, which McMillan (1996) described as stories of shared dramatic moments in which the community shares in common experiences representing the community's values and traditions.

However, the primacy of contact and of quality interaction to emotional connection is again highlighted in McMillan's (1996) reinterpretation. These dimensions work together to create an overall PSOC. Art supports Spirit, Spirit with respected authority becomes Trust, Trust forms the basis of social Trade, and together these elements create a shared history symbolized by Art. In this way, McMillan's four elements of PSOC are linked together in a reinforcing circle.

From a more human ecological perspective, researchers have worked on the concept of communities as a social unit. To what extent and under what conditions they exist has come to be examined under the construct of neighborhood cohesion. For example, Buckner (1988) developed the 18 item Neighborhood Cohesion Index. This measure attempts to combine the individual's sense of community and the overall social cohesion of their community. Buckner conducted an extensive review into the literature on cohesion, both the social psychological literature on small group processes and the sociological tradition examining cohesion within neighborhoods. From this he drew three dimensions of importance to cohesion: Residents' Sense of Community, Residents' Degree of Attraction to being a part of and remaining in the

community, and the degree of Member Interaction. However, in a factor analysis during the development of his scale, he found that only one factor emerged, and hypothesized that the concept of neighborhood cohesion subsumed these individual level dimensions. He concluded that the Neighborhood Cohesion Index could be used to examine these individual level dimensions, and that a mean neighborhood cohesion score could also be derived for whole communities to also indicate the strength of cohesion at the system level. Several researchers (e.g., Robinson & Wilkinson, 1995) have used, commended and presented validating data in several contexts for Buckner's NCI.

Skjaeveland, Garling, and Maeland (1996) aimed to develop a measure of community that extended previous research by introducing the possibility of negative community relations, and by including the traditionally environmental psychological concept of place attachment, which highlights the importance of the sociophysical environment to social interactions and positively experienced bonds (Brown & Perkins, 1992). They operationalized the construct of neighboring as the positive and negative aspects of social interactions, expectations, and attachments of individuals with the people living around them and the place in which they live. They hypothesized six dimensions underlying neighboring: Overt Social Interactions, Weak Social Ties, influenced by physical and spatial features of the environment, Psychological Sense of Community, Sense of Mutual Aid, Neighborhood Attachment, and Neighbor Annoyance. Analysis of their data revealed only four distinct dimensions. As proposed, Weak Social Ties, Neighborhood Attachment and Neighborhood Annoyance emerged as distinct factors. However, Overt Social Acts, Sense of Mutual Aid, and Sense of Community amalgamated into a single factor, labeled Supportive Acts of Neighboring, tapping similar dimensions to Buckner's

(1988) Neighborhood Cohesion Index. The 14 item four-dimensional Multidimensional Measure of Neighboring (MMN) was the result of the study.

While the developments reviewed above have added to our understanding of PSOC, and have seen scales developed for many specific contexts, they have also resulted in methodological confusion and lack of strong theory building in this area. In a recent article on this topic, Chipuer and Pretty (1999) suggest that research into PSOC has consequently become stuck in a construct definition and measurement phase, restricting the comparability of results across settings. It could be argued that the results of much of this research has in fact been an artifact of the specific orientation of the researchers, as factor analytic techniques can only pull out what has been included in the analysis in the first place.

However, many authors feel that as one of the few integrative theories of PSOC, that of McMillan and Chavis (1986) provides the best foundation on which to build our understanding of communities. Several investigators have found support for McMillan and Chavis' hypothesized dimensions. However, such support tends to come from qualitative studies (e.g., Brodsky, 1996; Plas & Lewis, 1996; Sonn & Fisher, 1996) rather than from quantitative factor analytic studies. In a recent exception, Chipuer and Pretty (1999) examined the psychometric properties of the Sense of Community Index in neighborhood and workplace settings and found that the Sense of Community Index tended to factor into dimensions different from those hypothesized by McMillan and Chavis. However, Chipuer and Pretty conclude that the Sense of Community Index provides a good foundation for further PSOC research, and suggest taking a theory driven, integrative approach to PSOC, which should include examining how items from other scales may combine with those from the Sense of Community Index to better represent McMillan and Chavis' four

dimensions. In a recent overview Chavis and Pretty (1999) again suggest that much theoretical insight can be gained be persisting in collaborative scale development.

Chipuer and Pretty (1999), as well as other recent theorists (Chavis & Pretty, 1999; Fisher & Sonn, 1999; Puddifoot, 1995), also suggest that differences in levels of PSOC may be understood in terms of the degree to which members identify with their community, with identification with the community an important aspect of PSOC dimensions such as McMillan and Chavis' Membership. Yet few PSOC studies to date have explored the role of identification or incorporated measures of identification with the community. One exception is Fisher and Sonn (1999), who found suggestive evidence that identification with the community may be an important aspect of PSOC. However, such studies are not grounded in relevant theory relating to identification. Social identity theory (SIT), a well-established theory of group processes and intergroup relations (Abrams & Hogg, 1990; Hogg & Abrams, 1988; Tajfel & Turner, 1979), may provide an appropriate theoretical framework from which to examine the role of identification in PSOC.

According to SIT, when an individual is strongly aware of their group membership and it is of strong value and emotional significance to them, they are said to have strong ingroup identification (Hogg, 1992). Thus ingroup identification has both affective and cognitive consequences. Ingroup identification is strongly associated with, amongst other things, group cohesiveness (Hogg & Hains, 1996) and stronger influence by the group (Terry & Hogg, 1996; Terry, Hogg & White, 1999), both clearly related to McMillan and Chavis' conception of PSOC. Hogg (1992) suggests that while McMillan and Chavis conceptualize PSOC largely in terms of mutually reinforcing interpersonal processes, an important role is given to

identification or belonging to a normatively bounded social entity. However, the social psychology of this idea has not largely been pursued.

One of the few studies that has looked at PSOC and ingroup identification, using geographical communities, incorporated SIT measures of identification as well as more traditional PSOC measures (Smith, Zinkiewicz & Ryall, 1999). Identification emerged as distinct from other PSOC dimensions, and was also a significant predictor of overall PSOC. The present study follows up Smith et al.'s study, using measures and insights derived from SIT in its investigation of identification and PSOC, but here within a community of interest.

One important feature of SIT is that the processes it investigates, including ingroup identification, apply not only to small groups, where all members interact, but also to larger groups and social categories, where it is impossible to interact with or even know all the members of the group (Hogg, 1992). SIT is therefore clearly applicable to both geographical communities and communities of interest, where community is more relational without reference to location (Gusfield, 1975).

Within traditional PSOC research, while considerable work has been done on territorial or geographical communities, less research has looked in depth at PSOC within communities of interest. While some PSOC researchers (e.g., Hill, 1996; Puddifoot, 1995) see the territorial/relational distinction as an essential division and the cause of much conceptual and methodological confusion, others (e.g., McMillan & Chavis, 1986) feel it does not necessarily affect the definition of PSOC, which can be applied equally to both types.

Work that has been done on relational rather than geographical communities has tended to focus on the workplace (Klein & D'Aunno, 1986; Lambert & Hopkins, 1995; Pretty & McCarthy, 1991; Royal & Rossi, 1996). While findings in these

studies have been disparate, they have all shown that PSOC can be applied to such relational communities. However, no PSOC study to date has looked at a community that is even less clearly bounded by geographical limitations (Chipuer & Pretty, 1999; Heller, 1989), despite the fact that the advent of the internet and the new possibility of virtual communities has brought increasing attention to the meaning of community and sense of community (Rheingold, 1991).

The current study focused on a unique kind of community of interest, namely science fiction fandom (SF fandom). This community is of particular interest, as it is a community with membership from all over the world, yet one that is clearly aware of its own identity and history. SF fandom began when Hugo Gernsback launched *Amazing Stories* magazine in the US in April 1926 (Hansen, 1994). In the June 1926 issue Hugo Gernsback, its editor, noted that many of those buying the magazine had little or no chance of contacting each other and so, when printing their letters to the magazine in its 'Discussions' column, started giving their full names and addresses. This led to correspondences springing up between readers, the beginnings of a sense of community, and eventually, to the formation of the first fan groups. From that time SF fandom grew into the extensive network it is today, a community described in a number of cultural studies texts including Bacon-Smith (2000).

Fans get together at events ranging from local gatherings and conventions through to the huge world SF conventions, where thousands of fans from all over the world gather for events, panels and discussions. However, fannish interaction is not restricted to face-to-face contact. Although SF fandom was in existence well before the advent of the internet, the internet has become its major communication channel. Thus daily interaction with other members can occur from the comfort of home, even

if those members live on another continent. Such online communities bring a whole new meaning and application to the word 'community'.

The present study is the first of a series based on a research project designed to develop and clarify the theoretical underpinnings of the concept of PSOC. The project attempts to extend research into PSOC in a number of ways. Firstly, by using many of the measures and perspectives highlighted in the PSOC literature, it endeavored to clarify the dimensions underlying PSOC, and in particular to investigate how these dimensions related to those hypothesized by McMillan and Chavis (1986). It attempted to sample the broad array of work that has been conducted in the conceptual domain of PSOC by including measures developed by many researchers in the area. In this way, rather than revising or adding dimensions, as many past authors have done, the project sought to bring much of this past work together in a cohesive manner. In addition, the project provided an initial examination of the role of identification within PSOC. Finally, the project examined PSOC in both geographical communities and a non-geographically based community of interest.

Thus, a series of articles have been generated, of which this article is the first. The present article examines the underlying dimensions of PSOC in an international community of interest, science fiction fandom. In this study, several existing measures of PSOC were utilized: the Sense of Community Index (Chavis et al., 1986); the Psychological Sense of Community Scale (Glynn, 1981; short form: Nasar & Julian, 1995); the Neighborhood Cohesion Instrument (Buckner, 1988); the, Community Satisfaction Scale (Bardo & Bardo, 1983); the Multidimensional Measure of Neighboring (Skjaeveland et al., 1996); and the Urban Identity Scale (Lalli, 1992). Measures of identification taken from a SIT framework were also

utilized, to examine the role of identification in PSOC. Whether community members primarily interacted with each other face-to-face/on the phone or through various text based media (internet, letters, fanzines), and how this related to PSOC, was also explored.

The second article in this series also examines PSOC of members of SF fandom, but extends on the first study in two ways. First, the structure of PSOC with participants' community of interest is compared with that of PSOC with their geographical communities. This study uses only the Sense of Community Index and identification measures. The second article assesses the contributions of the PSOC dimensions in generating and maintaining sense of community, the consistency of these dimensions, and the use of these dimensions across the two community types.

The third and final article in the series reports a large scale study using multiple measures of PSOC (as in the current article), conducted in rural, regional and urban geographical communities, and examines whether the dimensions found in the present study are confirmed in such a geographical sample. Also, the third study examines the influence of demographic factors on PSOC dimensions, and their interrelationship in developing overall PSOC.

4.3 Method

4.3.1Participants

Participants were 359 members of SF fandom attending Aussiecon 3, the 1999 World Science Fiction Convention, held in Melbourne, Australia during September 1999. Ages of participants ranged from 18 to 79 years, with a mean age of 39.5 years (*SD* = 10.8 years). Of those that specified their gender, 186 (52%) were male and 173 (48%) female. Length of membership in fandom ranged from 1 year to

65 years, with a mean membership length of 15.7 years (*SD* = 10.4 years). Of the sample, 45% were American, 37% Australian, 5% British, 5% Canadian, 3% New Zealand, 2% Japanese and 3% from other countries (e.g., Singapore, Hong Kong, Germany). The sample was representative of convention attendees in terms of gender (54% male and 46% female) and nationality (50% American, 34% Australian, 5% British, 3% Canadian, 3% New Zealand, 2% Japanese, and 3% other).

In terms of occupation, 56% were professionals, 13% employed in clerical/sales/service occupations, 10% in management/administration, 8% as students, and 3% in each of the categories trades, retired, unemployed, and primary career. In relation to education, 27% held postgraduate degrees, 46% undergraduate degrees, 13% trades or vocational diplomas, and 13% high school certificates. In relation to income, 6% stated they had an insufficient income, 60% a sufficient income, and 34% a more than sufficient income.

4.3.2 Materials

Research materials consisted of a questionnaire containing the following measures. Twelve items assessed basic demographics: gender, age, nationality, ethnicity, marital status, financial status, education, length of membership in fandom, and major form of contact with fandom. Fifty-nine items assessed dimensions of PSOC. These were based on a combination of the following measures: the Sense of Community Index (Chavis et al., 1986); the Psychological Sense of Community Scale (Glynn, 1981; short form: Nasar & Julian, 1995); the Neighborhood Cohesion Instrument (Buckner, 1988); the Community Satisfaction Scale (Bardo & Bardo, 1983); the Urban Identity Scale (Lalli, 1992); and the Multidimensional Measure of Neighboring (Skjaeveland et al., 1996). These scales were included to assess a wide range of hypothesized dimensions of PSOC, as for the community being examined it

was unclear which dimensions would emerge as being important. In cases where scales had similar items, the item was included only once.

Twenty-two items to assess levels of identification with the SF community were also included. These items were taken from the Three Dimensional Strength of Group Identification Scale (Cameron, 1999, 2004) and the Strength of Ingroup Identification Scale (SIIS) (Brown, Condor, Mathews, Wade & Williams, 1986). The SIIS has been widely used in SIT research, and has been shown to be a reliable and valid measure of ingroup identification. Cameron's (2004) scale has only recently been developed, and was included because it taps into different aspects of identification: affective aspects (Ingroup Affect subscale), consciousness of group membership (Centrality subscale), and sense of connection with other ingroup members (Ingroup Ties subscale).

Two questions assessing self reported overall feelings of sense of community were also included (e.g., "In general, I feel that SF fandom has a strong sense of community"). These were included to assess feelings of global sense of community. Such measures have been used in previous research (e.g., Wilson & Baldassare, 1996). All items were responded to on a Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). All items were modified to suit SF fans. All scales contained a number of negatively worded items, which were reverse scored before analysis.

4.3.3 Procedure

After development the questionnaire was piloted on SF fans from Australia, Canada, USA and the UK. The final, revised, questionnaire and associated consent form were included in the information packs given to all convention delegates when they registered. In this manner all 1200 convention attendees were given the

opportunity to participate in the research. The researcher staffed a research information table at the convention site, in order to answer any questions regarding the research. Additional copies of the questionnaire were available at this table. The consent form detailed the nature of the study and required participants to transfer a number from the questionnaire to the consent form to show active consent was given. Participants placed their completed questionnaire in one of two sealed boxes (similar to those used at polling stations) placed at the study information table and near the convention registration desk. In total, 359 of the 1245 members attending the convention returned completed questionnaires, representing an approximately 30% response rate.

4.4 Results

4.4.1Overall Sense of Community

To assess the overall sense of community with SF fandom the two questions tapping this concept were combined. The mean score was 5.79 (*SD* = 1.18), where a score of 1 indicated the weakest possible sense of community, and 7 the strongest. This mean suggests that there was a high level of sense of community within SF fandom.

4.4.2 Dimensions of Sense of Community in SF Fandom

All 81 items measuring PSOC and identification with SF fandom were entered into a principal components analysis. Inspection of communalities and correlation matrices indicated that the data were suitable for this analysis. This was confirmed by a KMO sampling adequacy of .94. Inspection of eigenvalues and the scree plot revealed that a five factor solution was the most adequate and

parsimonious factor structure (See Appendix for details of factors, the source of items and their loadings).

The five factor solution accounted for 55.6% of the variance in the data and was based on factors with eigenvalues greater than 2.5. The solution was subjected to a orthogonal varimax rotation as none of the correlations between factors were greater than .4. Twenty-nine items loaded above .40 on the first factor, which accounted for the majority of variance (28.2%). Items dealt with being attached to, a part of, or belonging to SF fandom (e.g., “I feel like I belong in SF fandom”, “I feel at home and comfortable in SF fandom”, “SF fandom is a good thing to be a part of”). Some ingroup identification items tapping the concept of belonging also loaded on this factor (e.g., “I really fit in SF fandom”, “I feel a part of SF fandom”). This factor was thus labeled Belonging.

Fourteen items loaded above .40 on the second factor, which accounted for a further 8.1% of the variance in the data. Items loading on this factor were those relating to similarity of members (e.g., “I have a lot in common with other members of SF fandom”, “Most members of SF fandom agree about what is important in life”) and the ability to work together and get things done (e.g., “If there was a problem, fandom members could get together and solve it”). Two items stating that fandom was better than other groups also loaded on this factor. This factor was labeled Cooperative Behavior and Shared Values.

Twenty-one items loaded above .40 on Factor 3, which accounted for 7.3% of the variance in the data. Items loading on this factor were to do with emotional support and friendship (e.g., “If I need a little company, I can contact a fellow fan”, “My friends in fandom are part of my everyday activities”). This factor was labeled Friendship and Support.

Five items loaded above .40 on Factor 4, which accounted for 6.4% of the variance in the data. Items loading on this factor appeared to deal with conscious identification with fandom (e.g., “I often think about being a part of SF fandom”, “I am conscious of the fact that I am a member of SF fandom”). This factor was labeled Conscious Identification.

Seven items loaded on the fifth factor, which accounted for 5.6% of the variance in the data. These items related to influence over the organization and leadership (e.g., “Fan leaders don’t hear the voices of ordinary fans”, “I have almost no influence over what SF is like”). The direction of loadings on this factor suggest that the factor actually tapped disaffection with leadership and lack of influence. This factor was labeled Leadership and Influence. Five items did not load above .40 on any factor. See Appendix A for details of items loading on each factor, and the scales from which items were taken.

The items loading on each factor were then subject to reliability analysis using Cronbach’s alpha. As can be seen from Table 4.1, the alpha values for each factor were from moderate to high. Thus, new composite variables were made for each factor by taking the mean of all items loading on that factor. Mean scores are shown on Table 4.1.

4.4.3 Contact with Fandom

In relation to primary form of contact with other fans, over a third (34%) of participants reported making contact with other SF fans mainly at local gatherings, 18% made most frequent contact at conventions, and 14% had most contact through personal get-togethers and phone calls. A large proportion used text based forms of communication, with 26% of the sample making most frequent contact through the internet, while 8% made most contact through magazines and mail. Interestingly no

differences in levels of PSOC emerged between fans whose major contact with other fans was face-to-face and those whose contact was text based.

Table 4.1

Reliability Analyses and Scale Means for Factors

Factor	*n* items	α	Mean	*SD*
Belonging	29	.85	5.43	0.84
Cooperative Behavior	14	.85	4.77	0.87
Friendship and Support	21	.75	5.12	1.06
Conscious Identification	5	.76	4.24	1.19
Leadership and Influence	7	.69	3.68	0.93

Note. Mean scores range from 1 (low levels of variable) to 7 (high levels of variable).

4.5 Discussion

The results of this study show that members of SF fandom felt high levels of PSOC. This is an important finding, suggesting that PSOC can be a strong facet of communities of interest. This may be due to the fact that members choose to belong to such communities and are drawn together for a common interest. In the present study this finding is of particular significance, as SF fandom operates on an international basis with fewer geographical connections than other relational communities. In fact, over a quarter of the sample in this study report interacting with other fans primarily over the internet rather than face-to-face. Furthermore, the fact that no significant differences emerged in the PSOC of those whose major contact was text based rather than face-to-face suggests that regular face-to-face contact is not essential to the development and maintenance of PSOC. Thus, strong

PSOC can exist in the absence of geographical proximity, even in the absence of regular face-to-face contact.

In examining the dimensions that underlie PSOC in SF fandom, the factors that emerged in the factor analysis support those theorized by McMillan and Chavis (1986), with the addition of a Conscious Identification dimension. The first factor, labeled Belonging, tapped items dealing with being attached to, a part of, or belonging to SF fandom. Some ingroup identification items also loaded on this factor. This factor fits with McMillan and Chavis' (1986) dimension of Membership and McMillan's (1996) more recent concept of Spirit, the underlying sense of belonging and identification with the community.

Items loading on the second factor were those relating to similarity of members and the ability to work together. This factor was labeled Cooperative Behavior. This factor fits with McMillan and Chavis' notion of Fulfillment of Needs, which taps the idea that PSOC allows individuals to get their needs met through cooperative behavior within the community, thereby reinforcing individuals' appropriate community behavior. It also reinforces the importance of similarity to this dimension, which McMillan (1996) includes in his newer notion of Trade.

Factor 3 was labeled Friendship and Support. It tapped items to do with emotional support and friendship. This factor fits with McMillan and Chavis' notion of Shared Emotional Connection, again highlighting the importance of contact, seen also in McMillan's (1986) updated dimension Art. Finally, the factor labeled Leadership and Influence, tapping items related to influence over the organization and leadership, is similar to McMillan and Chavis' notion of Influence. This is the idea of needing a reciprocal relationship between individuals and the community in terms of their impact on one another.

However, in these data another factor emerged beyond the four theorized by McMillan and Chavis. Items loading on this factor appeared to deal with conscious identification and awareness of fellow members. This factor was thus labeled Conscious Identification. While many identification items were subsumed within Belonging, it would appear that this very conscious awareness of membership is a separate dimension.

These findings are consistent with those of Smith et al. (1999), who found that identification emerged as a separate dimension to PSOC in their examination of geographical communities. This is also consistent with Cameron (2004), who found that ingroup identification consisted of three dimensions: Ingroup Ties, the sense of connection with other group members; Ingroup Affect, the affective component of identification, the feeling of fitting in; and Centrality or Awareness of Group Membership, the extent to which group membership contributes to self-definition. Interestingly, the items from Cameron's scale measuring Ingroup Ties fell mainly into the factors of Friendship and Support, and Belonging, while the items measuring Ingroup Affect fell into the Belonging factor. The items from Cameron's scale which measured Centrality were those that formed the basis of the factor Conscious Identification. These results suggest that separate aspects of identification may relate to different dimensions of PSOC. While identification's more affective components and connection with other members are subsumed within McMillan and Chavis' theorized dimensions of PSOC, knowledge and awareness of group membership is a separate and important dimension of PSOC.

The findings of this study have important implications for future PSOC research. Firstly, they suggest that identification measures, taken from the social identity perspective, are useful in expanding our understanding of the role of

identification in PSOC, by allowing an in depth examination of the different aspects of identification. However, more importantly, they indicate that identification does play an important role in PSOC, and that the centrality aspect of identification is not subsumed within McMillan and Chavis' (1986) existing PSOC dimensions. More investigation is needed within PSOC research into the importance and role of identification with the community.

Although this study did not serve as a direct test of the Sense of Community Index, in that many other measures of PSOC were also included in the questionnaire, the results of the current study are encouraging in terms of theory building. McMillan and Chavis (1986) have provided one of the few theoretical bases from which to understand the dimensions underlying PSOC. This study provides empirical support for McMillan and Chavis' theorized dimensions, in a relational community that operates internationally. In this light it shows that their theory is applicable to many kinds of communities, beyond the ones in which it was developed. The findings contrast with those obtained in previous studies using only the SCI, which have failed to show clear support for their dimensions (Chipuer & Pretty, 1999), and suggest that while the theory is applicable to many kinds of communities, the Sense of Community Index itself may still need some expansion and development.

In conclusion, this study has found some quantitative evidence for McMillan and Chavis' theorized dimensions of PSOC. However, it also suggests that the role of identification needs clarification within that theoretical framework. Future research in this area could benefit by using an integrative framework, including measures and understanding of identification developed through SIT research, only touched on in the current study.

In terms of its wider societal implications, this study also provides some positive outlook. While much current rhetoric points to the danger of the internet in destroying community and promoting social isolation, the present results suggest that community and a strong sense of community can exist among those interacting within cyberspace. This may have an important impact in reducing the social isolation of those who currently find themselves isolated due to living in remote areas or to physical disabilities. Perhaps rather than technology breaking down communities, communities themselves are evolving in meaning and spirit, in line with technological and societal trends.

4.6 Appendix: Factor Loadings for Each Item Measuring Fandom PSOC

Factor 1: Belonging

Item	Scale	Loading
I plan to remain a member of SF fandom for a number of years.	UIS NCI SCI	.85
In general I'm glad to be a member of SF fandom.	CIA SGIS	.84
Given the opportunity I would like to leave SF fandom.	NCI	.83
I think SF fandom is a good thing for me to be a part of.	SCI	.82
I see myself as belonging to SF fandom.	UIS SGIS	.80
Generally I feel good when I think about being a member of SF fandom.	CIA	.74
SF fandom plays a part in my everyday life.	UIS CC	.74
SF fandom is a good thing to belong to.	CSS	.69
It is important to me to be a part of SF fandom.	SCI	.67
SF fandom is a part of me.	UIS	.66
I feel at home and comfortable in SF fandom.	UIS MMN SCI	.64
I feel strongly attached to SF fandom.	MMN	.62
I feel like I belong in SF fandom.	NCI	.61
Overall I am very attracted to being a part of SF fandom.	NCI	.60
I often regret that I am a member of SF fandom.	CIA	-.59
I would rather belong to a different group.	SGIS	-.58
SF fandom plays a part in my future plans.	UIS	.58
I have strong feelings for SF fandom.	UIS	.56
I don't care if SF fandom does well.	PSCS	-.55

SF fandom is dull.	CSS	-.54
I don't feel comfortable in SF fandom.	MMN	.53
I make excuses for belonging to SF fandom.	SGIS	-.52
There is not enough going on in SF fandom to keep me interested.	CSS	-.50
I really fit in SF fandom.	CIT	.49
I feel loyal to people in SF fandom.	NCI	.48
Thinking about being a member of SF fandom sometimes makes me annoyed.	CIA SGIS	-.46
I can recognize most people who are members of SF fandom.	SCI	.45
I consider SF fandom to be important.	SGIS	.41
I am looking forward to seeing future developments in SF fandom.	UIS	.41

Note. SGIS = Strength of Group Identification Scale (Brown et al., 1986). CIA = Ingroup Affect Subscale (Cameron, 2004). CIT = Ingroup Ties Subscale (Cameron, 2004). CC = Centrality Subscale (Cameron, 2004). SCI = Sense of Community Index (Chavis et al., 1986). PSCS = Psychological Sense of Community Scale (Glynn, 1981). NCI = Neighborhood Cohesion Instrument (Buckner, 1988). MMN = Multidimensional Measure of Neighboring (Skjaeveland et al., 1996). CSS = Community Satisfaction Scale (Bardo & Bardo, 1983). UIS = Urban Identity Scale (Lalli, 1992).

Factor 2: Cooperative Behavior and Shared Values

Item	Scale	Loading
I would be willing to work together with others to improve SF fandom.	NCI	.82
I feel good when my fellow fans do good things.	PSCS	.81
If there is a problem in SF fandom fans can get it solved.	SCI PSCS	.76
People know that they can get help from others in SF fandom if in trouble.	PSCS	.68
I think I agree with most people in SF fandom about what is important in life.	NCI	.65
If members of SF fandom were planning something, I'd think of it as something *we're* doing rather than something *they're* doing.	NCI	.64
Members of SF fandom get along well.	SCI	.55
I am quite similar to most members of SF fandom.	NCI PSCS	.53
I have a lot in common with other members of SF fandom.	CIT	.49
SF fandom is well maintained by its members.	CSS	.45
As compared to other groups SF fandom has many advantages.	UIS	.44
SF fandom is better than any other group I've been a member of before.	CSS	.43
Other fans and I want the same things from SF fandom.	SCI	.42
People in SF fandom do not share the same values.	SCI	.41

Note. CIT = Ingroup Ties Subscale (Cameron, 2004). SCI = Sense of Community Index (Chavis et al., 1986). PSCS = Psychological Sense of Community Scale (Glynn, 1981). NCI = Neighborhood Cohesion Instrument (Buckner, 1988). CSS = Community Satisfaction Scale (Bardo & Bardo, 1983). UIS = Urban Identity Scale (Lalli, 1992). SGIS = Strength of Group Identification Scale (Brown et al., 1986). MMN = Multidimensional Measure of Neighboring (Skjaeveland et al., 1996).

Factor 3: Friendship and Support

Item	Scale	Loading
I rarely contact individual members of SF fandom.	NCI	-.83
I have no friends in SF fandom on whom I can depend.	PSCS	-.82
If I need a little company, I can contact a fandom member I know.	MMN	.78
I often help my fellow fans with small things, or they help me.	MMN	.75
If I have a personal problem, there is no one in SF fandom I can turn to.	MMN PSCS	-.74
I contact fellow fans often.	NCI	.71
My friends in SF fandom are part of my everyday activities.	PSCS	.66
I exchange favors with fellow members of SF fandom.	MMN NCI	.65
If I feel like talking I can generally find some fan to chat to.	PSCS	.65
If I need advice about something I could ask someone in SF fandom.	NCI	.57
The friendships I have with other people in SF fandom mean a lot to me.	NCI	.52
I care about what other fans think about my actions.	SCI	.52
I find it difficult to form a bond with other members of SF fandom.	CIT	-.50
A feeling of fellowship runs deep between me and other people in SF fandom.	NCI	.48
Very few members of SF fandom know me.	SCI	-.46
I don't feel a sense of being connected with other SF fans.	CIT	-.45
I feel a strong sense of ties to other members of SF fandom.	CIT SGIS	.43
I have made new friends by joining SF fandom.	MMN	.42
SF fandom is very familiar to me.	UIS	.41
I chat with my fellow fans when I can.	MMN	.41
If I had an emergency, even people I don't know in SF fandom would help.	NCI PSCS	.40

Factor 4: Conscious Identification

Item	Scale	Loading
I often think about being a member of SF fandom.	CC	.71
I am not usually conscious of the fact that I am a member of SF fandom.	CC	-.69
Being a member of SF fandom is an important part of my self image.	CC	.61
Being a member of SF fandom has little to do with how I feel about myself in general.	CC	.53
The fact that I am a member of SF fandom rarely enters my mind.	CC	.50

Note. CC = Centrality Subscale (Cameron, 2004).

Factor 5: Disaffection with Leadership and Influence

Item	Scale	Loading
I have almost no influence over what SF fandom is like.	SCI	.70
People in SF fandom give you a bad name if you insist on being different.	CSS	.65
Fan leaders run fandom to suit themselves.	CSS	.61
Leaders of fandom don't hear the voice of ordinary fans.	CSS	.59
No one seems to care how SF fandom is going.	CSS	.53
SF fan leaders care about what happens in SF fandom.	CSS	-.49
The leaders get very little done in SF fandom.	CSS	.47

Note. SCI = Sense of Community Index (Chavis et al., 1986). CSS = Community Satisfaction Scale (Bardo & Bardo, 1983).

Items Not Loading on a Factor

Item	Scale
Few people in SF fandom make a decent income.	CSS
I am often irritated with some of my fellow fans.	MMN
Lots of things in SF fandom remind me of my past.	UIS
SF fandom is seen as having prestige.	UIS
SF fandom lacks real leaders.	CSS

Note. MMN = Multidimensional Measure of Neighboring (Skjaeveland et al., 1996). CSS = Community Satisfaction Scale (Bardo & Bardo, 1983). UIS = Urban Identity Scale (Lalli, 1992).

Chapter Five: Comparing Neighborhood and Interest Group Sense of Community

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Taken from Obst, P. Zinkiewicz, L., & Smith, S. (2002). Sense of Community in Science Fiction Fandom, Part Two: Comparing Neighborhood and Interest Group Sense of Community, *Journal of Community Psychology, 30 (1),* 105-117.

5.1 Abstract

There is much debate in community psychology literature as to the dimensions underlying the construct psychological sense of community (PSOC). One of the few theoretical discussions is that of McMillan and Chavis (1986), who hypothesized four dimensions: Belonging; Fulfillment of Needs; Influence; and Shared Emotional Connection. Debate has also emerged regarding the role of identification within PSOC. However, few studies have explored the place of identification in PSOC. In addition, while PSOC has been applied to both communities of interest and geographical communities, to date little research has compared a single group's PSOC with a community of interest to their PSOC with their geographical communities. The current study explored PSOC with participants' interest and geographical communities in a sample (N = 359) of members of science fiction fandom, a community of interest with membership from all over the world. Support emerged for McMillan and Chavis' (1986) four dimensions of PSOC, both within participants' PSOC with their geographical communities and with their community of interest, with the addition of a fifth dimension, that of Conscious Identification. All dimensions emerged as significant predictors of overall sense of community in both community types. Participants reported higher levels of global PSOC with fandom than with their geographical communities, a pattern that also emerged across all factors separately. These results, and implications for PSOC research, are discussed.

5.2 Introduction

In 1977, Seymour Sarason presented the concept of psychological sense of community as the overarching value by which community psychology should be defined. From that point community psychologists began to work on empirically defining and measuring the construct.

In defining sense of community it is important to understand what is meant by community itself. Gusfield (1975) distinguished between two major uses of the term community. The first is the territorial or geographical notion of the word. In this sense community refers to a neighborhood, town, city or region, thus sense of community implies a sense of belonging to a particular area. The second is a more relational usage, concerned with the character of human relations without reference to location. This is the sense we use community when we refer to communities of interest such as work settings, hobby clubs or religious communities. While some (e.g., Puddifoot, 1985) see the territorial/relational distinction as an essential division and the cause of much conceptual and methodological confusion, others (e.g., McMillan & Chavis, 1986) feel it does not necessarily affect the definition of PSOC, which can be applied equally well to both types of community. In fact, the essence of PSOC, and the dimensions that underlie the construct, may be the same for both community types.

Within traditional PSOC research, while considerable work has been done on territorial or geographical communities, less research has looked in depth at PSOC within communities of interest. Most of the work that has been done on relational rather than geographical communities has tended to focus on the workplace (Pretty & McCarthy, 1991; Royal & Rossi, 1996), though a study by Pretty, Andrewes and Collett (1994) explored adolescents' PSOC with both their neighborhoods and their

school. Such studies have shown that PSOC can be applied to such relational communities.

In studying PSOC, researchers (e.g., Buckner, 1988; Doolittle & MacDonald, 1978; Glynn, 1981; McMillan & Chavis, 1986; Skjaeveland, Garling, & Maeland, 1996) have theorized about and debated the dimensions that underlie this construct. This ongoing debate has led to the development of several different scales, each measuring distinct hypothesized dimensions of PSOC. Such scales include Bardo and Bardo's (1983) Community Satisfaction Scale, Glynn's (1981) Sense of Community Scale, Buckner's (1988) Neighborhood Cohesion Index; and, more recently, Skjaeveland et al.'s (1996) Multidimensional Measure of Neighboring. While such developments have added to our understanding of PSOC, and have seen scales developed for many specific contexts, they have also resulted in methodological confusion and lack of strong theory building in this area, restricting the comparability of results across settings (Chipuer & Pretty, 1999; see Obst, Zinkiewicz & Smith, 2002a, for a comprehensive review of PSOC literature).

One of the few integrative theories of PSOC that has emerged is that of McMillan and Chavis (1986), revised by McMillan (1996), which may provide the best foundation on which to build our understanding of communities. According to McMillan and Chavis, PSOC consists of four elements: Membership, Influence, Integration and Fulfillment of Needs, and Shared Emotional Connection. Membership refers to the feeling of belonging, of being part of a collective, and identification with the community. In relation to Influence, for a group to be both cohesive and attractive it must influence its individual members whilst allowing them to feel they have some control and influence over it. The third dimension, Integration and Fulfillment of Needs, refers to the idea that for a community to maintain a

positive sense of togetherness, the individual-group association must be rewarding for the individual members. In relation to Shared Emotional Connection, McMillan and Chavis suggest that the more people interact, the stronger the bonds between them, and that these bonds then develop into a community spirit. They argue that these sub-elements work together to create the dimensions, which in turn work dynamically together to create and maintain an overall sense of community. Based on this theory, Chavis, Hogge, McMillan and Wandersman (1986) developed the twelve item Sense of Community Index (SCI).

Several investigators have found support for McMillan and Chavis' hypothesized dimensions. Such support has tended to come from qualitative studies (e.g., Brodsky, 1996; Plas & Lewis, 1996; Sonn & Fisher, 1996) rather than from quantitative factor analytic studies. However, Obst et al. (2002a), who examined PSOC in science fiction fandom, an international community of interest, and used number of different measures of PSOC and not just the SCI, did find quantitative support for McMillan and Chavis' dimensions.

Recent theorists (Fisher & Sonn, 1999; Puddifoot, 1995) have also suggested that differences in levels of PSOC may be understood in terms of the degree to which members identify with their community. Identification with the community is obviously an important aspect of PSOC dimensions such as McMillan and Chavis' (1986) idea of Membership. Obst et al. (2002a) explored the role of identification within PSOC using social identity theory (SIT), a well-established theory of group processes and intergroup relations (Abrams & Hogg, 1990; Tajfel & Turner, 1979; see Obst et al., 2000 for a fuller explanation of SIT).

Recent studies have shown the utility of using a SIT framework to understand the relationship of identification to PSOC. Smith, Zinkiewicz and Ryall (1999)

examined PSOC and ingroup identification with one's neighborhood, incorporating SIT measures of identification as well as traditional PSOC measures. Conscious Identification emerged as distinct from other PSOC dimensions, and was also a significant predictor of overall sense of community. Obst et al. (2002a), who also utilized SIT-derived identification measures, similarly reported that identification emerged as a separate dimension of PSOC with science fiction (SF) fandom.

The current study continued the exploration of PSOC in the latter unique relational community. Science fiction fandom is a community of interest with membership from all over the world, yet clearly aware of its own identity and history (see Obst et al., 2002a, for a brief history of SF fandom).

In light of the debate in the literature as to the dimensions underlying PSOC and their applicability to both interest and geographical communities, the present study aimed to examine the factor structure underlying PSOC in terms of its consistency across both types of communities. Furthermore, on the basis of recent evidence and theorizing that identification has a separate role to play in PSOC, this study examined the role of identification in the dimensions of PSOC by including SIT-derived measures of ingroup identification with participants' geographical and interest communities. Lastly, the present study aimed to compare the contribution of dimensions of PSOC to SF fans' PSOC with SF fandom, their community of interest, and their PSOC with the geographical communities in which they live.

Based on past work that has found support for McMillan and Chavis' theory of PSOC, it was hypothesized that evidence would be found for the four dimensions of Membership, Influence, Fulfillment of Needs and Shared Emotional Connection put forward in their theory. It was also expected that this support would found in both the geographical community and the community of interest.

On the basis of recent studies which have found identification to be distinct from the McMillan and Chavis dimensions (Obst et al., 2002a; Smith et al., 1999), it was also hypothesized that identification would emerge as a separate dimension in its own right in both the geographical community and the community of interest.

In light of discussion suggesting that in modern society communities of interest are becoming stronger than geographical communities, it was hypothesized that participants would report stronger PSOC with fandom, their community of interest, than with their geographical community.

Finally it was hypothesized that all dimensions, including identification, would emerge as significant predictors of overall psychological sense of community in both types of community. However, no predictions were made regarding the strength of individual predictors of PSOC.

5.3 Method

5.3.1 Participants

Participants were 359 members of SF fandom attending Aussiecon 3, the 1999 World Science Fiction Convention. Ages of participants ranged from 18 to 79 years, with a mean age of 39.5 years (*SD* = 10.8 years). Of those, 186 (52%) were male and 173 (48%) female. For more information on the participants see Obst et al. (2002a, Presented in Chapter Four).

5.3.2 Materials

Research materials consisted of a questionnaire measuring basic demographics, PSOC with SF fandom and with the participants' neighborhood, ingroup identification with SF fandom and with the neighborhood, and other scales not utilized in the present study (see Obst et al., 2002a, for details of these scales).

Twelve items assessed gender, age, nationality, ethnicity, marital status, financial status, education, length of membership in fandom, and major form of contact with fandom. The next twelve items assessed the PSOC of participants towards SF fandom, based on the Sense of Community Index (Chavis et al., 1986) modified to refer to fandom. Fourteen items to assess levels of identification with the SF community were taken from the Three Dimensional Strength of Group Identification Scale (Cameron, 1999, 2004), which were again modified to refer to fandom. Cameron's scale has only recently been developed, and was included because it contains three subscales tapping into different dimensions of ingroup identification: affective aspects (Ingroup Affect subscale), consciousness of group membership (Centrality subscale), and sense of connection with other ingroup members (Ingroup Ties subscale).

Two questions assessing self reported global feelings of PSOC with fandom were also included (e.g., "In general, I feel that SF fandom has a strong sense of community"). Such global measures have been used in previous research (e.g., Wilson & Baldassare, 1996).

To assess participants' PSOC and identification with their geographical communities, the 12 item Sense of Community Index (Chavis et al., 1986) and the 14 item Three Dimensional Strength of Group Identification Scale (Cameron, 1999, 2004) were again used, adjusted for neighborhoods. The two global measures were also included, but with reference to geographical rather than interest community (e.g., "The neighborhood I live in has a strong sense of community").

All items were responded to on Likert scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), and all scales contained a number of negatively worded items, which were reverse scored before analysis.

5.3.3 Procedure

See Obst et al. (2002a, presented in Chapter Four) for a detailed description of the procedure. The questionnaire and associated consent form were included in the information packs given to all convention delegates when they registered. In this manner, all 1200 convention attendees were given the opportunity to participate in the research. Participants placed their completed questionnaire in one of two sealed boxes (similar to those used at polling stations) placed at the study information table and near the convention registration desk. In total, 359 of the 1245 members attending the convention returned completed questionnaires, representing an approximately 30% response rate.

5.4 Results

5.4.1 Dimensions of Sense of Community

The 25 items measuring PSOC and identification with SF fandom were entered into a principal components analysis. Inspection of communalities and correlation matrices indicated that the data were suitable for this analysis. This was confirmed by a KMO sampling adequacy of .92 and a significant Bartlett's test of sphericity. Five factors with eigenvalues above 1 emerged, accounting for 51.3% of the total item variance. The solution was subjected to an orthogonal varimax rotation as none of the correlations between factors were greater than .4.

The 25 items measuring PSOC and identification with the neighborhood in which participants lived were then entered into another principal components analysis. Inspection of communalities and correlation matrices again indicated that the data were suitable for analysis, confirmed by a KMO sampling adequacy of .93 and a significant Bartlett's test of sphericity. Again five factors with eigenvalues

above 1 emerged, accounting for 55.2% of the total item variance. This solution too was subjected to orthogonal varimax rotation, as no factor intercorrelation was greater than .4.

Items loading on the five factors were consistent for both fandom and geographical communities, except for the item "People who live in my neighborhood/belong to fandom get along well". This item loaded on Factor 1 in the geographical community analysis and Factor 4 in the fandom analysis. This item was therefore not included in the calculation of scales based on these factors nor in any further analysis.

A summary of both factor solutions is shown in Table 5.1. In the fandom analysis, seven items loaded above .40 on the first factor, which accounted for 19.9% of the variance in the data, while in the geographical community analysis eight items loaded above .40 on the first factor, accounting for 17.2% of the variance. Items that dealt with being attached to or belonging to the neighborhood/SF fandom loaded on this factor (e.g., "I feel at home in this neighborhood/SF fandom", "I think my neighborhood/SF fandom is good to belong to/a good place for me to live"). Some identification items from Cameron's (1998, 2004) Ingroup Affect subscale also loaded on this factor (e.g., "I often regret living in my neighborhood/belonging to fandom", "In general I feel good when I think about living in this neighborhood/being a part of SF fandom"). This factor was thus labeled Belonging.

Table 5.1

Item Loadings for Neighborhood and SF Fandom on Belonging Factor

Item	Scale	NH Loading	Fandom Loading
I think my neighborhood/SF fandom is a good place for me to live/to belong to.	SCI	.82	.74
I feel at home in my neighborhood/SF fandom.	SCI	.78	.78
I don't feel good when I think about living in my neighborhood/being a part of SF fandom.	CIA	-.76	-.65
In general I'm glad to live in my neighborhood/be a part of SF fandom.	CIA	.70	.67
In general I feel good when I think about living in this neighborhood/being a part of SF fandom.	CIA	.69	.59
I often regret that I live in this neighborhood/belonging to SF fandom.	CIA	-.66	-.55
I expect to live in this neighborhood/be a part of SF fandom for a long time.	SCI	.63	.73
People who live in my neighborhood/belong to fandom get along well.	SCI	.50	Loads Factor 4

Note. This factor is Factor 1 for both neighborhood and fandom communities.

NH = based on neighborhood data. SCI = Sense of Community Index (Chavis et al., 1986). CIA = Ingroup Affect Subscale (Cameron, 2004).

In the fandom data, five items loaded above .40 on Factor 2, which accounted for 14.2% of the variance. In the geographical community data, this factor emerged as Factor 3, accounting for 11.7% of the variance. Table 5.2 shows the items and factor loading for both analyses. Items loading on this factor were those from Cameron's (1998, 2004) Centrality subscale dealing with conscious identification

with their communities (e.g., “I often think about the fact that I am a part of my neighborhood/SF fandom”, “I am not usually conscious of the fact that I am a part of my neighborhood/SF fandom”). This factor was labeled Conscious Identification.

Table 5.2

Item Loadings for Neighborhood and SF Fandom on Conscious Identification Factor

Item	Scale	NH Loading	Fandom Loading
In general being a part of my neighborhood/SF fandom is an important part of my self image.	CC	.76	.72
Being a part of my neighborhood/SF fandom has very little to do with how I feel about myself.	CC	-.74	-.69
I often think about the fact that I am a part of my neighborhood/SF fandom.	CC	.71	.65
I am not usually conscious of the fact that I am a part of my neighborhood/SF fandom.	CC	-.71	-.59
It is important to me to live in this particular neighborhood/belong to SF fandom.	SCI	.68	.52

Note. This factor is Factor 2 for fandom, and Factor 3 for the neighborhood.

NH = based on neighborhood data. SCI = Sense of Community Index (Chavis et al., 1986). CC = Centrality Subscale (Cameron, 2004).

The third factor in the fandom data accounted for 7.6% of the variance, with four items loading above .40. In the geographical community analysis, this was the second factor, accounting for 12.2% of the variance. Table 5.3 shows the items and factor loading for both analyses. Items loading on this factor were to do with emotional support from and ties to fellow members (e.g., “Very few of my

neighbors/fellow fans know me", "I feel strong ties to my neighbors/fellow fans). Items loading on this factor came from the SCI and Cameron's (1998, 2004) Ingroup Ties subscale. This factor was labeled Emotional Connection and Ties.

Table 5.3

Item Loadings for Neighborhood and SF Fandom on Emotional Connection and Ties

Item	Scale	NH Loading	Fandom Loading
I don't feel a sense of being connected with my neighbors/fellow fans.	CIT	.76	.52
I find it difficult to form a bond with my neighbors/fellow fans.	CIT	.70	.64
Very few of my neighbors/fellow fans know me.	SCI	.68	.72
I feel strong ties to my neighbors/fellow fans.	CIT	-.65	-.49

Note. This factor is Factor 3 for fandom, and Factor 2 for the neighborhood.

NH = based on neighborhood data. SCI = Sense of Community Index (Chavis et al., 1986). CIT = Ingroup Ties Subscale (Cameron, 2004).

Six items loaded above .40 on Factor 4 in the fandom data, which accounted for 6.2% of the variance, while five items loaded onto this factor in the geographical community data, which accounted for 9.7% of the variance. Table 5.4 shows the items and factor loading for both analyses. Items loading on this factor were those relating to similarity of members (e.g., "I have a lot in common with my neighbors/fellow fans", "My neighbors/fellow fans and I want the same thing from our neighborhood/SF fandom") and the ability to work together and get things done (e.g., "If there was a problem in this neighborhood/SF fandom, people who live here can get it solved"). Items loading on this factor came from the Sense of Community

Index and Cameron's (2004) Ingroup Ties subscale**.** This factor was labeled Shared Values and Cooperative Behavior.

Table 5.4

Item Loadings for Neighborhood and SF Fandom on Shared Values and Cooperative Behavior Factor

Item	Scale	NH Loading	Fandom Loading
I have a lot in common with my neighbors/fellow fans.	CIT	.73	.72
I really fit in with my neighbors/fellow fans.	CIT	.68	.67
People in this neighborhood/SF fandom do not share the same values.	SCI	-.64	-.62
If there is a problem in this neighborhood/SF fandom people who live here/fans can get it solved.	SCI	.54	.58
My neighbors/fellow fans and I want the same thing from this neighborhood/SF fandom.	SCI	.54	.52
People who live in my neighborhood/belong to fandom get along well.	SCI	Loads Factor 1	.48

Note. This factor is Factor 4 for both neighborhood and fandom communities. NH = based on neighborhood data. SCI = Sense of Community Index (Chavis et al., 1986). CIT = Ingroup Ties Subscale (Cameron, 2004).

Three items loaded on the fifth factor, which accounted for 3.5% of the variance in the fandom data and 4.4% of the variance in the geographical community data. Table 5.5 shows the items and factor loading for both analyses. These items, all from the SCI, related to influence over the communities (e.g., "I have almost no

influence over what this neighborhood/SF fandom is like", "I care about what my neighbors/fellow fans think about my actions"). This factor was labeled Influence.

Table 5.5

Item Loadings for Neighborhood and SF Fandom on Influence Factor

Item	Scale	NH Loading	Fandom Loading
I have almost no influence over what this neighborhood/SF fandom is like.	SCI	-.55	-.61
I can recognize most of the people who live in my neighborhood/are part of SF fandom.	SCI	.54	.58
I care about what my neighbors/fellow fans think about my actions.	SCI	.45	.52

Note. This factor is Factor 5 for both neighborhood and fandom communities. NH = based on neighborhood data. SCI = Sense of Community Index (Chavis et al., 1986).

The items loading on each factor were then subjected to reliability analysis using Cronbach's alpha. As can be seen from Table 6, the alpha values for each factor were moderate to high. Thus new composite variables were made for each factor by taking the mean of all items loading on that factor, after reverse scoring appropriate items, with the exception of the item "People who live in my neighborhood/belong to fandom get along well", which loaded on Factor 1 in the geographical community analysis and Factor 4 in the fandom analysis. Mean scores for each factor are shown on Table 5.6, and can range from 1 to 7 (highest level of the variable).

Table 5.6

Alpha Levels, Means, Standard Deviations, and T-values for Neighborhood and SF Fandom PSOC Factors and Global PSOC

Variable	*n* Items	α NH	α Fan	*M (SD)* Neighborhood	*M (SD)* SF Fandom	*t* (df)
Belonging	7	.76	.68	5.32 (1.07)	5.98 (0.91)	8.94 (335)
Emotional Connection	4	.84	.78	3.32 (1.48)	4.91 (1.23)	16.64 (355)
Conscious Identification	5	.79	.85	3.37 (1.29)	4.55 (1.28)	13.53 (351)
Shared Values	5	.74	.67	3.92 (1.07)	4.30 (1.01)	4.80 (352)
Influence	3	.86	.64	3.75 (1.26)	4.22 (1.09)	5.71 (353)
Global Sense of Community	2	-	-	4.38 (0.94)	5.21 (0.79)	6.19 (350)

Note. All scales are scored so that 1 = lowest level of factor and 7 = highest. NH = based on neighborhood data. All *t*-tests significant at $p < .001$.

5.4.2 Comparison of Neighborhood and Fandom Mean Scores on Factors.

As hypotheses regarding differences between fandom and neighborhood PSOC were exploratory, to allow for differences in both directions two-tailed paired sample *t*-tests were used to assess differences between fandom and neighborhood on the five PSOC dimensions. *T*-tests rather than MANOVA were used as factors were not highly correlated. As seen in Table 5.6, these paired sample *t*-tests, evaluated at a familywise error rate of $p < .05$, revealed that for all factors participants reported significantly higher levels of PSOC with their interest community, SF fandom, than with their geographical communities. Table 5.6 also shows, a two-tailed paired

sample *t*-test revealed that mean global PSOC with fandom was significantly greater than was mean global PSOC with geographical communities.

5.4.3 Prediction of Overall Sense of Community

To examine the power of each of the dimensions in predicting overall sense of community, a standard multiple regression analysis was run on fandom and neighborhood data separately. The five dimensions Belonging, Emotional Connection, Shared Values, Influence and Conscious Identification accounted for 29% of the variance in fandom sense of community (F (5, 320) = 25.31, $p < .001$) and 34% of the neighborhood sense of community variance (F (5, 339) = 27.59, $p < .001$). Table 5.7 presents the beta weights and standard errors for these regressions. Examination of squared partial correlations and beta weights showed that the strongest predictor of fandom sense of community was Conscious Identification, while the strongest predictor of neighborhood sense of community was Belonging.

Table 5.7

Standard Multiple Regression Analysis Predicting Overall Sense of Community with Neighborhood and SF Fandom

Variables	Neighborhood $R^2 = .34$			SF Fandom $R^2 = .29$		
	β	*SE*	sr^2	β	*SE*	sr^2
Belonging	.39***	.02	.09	.29***	.04	.03
Shared Values	.27***	.02	.04	.29***	.03	.03
Emotional Connection	.14***	.01	.01	.13**	.03	.01
Influence	.33***	.01	.06	.08**	.02	.01
Conscious Identification	.07**	.01	.01	.35***	.02	.07

Note. ** $p < .01$. *** $p < .001$.

5.5 Discussion

The results of this study provided support for all hypotheses. Support was found McMillan and Chavis' four theorized dimensions, which emerged as essentially consistent across both SF fandom, the interest community, and the neighborhood, the geographical community. Conscious identification with the community emerged as a separate dimension of PSOC in its own right in both types of communities. Further, participants' PSOC and their mean scores on all dimensions of PSOC were significantly higher for SF fandom, their interest community, than for their geographical communities. Finally all five dimensions emerged as significant predictors of overall sense of community in both communities.

In examining the dimensions that underlie PSOC in SF fandom, the factors that emerged in the factor analysis supported those theorized by McMillan and Chavis (1986), with the addition of a Conscious Identification dimension. These same dimensions emerged in the analysis of items regarding participants' PSOC with their geographical communities.

The first factor, labeled Belonging, tapped items dealing with being attached to, a part of, or feelings of belonging to fandom or the community within which respondents lived. Some identification items also loaded on this factor. This factor fits with McMillan and Chavis' (1986) dimension of Membership, the underlying sense of belonging and identification with the community.

As already mentioned, a factor emerged beyond the four theorized by McMillan and Chavis. Items loading on this factor related to conscious identification and awareness of fellow members. This factor was thus labeled Conscious Identification.

These results suggest that separate aspects of identification may relate to different dimensions of PSOC. While identification's more affective components and

connection with other members are subsumed within McMillan and Chavis' theorized dimensions of PSOC, knowledge and awareness of group membership is a separate and important dimension, not included within the SCI. These findings are consistent with those of Smith et al. (1999), who also found that identification emerged as a separate dimension to PSOC in their examination of neighborhoods, and the findings of Obst et al. (2002a) in their large survey of SF fandom.

A third factor was labeled Emotional Connection and Ties, which tapped items to do with friendship and bonds to other community members. This factor fits with McMillan and Chavis' notion of Shared Emotional Connection. The items loading on the fourth factor were those relating to similarity of members and the ability to work together and get things done. This factor was labeled Shared Values and Cooperative Behavior. This factor is consistent with McMillan and Chavis' notion of Fulfillment of Needs. Finally, the factor labeled Influence, comprising items related to influence over the community, is similar to McMillan and Chavis' notion of Influence. This is the idea of needing a reciprocal relationship between individuals and the community in terms of their impact on one another.

The emergence of these factors in both fandom and geographical communities provides strong support for McMillan and Chavis' (1986) conceptualization of PSOC. Furthermore, it indicates that this theoretical conceptualization can be applied equally well to geographical communities and communities of interest. This is an important finding in terms of theory building in the PSOC area.

The results of this study showed that although the dimensions of PSOC were consistent across both interest and geographical communities, participants felt higher levels of PSOC with fandom than with the geographical communities within which

they live. This is an interesting finding, suggesting that PSOC can be a strong facet of communities of interest. This may be due to the fact that members choose to belong to such communities and are drawn together through a common interest. In the present study this finding is of particular significance, as SF fandom operates on an international basis with fewer geographical connections than in many other relational communities. However, this study is limited in making stronger conclusions in relation to this finding, as participants were in a fannish context (a SF convention) rather than in their local neighborhood. Replication of this research is needed with data collected in a more neutral context.

Interestingly, higher scores on each of the factors also emerged in relation to PSOC with fandom, the community of interest, than in their PSOC with geographical communities. Respondents reported feeling more belonging, ties, shared values and influence with fandom than with their local communities. This may be seen as evidence for Durkheim's (1964) observation that modern society tends to develop community around interest rather than locality. These results are also consistent with the work of writers such as Rheingold (1991) concerning the ability of the internet to support virtual communities.

Respondents were also more aware of their membership in fandom, their community of interest, than in their geographical community membership. This again may be due to greater levels of perceived choice of membership, and ties between members based on common interest. However the collection of the data in the fandom context may also have contributed to this result.

In terms of the significance of the dimensions in predicting overall sense of community, all dimensions significantly contributed to the prediction of both fandom and neighborhood sense of community. Interestingly, in SF fandom Conscious

Identification with fandom emerged as the strongest predictor, while in the neighborhood setting it was the weakest predictor. The Belonging dimension was a strong predictor in both communities. This suggests that belonging is an important dimension of sense of community in whatever context we are examining. Identification, however, seems to be more important in the communities to which we choose to belong than in those communities which we may have made a less conscious decision to join. Influence was an important predictor in geographical communities, however not at all important in the interest community. This may again be due to the element of perceived choice. If you choose to belong to an association due to common interest the need for influence over that association may be less than the need to feel some control or influence over the area in which you live.

As in Obst et al. (2002a), and Smith et al. (1999), the ingroup identification measures, taken from the social identity perspective, were useful in expanding our understanding of the role of identification in PSOC. Results showed that identification does play a role in PSOC, and while it relates to and to some extent overlaps with McMillan and Chavis' theorized dimensions of PSOC, the centrality aspect of identification is not subsumed within these dimensions.

The results of the current study are encouraging in terms of theory building. McMillan and Chavis have provided one of the few theoretical bases from which to understand the dimensions underlying PSOC. This study provides empirical support for McMillan and Chavis' theorized dimensions by showing that their dimensions emerged both when examining PSOC in a relational community that operates internationally and when examining respondents' PSOC with the geographical communities where they live. In this light it shows that their theory is applicable to

many kinds of communities. However, it also suggests an aspect of PSOC that could be further investigated: awareness of the community and one's membership in it.

In conclusion these findings have implications for future PSOC research. This study shows that McMillan and Chavis' (1986) theoretical conceptualization of PSOC has application in diverse communities and thus can provide a solid basis for further theory building work. Furthermore it shows that conscious identification does have a separate and important role to play in PSOC, which warrants further investigation. Finally, in terms of its wider implications, this study indicates that community and a strong sense of community do still exist. It may be where we find it rather than its strength or nature that is changing.

Chapter Six: Dimensions and Predictors of Psychological Sense of Community in Geographical Communities

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Taken from Obst, P. Zinkiewicz, L., & Smith, S. (2002). An Exploration of Sense of Community, Part 3: Dimensions and Predictors of Psychological Sense of Community in Geographical Communities. *Journal of Community Psychology, 30 (I),* 119-133.

6.1 Abstract

Within the discipline of community psychology there remains considerable debate as to the latent structure of psychological sense of community (PSOC). One of the few theoretical discussions is that of McMillan and Chavis (1986), who hypothesized four dimensions: Belonging; Fulfillment of Needs; Influence; and Shared Connections. Discussion has also emerged in the literature regarding the role of identification within PSOC. However, few studies have empirically investigated the role of identification in PSOC. The current study explored PSOC in a sample of residents of rural, regional and urban geographical communities ($N = 669$). In an endeavor to clarify the underlying dimensions of PSOC, a test battery included several measures of PSOC as well as measures of identification with the community. The study also examined the role of demographic factors in predicting PSOC. Results provided support for McMillan and Chavis' (1986) four dimensions of PSOC. Further, a fifth dimension emerged, that of Conscious Identification, suggesting that identification is separate to existing dimensions of PSOC. The demographic factors significantly associated with PSOC were type of region, with rural participants displaying higher PSOC than their urban counterparts; participation in local organizations; having children; and a vision of one's neighborhood as broader than just a street or block. These results, and the implications for PSOC research, are discussed.

6.2 Introduction

Much has been written on the idea of community, from many perspectives, resulting in a plethora of definitions and uses of the term. In a detailed examination of uses of the term 'community', Hillery (1955) discovered no less than 94 distinct definitions. The term is highly familiar to the general population and is used frequently in everyday conversation. Recently the concept of community has seen a return to great popularity. Loss of community is decried and blamed for a multitude of evils. Politicians use the language of community to capture votes. Urban planners promote the development of sense of community as a cure to many social ailments including crime. Thus community has returned to the social and political agenda as not only something lost but also as something that should be actively rekindled.

The research efforts of social and political scientists have matched this interest with community now studied by many disciplines. Within the psychological discipline community psychology has emerged into a field in its own right, encompassing a broad range of research.

From the framework of working within communities came the need to define in psychological terms what was meant by 'community'. In 1977 Seymour Sarason presented the concept of psychological sense of community as the overarching value by which community psychology should be defined. Sarason (1977) noted the basic characteristics of sense of community as "The perception of similarity with others, an acknowledged interdependence with others, a willingness to maintain this interdependence by giving to or doing for others what one expects from them, the feeling that one is part of a larger dependable and stable structure" (p. 157). From this time community psychologists began to work on empirically defining, operationalizing, and quantifying the construct.

Gusfield (1975) distinguished between two major uses of the term community. The first is the territorial or geographical notion of the word. In this sense community refers to a neighborhood, town, city or region, thus the sense of community implies a sense of belonging to a particular area or the social structure within that area. The second usage pertains to communities of interest and is a more relational usage, concerned with quality and character of human relations without reference to location. Thus one might belong to a community based on a shared interest such as the freemasons, bushwalking, or a language or ethnicity.

Since Sarason (1977) introduced the concept of psychological sense of community (PSOC), researchers (e.g., Buckner, 1988; Doolittle & MacDonald, 1978; Glynn, 1981; McMillan & Chavis, 1986; Skjaeveland, Garling, & Maeland, 1996) have theorized about and debated the dimensions that underlie this construct. This ongoing debate has led to the development of several scales, each measuring distinct hypothesized dimensions of PSOC. Such scales include Bardo's (1976) Community Satisfaction Scale, Glynn's (1981) Sense of Community Scale, Buckner's (1988) Neighborhood Cohesion Index; and, Skjaeveland et al.'s (1996) Multidimensional Measure of Neighboring. Most of these scales were developed to enable the measurement of dimensions that theorists felt were omitted in previous scales (see Obst, Zinkiewicz & Smith, 2002a, Chapter Four, for a review of these scales).

Although such developments have enhanced the understanding of PSOC, and have seen scales developed for many specific contexts, they have also resulted in methodological confusion and lack of strong theory building in this area. In a recent article on this topic, Chipuer and Pretty (1999) suggest that research into PSOC has consequently become stuck in a construct definition and measurement phase, which frequently has restricted the comparability of results across settings.

However, many authors feel that one of the few integrative theories of PSOC, that of McMillan and Chavis (1986), which was revised by McMillan (1996), provides the best foundation upon which to build our understanding of communities. According to McMillan and Chavis, PSOC consists of four elements: Membership, Influence, Integration and Fulfillment of Needs, and Shared Emotional Connection.

Membership refers to the feeling of belonging, of being part of a collective, and identification with the community. In relation to Influence, for a group to be both cohesive and attractive it must influence its individual members whilst allowing them to feel they have some control and influence over it. The third dimension, Integration and Fulfillment of Needs, refers to the idea that for a community to maintain a positive sense of togetherness, the individual-group association must be rewarding for the individual members. McMillan and Chavis (1986) suggest that common needs, goals and beliefs provide the integrative force for a cohesive community. In relation to Shared Emotional Connection, McMillan and Chavis suggest that the more people interact, the stronger the bond between them, and these bonds then develop into a community spirit. McMillan and Chavis state that these sub elements work together to create the dimensions, which in turn work dynamically together to create and maintain an overall sense of community. Based on this theory and employing a lens methodology (Brunswik, 1956), Chavis, Hogge, McMillan and Wandersman (1986) developed the twelve item Sense of Community Index (SCI).

Several investigators have found support for McMillan and Chavis' (1986) hypothesized dimensions. However such support tends to come from qualitative studies (e.g., Brodsky, 1996; Plas & Lewis, 1996; Sonn & Fisher, 1996) rather than from quantitative studies. In a recent exception, Chipuer and Pretty (1999) examined the psychometric properties of the Sense of Community Index in neighborhood and

workplace settings and found that the Sense of Community Index tended to factor into dimensions different from those hypothesized by McMillan and Chavis. However Chipuer and Pretty conclude that the Sense of Community Index provides a good foundation for further PSOC research, and suggest taking a theory driven, integrative approach to PSOC, which should include an examination of how items from other scales may combine with those from the Sense of Community Index to better represent McMillan and Chavis' four dimensions.

Many of the dimensions which have emerged in sense of community research overlap. Dimensions such as belonging or membership, interaction and ties seem to form an indelible part of sense of community, as to have a sense of community, first you must have sense of belonging to that community and interact with its members. However, research has also shown evidence for several dimensions apart from those theorized by McMillan and Chavis (1986). Dimensions such as annoyance (Skjaeveland et al., 1996), quality of environment (Glynn, 1986), and entertainment and attraction (Bardo, 1976) have emerged as distinct from other studies.

The current study is part of a larger project which aimed to begin to clarify the dimensions underlying PSOC and enhance theory building in this area. The current study examined PSOC in a sample of members of geographical communities. By including measures of the multiple dimensions highlighted in the literature it was hoped only the strongest and most consistent dimensions would emerge. These dimensions then could be compared with those proposed by McMillan and Chavis (1986). This study was a follow up to a similar study conducted on interest communities (Obst et al., 2002a), which found support for McMillan and Chavis' theorized dimensions with the addition of a new dimension, Conscious Identification. The current study aimed to replicate these findings in a geographical community.

Identification with the community can be seen as an important aspect of dimensions such as McMillan and Chavis' Membership. Chipuer and Pretty (1999), as well as other recent theorists (Fisher & Sonn, 1999; Puddifoot, 1995), also suggest that differences in levels of PSOC may be understood in terms of the degree to which members identify with their community. Studies that have explored identification in some way (e.g., Fisher & Sonn, 1999; Obst et al., 2002a; Smith, Zinkiewicz & Ryall, 1999) suggest that identification with the community may be an important aspect of PSOC. Smith et al. and Obst et al. employed social identity theory, a well-established theory of group processes and intergroup relationships (Abrams & Hogg, 1990; Hogg & Abrams, 1988; Tajfel & Turner, 1979), as a theoretical framework from which to examine the role of identification in PSOC.

Social identity theory (see Obst et al. 2002a, Chapter Four, for a review of SIT) states that when an individual is strongly aware of their group membership and it is of strong value and emotional significance to them, they are said to have strong ingroup identification (Hogg, 1992). Ingroup identification has both affective and cognitive consequences, including biased evaluations of ingroups and outgroups. SIT applies not only to small groups, where all members are known, but also to larger groups and social categories, where it is impossible to interact with or even know all the members of the group. Hence SIT is an appropriate framework with which to examine communities (Hogg, 1992). The present study used insights and measures derived from SIT in its investigation of identification and PSOC.

Several demographic variables have been shown to be associated with PSOC, including community participation (Wandersman & Giamartino, 1980); length of residence (Kasarda & Janowitz, 1974; Royal & Rossi, 1996); income, education (Bonnes, Bonauito & Ercolani, 1991; Schwirian & Schwirian, 1993); age, gender,

home ownership, children (Buckner, 1988; Davidson, Cotter, & Stovall, 1991; Lounsbury & Deneui, 1996; Robinson & Wilkinson, 1995); and size of town of residence (Prezza & Costantini, 1998). However, not all these variables emerge consistently across all studies. Thus the current study also hoped to examine which of these demographic variables emerged as predictors of PSOC.

Thus, the current study aimed to build on sense of community theory in several ways. It extended the recent research by Obst et al. (2002a) by identifying the latent structure of PSOC in members of geographical communities across rural, regional and urban areas. As in that study, the current study included not just one measure of PSOC, such as the SCI, but a number of other well used scales tapping PSOC. They included the Psychological Sense of Community Scale (Glynn, 1981; Nasar & Julian, 1995); the Neighborhood Cohesion Instrument (Buckner, 1988); the Community Satisfaction Scale (Bardo & Bardo, 1983); the Multidimensional Measure of Neighboring (Skjaeveland et al., 1996); and the Urban Identity Scale (Lalli, 1992). Further, several ingroup identification measures taken from SIT were included, to examine the role of identification with a geographical community in PSOC. Data were also gathered on a number of demographic variables shown in past research to be associated with PSOC, in order to examine if any demographic variables emerged as significant predictors of global sense of community.

In addition, little past research has examined the predictive power of SOC dimensions against a global evaluation of SOC. Thus, if support is found for the dimensions outlined by McMillan and Chavis (1986), then do these aspects of PSOC all contribute equally to global SOC? The current study also examined the predictive role of demographic variables and the latent dimensions of PSOC as predictors of global sense of community.

In light of the theory-building work of McMillan and Chavis, and others such as Chipuer and Pretty (1999) and Obst et al. (2002a) who have used this approach in the exploration of PSOC in various communities, it was hypothesized that support would be found for the dimensions of PSOC put forward by McMillan and Chavis, namely Membership, Influence, Fulfillment of Needs, and Shared Emotional Connection in participants' geographical community PSOC. Further, based on recent research and discussion which suggests that identification is separate to other dimensions of PSOC (Obst et al., 2002a; Smith et al., 1999), it was also hypothesized that ingroup identification as conceptualized by SIT would emerge as a distinct dimension in its own right. It was further hypothesized that all dimensions of PSOC and the dimension of identification would be significantly associated with global SOC. Finally, on the basis of past research, it was hypothesized that the demographic variables of age, gender, length and status of residency, income, education, children, region, and participation levels would be significant predictors of global SOC.

6.3 Method

6.3.1Participants

Participants were 669 residents (299 males and 370 females) of towns and cities in southeast Queensland. Their ages ranged from 18 to 69 years with a mean of 36.5 years (*SD* = 14.2 years). Of these, 344 resided in urban areas (158 males, 186 females); 201 in regional areas (84 males, 117 females); and 122 in rural areas (55 males, 67 females). Participants were recruited through convenience sampling.

6.3.2Materials

Research materials consisted of a questionnaire including the following measures. Fifteen items assessed basic demographics: gender, age, ethnicity, marital

status, financial status, employment status, education, area and length of residence, number of children, number of people in the home, and membership in local organizations. One item assessed how participants viewed their local neighborhood, weather just their street, their block, their suburb or their whole geographical region. Seventy-five items assessed the dimensions of PSOC highlighted in the literature. These items were based on a combination of the following measures: the Sense of Community Index (SCI; Chavis et al., 1986); the Psychological Sense of Community Scale (PSCS; Glynn, 1981; short form: Nasar & Julian, 1995); the Neighborhood Cohesion Instrument (NCI; Buckner, 1988); the Community Satisfaction Scale (CSS; Bardo & Bardo, 1983); the Urban Identity Scale (UIS; Lalli, 1992); and the Multidimensional Measure of Neighboring (MMN; Skjaeveland et al., 1996). These scales were included to assess a wide range of hypothesized dimensions of PSOC and to encompass an array of distal cues of PSOC as described in the Brunswik lens model (1956). In cases where scales had very similar items, the item was included only once.

In order to assess identification with the local neighborhood, the Three Dimensional Strength of Group Identification Scale (Cameron, 1999, 2004) and the Strength of Ingroup Identification Scale (SGIS) (Brown, Condor, Mathews, Wade & Williams, 1986) were included, adding 22 items in total. Cameron's scale has only recently been developed, and was included because it taps into different aspects of identification: affective aspects, consciousness of group membership, and group evaluation, which are respectively measured by the Ingroup Affect scale (CIA), the Ingroup Ties scale (CIT) and the Ingroup Centrality scale (CC).The SGIS has been widely used in SIT research, and has been shown to be a reliable and valid measure of ingroup identification. Two questions assessing self reported feelings of sense of

community were also included to assess feelings of global sense of community (e.g., "In general, I feel that my local neighborhood has a strong sense of community"). Such measures have been used in previous research (Wilson & Baldassare, 1996).

All items were responded to on a Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). All items were modified to consistently refer to respondents' local neighborhoods. All scales contained a number of negatively worded items, which were reverse scored before analysis.

6.3.3Procedure

Participants were approached by the researcher or research assistants in shopping centers, coffee shops, movie theatres and other public places. While this sampling technique does present limitations in that it was not purely random, every attempt was made to access a wide range of respondents in terms of age, ethnicity, gender, and socioeconomic status.

The researcher explained the nature and purpose of the research, the confidentiality of responses, and the voluntary nature of participation, and invited participation from those who met the selection criteria. Selection criteria consisted of being 18 years of age or over and currently residing in the local area. Those agreeing to participate in the research were then given the questionnaire. Participants were able to complete the questionnaire immediately and return it directly to the researcher, or were provided with a reply paid envelope for return at a later date.

This procedure was consistent across all localities sampled. The areas sampled consisted of ten suburbs of an urban city, three regional cities, and two rural towns, all in southeastern Queensland.

Approximately 1000 questionnaire packages were distributed. Of these, 669 were completed and returned, representing a 67% response rate.

6.4 Results

6.4.1 Latent Dimensions of Sense of Community

The 99 items measuring PSOC and identification with local neighborhood were entered into a principal components analysis. Inspection of communalities and correlation matrices indicated that the data were suitable for this analysis. This was confirmed by a KMO sampling adequacy of .94 and a significant Bartlett's test of sphericity. Five factors with eigenvalues above 1 emerged, accounting for 58% of the total item variance. The solution was subjected to an orthogonal varimax rotation as none of the interfactor correlations were greater than .4. A cutoff loading of .4 was utilized resulting in simple factor structure, and with this criterion only four items did not load onto a factor. (See Appendix for details of factors).

The first factor accounted for 24% of the total variance. This contained 29 items focusing on ties to community members and shared values (e.g., "I feel a strong sense of ties with the other people who live in my local neighborhood"; "A feeling of fellowship runs deep between me and other people in my local neighborhood"; "I have a lot in common with other people who live in my local neighborhood"). This factor was labeled Community Ties and Shared Values. Items loading onto this factor originated in most of the PSOC scales, the SGIS and the CIT.

Fifteen items had factor loadings greater than .4 on the second factor, accounting for 13% of the variance. Items loading on this factor were those dealing with having some influence over the local community (e.g., "The local council members don't hear the voice of ordinary people who live here"; "I have almost no influence over what my local neighborhood is like"). This factor was labeled Influence, and was comprised mainly of items from the CSS, although items from the SCI, the PSCS, and the MMN were also represented.

The third factor accounted for 10% of the variance. Thirteen items loaded on this factor, tapping the notion of support available in the community and the ability for community members to work together (e.g., "If there was a serious problem in my local neighborhood, people who live in could get together and solve it", "I believe my neighbors would help me in an emergency"). This factor was labeled Support. The highest loading items were from the PSCS, and the SCI, although the NCI, the MMN, and the CSS were also represented.

Thirty items loaded above .4 on Factor 4, which accounted for 7% of the total variance. These items tapped the notion of membership and belonging (e.g., "I feel at home and comfortable in my local neighborhood"; "It is important to me to live in my local neighborhood"). This factor was labeled Belonging. Items comprising this scale came from all six PSOC scales, and the SGIS and CIA scales.

The last factor accounted for 4% of the variance. The eight items loading on this factor were items dealing with conscious identification with the local neighborhood (e.g., "In general being a resident of my neighborhood is an important part of my self image"). This factor was labeled Conscious Identification. This factor was comprised mostly of items from the CC scale, although the UIS, SGIS and SCI were also represented.

All negatively worded questions were then reverse scored. Items scores were then combined into five factor scores according to their factor loadings and were subsequently treated as scales. Table 6.1 presents the number of items, scale reliability, means and standard deviations of these new composite scales. The reliability of each scale was moderate to very good, with Cronbach's alpha ranging from .71 for the very large scale of 30 items representing Belonging, to .97 for the scale of Ties and Values. The factor with the highest mean was Belonging, while

Identification was the lowest. Ties and Values, Identification and Belonging also had the greatest variance in scores. The first four factors had scale means between 4.42 and 4.92, which placed the average response on the agreement end of the seven point response scale. The Identification factor had a scale mean of 3.88, representing a roughly neutral score on the scale.

Table 6.1

Rotated Factors Emerging From Principal Components Analysis

Factor	No. Items	% Variance	α	*M* (*SD*)
1 Ties & Values	29	24	.97	4.42 (1.36)
2 Influence	15	13	.77	4.49 (0.87)
3 Support	13	10	.72	4.89 (0.98)
4 Belonging	30	7	.71	4.92 (1.15)
5 Identification	8	4	.91	3.88 (1.27)

Note. 1 = lowest level of factor to 7 = highest level of factor.

The two items measuring overall sense of community were combined into a single scale by taking the mean score of the items. This scale ranged from 1 (low PSOC) to 7 (high PSOC). The overall mean of this measure was 4.89 (*SD* = 1.46).

6.4.2 Prediction of Overall Sense of Community

To examine how demographic and PSOC factors predicted overall sense of community, hierarchical multiple regression was used, with demographic factors (gender, age, region, length of residency, residency status, number of children, income, education, whether member of community organizations, and how view local neighborhood) entered at Step 1, and the dimensions of PSOC (Community Ties, Influence, Support, Belonging and Identification) entered at Step 2.

Demographics factors accounted for a significant 18.7% of variance in global SOC (F (10, 636) = 14.61, $p < .001$), while the PSOC factors accounted for an additional 40.7% (Fch (5, 631) = 126.50, $p < .001$). Thus, this predictive model accounted for a total of 59.4% of the variance in global sense of community. Table 6.2 present the beta weights and correlations for these sets of variables.

Table 6.2

Beta Values and Correlations of Variables Entered into Regression

Variables	β Step 1	β Step 2	*r*	*sr*	R^2_{Ch}
Step 1					.19***
Gender	.06	.05	.03	.04	
Age	.15*	.04	.26	.02	
Region	.13**	.12***	.32	.08	
Length of Residency	.09*	.05	.16	.04	
Residency Status	.09*	.04	.05	.03	
No. Children	.05	.17***	.17	.11	
Income	-.11**	-.01	-.06	-.01	
Education	-.04	-.01	-.03	-.02	
Local Organization Member	.12**	.08**	.17	.10	
View of Neighborhood	.21***	.07*	.32	.05	
Step 2					.41***
Ties		.35***	.31	.27	
Influence		.06*	.07	.05	
Support		.20***	.19	.19	
Belonging		.37***	.39	.32	
Identification		.56***	.52	.47	

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

In relation to demographic variables, when these alone were entered into the equation, age, region, length of residency, residency status, income, being a member of a local organization, and how respondents viewed their neighborhood all emerged as significant predictors of global SOC. However, when the factors of Ties, Influence, Support, Belonging and Identification were also added to the regression at Step 2, the demographic variables that remained significant predictors of overall PSOC in their own right were number of children ($r = .17$, $p = .008$), with having families and larger families associated with greater sense of community; region ($F(2, 664) = 63.11$, $p < .001$), with rural respondents reporting greater PSOC ($M = 6.11$) than either regional ($M = 4.54$) or urban respondents ($M = 4.64$); being a member of a local organization ($M = 5.28$), associated with higher PSOC than not belonging to a local organization ($M = 4.75$, $t(666) = -4.23$, $p < .001$); and perceived range of neighborhood ($r = .32$), with a larger view of the neighborhood associated with greater sense of community.

In terms of the PSOC factors, all factors were significant predictors of PSOC, with Identification emerging with the greatest beta weight.

6.5 Discussion

This study sought to identify the latent structure of psychological sense of community in geographical communities. As hypothesized a factor analysis of a wide range of pertinent scales found support for the four dimensions theorized by McMillan and Chavis (1986), with the addition of a dimension of Conscious Identification. This is consistent with previous work conducted by the present authors on interest and geographic communities (Obst et al., 2002a; Smith et al., 1999).

The first factor, Ties and Values, taps items dealing with creating friendships and emotional ties within the community and the similarity of community members. This factor fits with McMillan and Chavis' (1986) notion of Emotional Connection. The second factor, labeled Leadership and Influence, tapped items related to influence over the area and the leadership by local councilors. This is congruent with McMillan and Chavis' notion of Influence, being concerned with the idea of a reciprocal relationship between individuals and the community in terms of their impact on one another.

Items loading on the third factor pertained to support available in the community and the ability to work together and get things done. This factor was labeled Support. This factor is similar to with McMillan and Chavis' (1986) notion of Fulfillment of Needs, which taps the idea that a sense of community enhances feelings of support and safety within their neighborhood and the belief that needs will be met within the community.

Factor four, labeled Belonging, tapped items dealing with being attached to, being a part of, or belonging to the neighborhood. Some ingroup identification items also loaded on this factor. This factor fits with McMillan and Chavis' (1986) dimension of Membership, which they state is the underlying sense of belonging and identification with the community collective.

Another factor emerged beyond the four theorized by McMillan and Chavis. Items loading on this factor dealt with conscious identification and awareness of fellow members. This factor was labeled Conscious Identification. While many identification items were subsumed within Ties and Values and Belonging, this very conscious awareness of membership was a separate dimension of PSOC. This has emerged consistently in the three studies conducted by the authors using SIT

measures of identification (see Obst et al., 2002a, b.; Smith et al., 1999). This suggests that identification measures, taken from the SIT perspective, are a useful addition to PSOC research. More research is needed within the PSOC arena into the importance and specific role of identification with the community. However it is clear from the contribution of Ingroup Ties items (from CIT) to the Ties and Values factor, and Ingroup Affect items (from CIA) to the Belonging factor that there are strong theoretical links between identification and SOC. The salience of the new dimension, Conscious Identification, comprised mostly of Ingroup Centrality items (from CC) to the prediction of global SOC clearly supports predictions of considerable theoretical overlap between the two traditions of SIT and community psychology.

It is interesting to compare the current factor structure to that which emerged in examining PSOC in an interest community using the same scales (Obst et al., 2002a). While Belonging, Influence and Conscious Identification emerged as almost identical factors, Community Ties, Shared Values and Support loaded a little differently in the two community types. In the interest community data, items relating to shared values and common beliefs loaded with those relating to cooperative behavior, whereas in the current data they loaded with items relating to friendship and community ties. Thus in the present data the factor labeled Support deals with more tangible aspects of being able to depend on people, receiving help when needed, and the community's ability to achieve goals, rather than dealing with more emotional feelings of similarity between members. This may be because in geographical communities, the community needs to provide for more tangible needs such as safety and security issues without the necessity for one to be very similar to one's neighbors. Similarity may be less important than tangible support when

developing friendship and ties within a geographic community where you live. Of course, in an interest community probably there is already a sense of similarity present as members are joined together through their common interest and this similarity provides the cohesive force for cooperative behavior and community achievements.

Although this is not a direct test of the Sense of Community Index (Chavis et al., 1986), in that many measures of PSOC were included in the questionnaire, the results of the current study are again encouraging in terms of theory building. McMillan and Chavis (1986) have provided one of the few theoretical bases from which to understand the dimensions underlying PSOC, and support has emerged for their theorized dimensions in all studies conducted in this project, within both geographical and interest communities (Obst et al., 2002a, b). Previous studies using only the Sense of Community Index have failed to show clear support for their dimensions (Chipuer & Pretty, 1999). The results of this study reveal that the Sense of Community Index can be improved through further collaborative scale development, as has been suggested by other authors (Chavis & Pretty, 1999; Chipuer & Pretty, 1999).

In terms of prediction of overall PSOC, having children and participation in community organizations were the demographic variables that emerged as the most important predictors. Previous literature (e.g., Kasarda & Janowitz, 1974; Lounsbury & Deneui, 1996; Robinson & Wilkinson, 1995; Royal & Rossi, 1996; Wandersman & Giamartino, 1980) has also found that these variables are associated with PSOC. These results suggest, perhaps unsurprisingly, that residents who have children and belong to community organizations are those most likely to have a strong sense of community with their local area. Interestingly, region also emerged as an

independent predictor, with stronger PSOC found in rural areas than in regional or urban areas, a finding consistent with Prezza and Costantini (1998). This is perhaps due to the smaller size of rural communities, which may cultivate stronger feelings of belonging, ties, support, influence and interdependence. Finally, how participants viewed their local neighborhood was also associated with PSOC. Participants who saw their local neighborhood as more than just their street or block were more likely to have a stronger sense of community than those who viewed their local neighborhood in more narrow terms. Thus a wider spatial locus of neighborhood was related to higher levels of SOC which may be related to feelings of inclusiveness.

All the underlying dimensions of PSOC were independent predictors of overall sense of community. Identification actually emerged as the strongest predictor of global PSOC. The more a resident identified with their particular community the more likely they were to have a strong sense of community. While it is interesting to speculate on the possible reasons for this finding, further in depth research on the role of identification in community building is needed to assess why this relationship emerged so strongly.

Interestingly, when comparing the same participants' PSOC with geographical and interest communities, Identification emerged as more important in the interest community than in the participants' geographical communities (Obst et al., 2002b) and was a strong predictor of global SOC. Belonging and Ties were the next most important predictors. Belonging consistently emerged in the research as an important aspect of PSOC (Obst et al., 2002a), with Influence and Support the weakest predictors of global SOC within the community of interest.

In conclusion, this study has presented some important findings. In terms of theory building, the study provided extensive empirical support for McMillan and

Chavis' (1986) theory concerning PSOC and the latent dimensions of this construct. This is important for future work in this area as it should encourage further refinement and consolidation of this theoretical perspective. Secondly, it provides empirical evidence for the importance of identification in sense of community, and for its separate and distinct role, which warrants further investigation.

Finally, the study points to what factors are important to neighborhood sense of community in terms of the dimensions underlying PSOC and demographic variables. This has implications for theory building as well as practical application in areas such as planning, community building, and policy development.

6.6 Appendix: Factor Loadings for Each Item Measuring Neighborhood PSOC

Factor 1: Ties and Friendship

Item	Loading	Scale
I feel a strong sense of ties with the other people who live in my local neighborhood	.84	CIT SGIS
If I need a little company, I can contact a neighbor I know	.84	MMN
A feeling of fellowship runs deep between me and other people in my local neighborhood	.81	NCI
If I need advice about something I could ask someone in my local neighborhood	.79	NCI
I often help my neighbors with small things or they help me	.78	MMN
I have a lot in common with other people who live in my local neighborhood	.77	CIT
If the people who live in my local area were planning something, I'd think of it as something *we're* doing rather than something *they're* doing	.76	NCI
The friendships and associations I have with other people in my local neighborhood mean a lot to me	.76	NCI
If I don't have something I need I can borrow it from a neighbor	.74	MMN
I have made new friends by living in my local neighborhood	.74	MMN
I often visit my neighbors	.74	NCI
If I feel like talking I can generally find someone in my local neighborhood to chat to	.73	PSCS
I find it difficult to form a bond with other people who live in my local neighborhood	-.73	CIT
I feel loyal to the people in my local neighborhood	.72	NCI

I chat with my neighbors when I run into them	.71	MMN
I am quite similar to most people who live in my local neighborhood	.71	NCI PSCS
I borrow things and exchange favors with neighbors	.70	NCI
I have friends in my local neighborhood, who are part of my everyday activities	.69	MMN NCI
My neighbors and I want the same thing from our local neighborhood	.68	SCI
I don't feel a sense of being connected with other people who live in my local neighborhood	-.67	CIT
Lots of things in my local neighborhood remind me of my past	.67	UIS
I think I agree with most people in my local neighborhood about what is important in life	.66	NCI
I really fit in my local neighborhood	.65	CIT
The people who live in my local neighborhood get along well	.61	SCI
I rarely visit other people who live in my local neighborhood	-.61	NCI
My local neighborhood is part of my daily life	.59	UIS
People in my local neighborhood do not share the same values	-.57	SCI
In general I'm glad to be a resident of my local neighborhood	.55	SGIS
I care about what my neighbors think about my actions	.53	SCI

Note. SCI = Sense of Community Index (Chavis et al., 1986). PSCS = Psychological Sense of Community Scale (Glynn, 1981). NCI = Neighborhood Cohesion Instrument (Buckner, 1988). MMN = Multidimensional Measure of Neighboring (Skjaeveland et al., 1996). UIS = Urban Identity Scale (Lalli, 1992). SIS = Strength of Group Identification Scale (Brown et al., 1986). CIT = Ingroup Ties Subscale (Cameron, 2004).

Factor 2: Influence

Item	Loading	Scale
The council does very little done for my local neighborhood	-.85	CSS
The local council cares about what happens in our neighborhood	.84	CSS
The local council run this area to suit themselves	-.69	CSS
People in my local neighborhood don't paint their houses often	-.67	CSS
The local council members don't hear the voice of ordinary people who live here	-.58	CSS
I have almost no influence over what my local neighborhood is like	-.55	SCI
I sometimes get irritated with some of my neighbors	-.53	MMN
People in my local neighborhood don't take care of their gardens	-.52	CCS
Few people in my local neighborhood make enough money	-.50	CSS
My local neighborhood lacks leaders to give it direction	-.49	CSS
Public facilities in my local neighborhood are well maintained	.48	CSS
The authorities in my local neighborhood are generally friendly	.46	PSCS
No one seems to care how our neighborhood looks	-.45	CSS
Noise, which my neighbors make, can occasionally be a big problem	-.43	MMN
Parents in my neighborhood let their children do whatever they want	-.41	CSS

Note: SCI = Sense of Community Index (Chavis et al., 1986). PSCS = Psychological Sense of Community Scale (Glynn, 1981). CSS = Community Satisfaction Scale (Bardo & Bardo, 1983). MMN = Multidimensional Measure of Neighboring (Skjaeveland et al., 1996).

Factor 3: Support

Item	Loading	Scale
If there was a serious problem in my local neighborhood, people who live in could get together and solve it	.80	PSCS
If there is a problem in my local neighborhood people who live here can get it solved	.78	SCI PSCS
I have no friends in my local neighborhood on whom I can depend	-.74	PSCS
I believe my neighbors would help me in an emergency	.72	NCI
If I have a personal problem, there is no one in my local neighborhood I can turn to	-.67	MMN
I feel good when my neighbors do good things	.65	PSCS
Medical care in my local neighborhood is not as good as in some other places	-.60	CSS
If I had an emergency, even people I don't know well in my neighborhood would be willing to help	.58	NCI PSCS
People know that they can get help from others in my local neighborhood if they are in trouble	.56	PSCS
I would be willing to work together with others on something to improve my local neighborhood	.55	NCI
I never feel quite safe in my local neighborhood	-.53	MMN
People in my local neighborhood are generally critical of others	-.47	CSS
People in my local neighborhood give you a bad name if you insist on being different	-.43	CSS

Note. SCI = Sense of Community Index (Chavis et al., 1986). PSCS = Psychological Sense of Community Scale (Glynn, 1981). NCI = Neighborhood Cohesion Instrument (Buckner, 1988). MMN = Multidimensional Measure of Neighboring (Skjaeveland et al., 1996). CSS = Community Satisfaction Scale (Bardo & Bardo, 1983).

Factor 4: Belonging

Item	Loading	Scale
I plan to remain a resident of my local neighborhood for a number of years	.81	UIS NCI
I expect to live in my local neighborhood for a long time	.79	SCI
I think my local neighborhood is a good place for me to live	.78	SCI CSS
It is important to me to live in my local neighborhood	.78	SCI
I feel at home and comfortable in my local neighborhood	.77	SCI UIS MMN
My local neighborhood is a good place to live	.76	SCI
My local neighborhood is very familiar to me	.75	UIS
I would recognize my local neighborhood in a photograph	.73	UIS
Given the opportunity I would like to move out of my neighborhood	.72	NCI
I feel good when I think about being a resident of my local neighborhood	.70	CIA
I feel strongly attached to my local neighborhood	.69	MMN
I have strong feelings for my local neighborhood	.68	UIS
I would like to stay a resident of my local neighborhood indefinitely	.65	UIS
I feel really at home in my local neighborhood	.61	SCI UIS
I would have better contacts with friends or family if I lived in another area	-.60	MMN
I think the buildings in my local neighborhood are not as nice as most other places I've lived in	-.60	CSS
I don't care if my local neighborhood does well	-.59	PSCS
I feel like I belong in my local neighborhood	.58	NCI

As compared to other areas my local neighborhood has many advantages	.54	UIS
My local neighborhood is dull	-.53	CSS
I often regret that I am a resident of my local neighborhood	-.52	CIA
The green areas help make my local neighborhood a nice place to live	.51	CSS
I don't feel comfortable in my local neighborhood	-.50	MMN
I would really rather live in a different neighborhood	-.49	SGIS
I am looking forward to seeing future development in my local neighborhood	.49	UIS
My local neighborhood plays a part in my future plans	.49	UIS
Overall I am very attracted to living in my local neighborhood	.48	NCI
I cannot imagine living anywhere else	.47	UIS
My local neighborhood is better than any other area I've lived in before	.46	CSS
My local neighborhood is peaceful and orderly	.45	CSS

Note. SCI = Sense of Community Index (Chavis et al., 1986). PSCS = Psychological Sense of Community Scale (Glynn, 1981). NCI = Neighborhood Cohesion Instrument (Buckner, 1988). MMN = Multidimensional Measure of Neighboring (Skjaeveland et al., 1996). CSS = Community Satisfaction Scale (Bardo & Bardo, 1983). UIS = Urban Identity Scale (Lalli, 1992). SGIS = Strength of Group Identification Scale (Brown et al., 1986). CIA = Ingroup Affect Subscale (Cameron, 2004).

Factor 5: Conscious Identification

Item	Loading	Scale
I am not usually conscious of the fact that I am a resident of my local neighborhood	-.75	CC
Being a resident of my local neighborhood has little to do with how I feel about myself	-.70	CC
In general being a resident of my neighborhood is an important part of my self image	.66	CC
Belonging to my neighborhood is a part of who I am	.53	UIS
I often think about being a resident of my local neighborhood	.51	CC
I see myself as being a part of the community that exists in my local neighborhood	.49	SGIS
Very few of my neighbors know me	-.48	SCI
I can recognize most of the people who live in my local neighborhood	.41	SCI

Note. CC = Centrality Subscale (Cameron, 2004). SGIS = Strength of Group Identification Scale (Brown et al., 1986). UIS = Urban Identity Scale (Lalli, 1992). SCI = Sense of Community Index (Chavis et al., 1986).

Items Not Loading above .4 on any Factor

Item	Scale
There is not enough going on in my local neighborhood to keep me busy	CSS
National economic problems are hurting the quality of life in my local neighborhood	CSS
I think the layout of my local area is nice	CSS
My local neighborhood is seen as having prestige	UIS

Note. CSS = Community Satisfaction Scale (Bardo & Bardo, 1983). UIS = Urban Identity Scale (Lalli, 1992).

Chapter Seven: Three-Dimensional Strength of Identification across Group Memberships: A Confirmatory Factor Analysis.

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Taken From Obst, P. & White, K. (2004) Three-Dimensional Strength of Identification across Group Memberships: A Confirmatory Factor Analysis. In Press: *Self and Identity*

7.1 Abstract

The current research aimed to examine evidence for the construct validity of the three-factor model of social identity as measured by the Three Dimensional Strength of Group Identification Scale proposed by Cameron (1998, 2004). The 12 item version of the Three Dimensional Strength of Group Identification Scale was used to collect data from an undergraduate sample ($N = 219$) to assess their social identification across three distinct group memberships. This data was subjected to Confirmatory Factor Analysis to examine the fit of the three-factor model of social identity in comparison to fit indices for one and two-factor models. The results indicate that the three-factor model is the most parsimonious and best fit to the data, providing empirical support for the hypothesized three-factor structure of social identity. In addition, the fact that different patterns of means and correlations emerged across groups emerged on the three dimensions, provides further evidence for a multidimensional model of social identification.

7.2 Introduction

The concept of social identity has grown to be of great importance in social psychology literature. In particular, the development of social identity theory (Tajfel, 1978; Tajfel & Turner, 1979) has seen a proliferation of research utilizing the concept. The most widely used measure of social identification to date is that developed by Brown and colleagues (Brown, Condor, Mathews, Wade, & Williams, 1986). However, research based on this scale or close variations tends to show social identity as a single dimension, with factor analytic results denoting item directionality rather than construct dimensionality (Brown et al., 1986; Kelly, 1988). More recently, debate and evidence has emerged in the literature suggesting that social identification is, in fact, a multidimensional construct.

Deaux (1996) in a review of the social identification literature argues that cognitive processes, emotional associations and interdependence between group members are all important aspects of the social identification process (see Deaux, 1996, for more detail). Several authors have found empirical evidence for the multidimensional nature of social identification (Cameron, 1999; Cameron & Lalonde, 2001; Ellemers, Kortekaas, & Ouwerkerk, 1999; Hinkle, Taylor, Fox-Cardamone, & Crook, 1989; Jackson, 2002; Jackson & Smith, 1999). Karasawa (1991) distinguished between identification with the group and identification with group members. Hinkle et al. (1989) found evidence for three components: an affect aspect, a cognitive aspect and a group dynamics aspect. Ellemers et al. (1999) reported findings indicating three factors of social identification; group self esteem, self categorization and commitment to the group. Recently, Jackson (2002) presented evidence for three factors very similar to those reported by Cameron (2004) self categorization (a cognitive component), evaluation of the group (an affective

component) and perceptions of solidarity (ingroup ties component). While the factor structure of social identity does vary across these studies, the concept of multidimensionality is in line with Tajfel's (1978) original definition of the construct, which describes social identity as deriving from knowledge of group membership, and the value and emotional significance attached to that membership.

Cameron (1998, 2004), recently proposed a multidimensional measure of social identity which encapsulates the three dimensions theorized by Deaux (1996) and that have been shown to emerge in many of the studies on social identification examining the multidimensional nature of the construct. This scale measures three aspects of social identity. *Cognitive centrality*, is the cognitive prominence of a given group membership, and is similar to the self categorization dimensions which emerged in Ellemers et al's. (1999) and Jackson's (2002) findings. *Ingroup affect*, refers to the emotional evaluation of that group membership, encapsulating the affective dimension which has emerged in many studies (e.g. Ellemers et al., 1999; Jackson, 2002; Hinkle 1989). Finally, *Ingroup ties*, refers to the perception of similarity and bonds with other group members, which again can be seen to have much in common with the findings of previous research (e.g. Ellemers et al, 1999; Jackson, 2002; Hinkle 1989; Karasawa, 1991).

Evidence for this conceptualization of social identity has been found across several studies conducted on diverse populations, from work on sense of community and social identification in geographical and internet communities (Obst, Zinkiewicz, & Smith, 2002), through exploration of gender and race identification (Boatswain & Lalonde, 2000; Cameron & Lalonde, 2001), to the stringent testing of the model using confirmatory factor analysis (Cameron, 2004). In his recent paper, Cameron (2004) tested a unidimensional model of social identification, a two dimensional

model (cognitive and emotional aspects) and the three factor model (cognitive centrality, ingroup ties and ingroup affect). Overall, he found that the data was best explained by the three-factor model in four different studies examining the social identification of respondents with their university, gender and nation.

While research points to the validity of a three-factor model of social identification in line with that proposed by Cameron (1998, 2004), the majority of this work has been exploratory. Only Cameron's (2004) paper provides a stringent empirical test of the model using confirmatory factor analysis, an analytic technique for testing the fit between the data and a pre-existing model, more appropriate in such cases than exploratory factor analytic techniques (see Fabrigar, Wegener, MacCallum, & Strahan, 1999). Given that this scale assessing three factors is a relatively recent addition to the social identity literature, yet has the real potential to greatly extend research in the area, further examination of the validity and applicability of the scale is warranted.

Therefore, the purpose of the current research is to provide further assessment of the validity of the three-factor model of social identity as measured by the Three-Dimensional Strength of Identification Scale proposed by Cameron (2004). The 12 item version of the Three Dimensional Strength of Identification Scale was used to collect data from an undergraduate sample to assess their social identification with various group memberships.

The group memberships assessed in this study were sex, student, and membership of a self-generated interest group. Identification as male or female represents identification with a large scale ascribed category. Identification as a student from a particular university is a commonly used category in much social identification research, and represents a smaller more localized categorization based

on a particular current role. Identification with a particular interest group chosen by the participants is a categorization based on personal interest/beliefs or values, and, thus, is arguably the most personal of all the group memberships.

This data was then subjected to confirmatory factor analysis to examine the fit of three theoretically competing models across all three group memberships. Firstly, the three factor model proposed and supported by Cameron (2004) comprised of the dimensions of cognitive centrality, ingroup affect and ingroup ties. Secondly, a two factor model, comprised of a cognitive dimension and an affective dimension, as although the number and type of dimensions found in past research are not consistent, most have in common a cognitive and affective dimension. Finally, both these multidimensional models were compared to a unidimensional model of social identification.

In the multidimensional models, the dimensions were allowed to correlate, rather than forced to be orthogonal. While some studies (e.g. Ellemers et al., 1999) have found evidence for the orthogonality of dimensions, most studies have found moderate correlations to exist between dimensions (e.g. Cameron, 2004; Jackson, 2002). Theoretically, a relationship between Centrality, Ingroup Ties and Ingroup Affect would be expected. As suggested by McGarty (1999), social categorization, acknowledging our membership in a particular group, is a necessary precondition for any affective feelings that go with that membership. Therefore, it is reasonable to presume that an inherent relationship between centrality and the other social identification dimensions exists.

One of the potential benefits of a multidimensional conceptualization and associated measurement of social identification, rather than a unidimensional form, is the rich detail provided by examining each of the separate underlying dimensions.

Firstly, the level of integration between the underlying factors may differ, reflecting potentially revealing information about the degree of association between the affective, cognitive awareness and ties with other members, components of social identity for a specific group membership. Secondly, in the case of investigating multiple group memberships simultaneously, examining mean differences between groups on the separate dimensions allows for focused conclusions to be drawn in relation to which elements of social identity (i.e. affective, cognitive, and ties with other members) are producing differences in overall levels of social identification. Thus, based on the best fitting model, the present study also examined group differences on the separate dimensions of social identification. Both correlations between the subscales and the differences in the strength of their relationships in the different group memberships, and differences in the means on each subscale across groups were assessed.

7.3 Method

7.3.1Participants and Procedure

Participants were 219 first year university students (63 males and 156 females) who participated in the experiment to gain course credit. The age range was 17 years to 62 years, with a mean of 23.48 years (*SD* = 8.51 years).

7.3.2 Materials

Research materials consisted of a questionnaire including items assessing, amongst other measures, basic demographics (age and gender) and the 12-item Three-Dimensional Strength of Identification Scale (Cameron, 2004). This scale was repeated for each of three group identities: sex, student, and self selected interest group generated by participants. The major interest groups listed by participants

included sports clubs, internet groups, professional associations, student associations, music clubs, dance clubs, religious groups, craft groups, parents groups, and social groups. Items were modified consistently across group memberships. Four items assessed each aspect of social identity: cognitive centrality (e.g., "I often think about being a member of my interest group"); ingroup affect (e.g., " In general I'm glad to be a university student"); and ingroup ties (e.g., "I don't feel a strong sense of being connected to other male/females"; see Table 2 for complete list of items). All items were responded to on a Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Fifty percent of the items on the scale required reverse scoring; these items were reverse scored before analysis. The questionnaires were counterbalanced in relation to the presented order of group membership items. Analysis via ANOVA confirmed that no order effects existed.

7.4 Results

7.4.1 Preliminary Analysis

Missing Data Analysis revealed that 1 case had 15% missing data, but no other case had more than 2%. The missing data was scattered randomly across variables with no item displaying more than 2% missing data. The 1 case was deleted and all other missing data were deleted listwise during analysis. Data was screened for outliers and multivariate normality via Mahalanobis distance, but no deletion made as no one case was thought to have undue influence on the data.

7.4.2 Confirmatory Factor Analysis

Confirmatory factor analysis via EQS V5.76 software was used to assess the fit between the data and one (social identification comprised of the full 12 item scale), two (cognitive comprised of the items measuring centrality and affective

comprised of the items measuring ingroup ties and ingroup affect) and three (cognitive centrality, ingroup affect and ingroup ties) factor models of social identification. The models tested allowed items to load only on a single factor, with uncorrelated measurement error terms. The factors themselves were allowed to correlate. Table 7.1 presents both absolute and comparative fit indices for each group membership and each model.

Table 7.1

Confirmatory Factor Analysis Fit Indices for the Three Factor Model For Each Group Membership.

One Factor			
Fit Indicator	Sex	Student	Interest Group
CFI	.656	.564	.781
IFI	.662	.570	.783
GFI	.790	.714	.780
NNFI	.571	.555	.726
RMR	.106	.134	.090
RMSEA	.142	.184	.147
AIC	189.28	325.26	206.60
χ^2 *(df)*	277.28 (44)	413.26 (44)	294.12 (44)
Normed χ^2	6.31	9.39	6.68

Two Factor

Fit Indicator	Sex	Student	Interest Group
CFI	.744	.657	.838
IFI	.749	.652	.839
GFI	.835	.761	.823
NNFI	.673	.555	.792
RMR	.091	.126	.075
RMSEA	.140	.164	.125
AIC	164.51	251.86	142.38
χ^2 *(df)*	216.66 (43)	392 .05 (43)	228.39 (43)
Normed χ^2	5.04	9.12	5.31

Three Factor

Fit Indicator	Sex	Student	Interest Group
CFI	.901	.923	.915
IFI	.902	.901	.916
GFI	.908	.912	.916
NNFI	.889	.917	.908
RMR	.071	.070	.066
RMSEA	.089	.077	.073
AIC	59.84	9.22	33.01
χ^2 *(df)*	141.84 (41)	91.22 (41)	115.01 (41)
Normed χ^2	3.46	2.23	2.81

Note all χ^2 $p < .001$

The χ^2 statistic is a test of the alternative hypothesis that there is a difference between the empirical model and the actual model. The statistic, however, is very sensitive to sample size; thus, the normed χ^2 (χ^2/df) is also presented. A value less than 1 indicates overfit, a value over 1 but less than 2 a good fit and a value between 2 and 3 an acceptable fit. The goodness of fit index (GFI) indicates the extent the data fits the model above no model. A value above .9 indicates an adequate fit. A number of comparative fit indices are also included. The comparative fit index (CFI) and the Incremental Fit Index (IFI) are measures of how much better the model fits the data compared to one where no relationships exits. The non normed fit index (NNFI) also allows for model overfit indicating lack of parsimony. Again, for all of these indices, values above .9 indicate reasonable fit (Bentler, 1990; Hu & Bentler, 1999).

In addition to these indices, two more absolute indices are included; the root mean-square residual (RMR) and the root mean-square error of approximation (RMSEA). These indices measure the average difference between the null and alternate models per element of the variance -covariance matrix and, thus, give quite different information from the other indices. Ideally, these indices should be less than .05, but values less than .08 also indicate reasonable fit (Bentler, 1990; Brown & Cudeck, 1993, Hu & Bentler, 1999).

As can be seen in Table 7.1, all indices show improvement in the three-factor model above the one or two factor model. For each group membership, the three factor model displayed a significant improvement in the χ^2 value over the one factor ($p < .001$) or two factor model ($p < .001$). The Akaike Information Criterion (AIC) also shows that the three-factor model has the most parsimonious model fit. Further, results show that the three-factor model displayed a pattern of adequate fit index in

all group memberships. For the sex group membership only, the RMSEA is marginally above the recommended cut off of .08 (Bentler, 1990; Hu & Bentler, 1998). Although all χ^2 were significant, the normed χ^2 show the model was an adequate fit in the interest and student groups, while being slightly above the cutoff of 3 for the sex group membership data (Hu & Bentler, 1999).

Table 7.2 presents the factor loadings for each item on their specific subscales. In the interest group data, all of the items loaded at 0.50 or above. Both the sex and student group data displayed two items loading below 0.50. Examination of items showed that in both groups, the item "I often think about being an (ingroup member)" loaded below .50. The item "In general I'm glad to be an (ingroup member)" loaded below .50 in the student group data and the item "I don't feel good about being an (ingroup member)" loaded below .50 in the sex group data. All other items loaded above 0.50 in all groups.

In the interest and student group data, no variables displayed standard residuals above .25 with any other variables. However, in the sex group membership data, "I often think about being an (ingroup member)" and "Generally I feel good about myself when I think about being an (ingroup member)" shared a standard residual of .261.

Table 7.2

CFA Factor Loadings for 12 Items of Three Factor Model across Group Memberships

Scale Items	Sex	Student	Interest Group
Centrality			
I often think about being an (ingroup member).	.48	.48	.60
Being an (ingroup member) has little to do with how I feel about myself in general.	.58	.53	.68
Being an (ingroup member) is an important part of my self image.	.73	.77	.63
The fact I am an (ingroup member) rarely enters my mind.	.54	.54	.57
Ingroup Affect			
In general I'm glad to be an (ingroup member).	.88	.41	.87
I often regret being an (ingroup member).	.56	.56	.64
Generally I feel good about myself when I think about being an (ingroup member).	.62	.50	.83
I don't feel good about being an (ingroup member).	.45	.68	.56
Ingroup Ties			
I have a lot in common with other (ingroup members).	.66	.63	.63
I feel strong ties to other (ingroup members).	.78	.74	.58
I find it difficult to form a bond with other (ingroup members).	.64	.54	.69
I don't feel a strong sense of being connected to (ingroup members).	.70	.51	.50

7.4.3 Group Differences in Reliabilities and Descriptives

Table 3 presents internal reliability statistics in the form of alpha co-efficients, means and standard deviations for each subscale and the total scale. Factor correlations are also presented in this table. As can be seen in Table 3, internal reliability was adequate to good (de Vaus, 2002) across all groups for all subscales and the total scale. Alpha coefficients ranged from .83 to .91 for the total scale, .75 to .85 for centrality, .70 to .82 for ingroup affect and .78 to .87 for ingroup ties. Correlations between factors ranged from .29 to .57, indicating a moderate association. Factors were strongly correlated with the total scale (.60 to .88). The pattern of means showed the highest scores on the ingroup affect factor and the lowest scores on the centrality factor across all three group memberships.

A series of dependent groups ANOVAS were conducted on the total scale and the subscale to examine the pattern of differences in means across group memberships. A significant difference between groups memberships emerged on the total scale (F (2, 216) = 23.61, $p < .001$); on the Centrality subscale (F (2, 216) = 7.20, $p = .001$); and on the Ingroup Ties subscale (F (2, 216) = 52.19, $p < .001$). However, no significant difference between group memberships emerged on the Ingroup Affect subscale. Bonferroni adjusted post hoc comparisons showed that, for both the total scale and the Ingroup Ties scale, the male/female category showed a significantly higher mean (M = 5.15 and 5.17 respectively) than the interest group category (M = 4.89 and 4.89 respectively) which, in turn, were significantly higher than the means for the student group category (M = 4.61 and 4.11 respectively). On the Centrality subscale, the male/female category displayed a significantly higher mean (M = 4.61) than either the student group category (M = 4.31) or the interest

group category ($M = 4.21$). The latter two groups did not differ significantly on the Centrality subscale.

An examination was made also of the pattern of correlations between the subscales for each group membership by testing the difference between correlations with Williams' (1959) test of the difference between two non-independent correlations (see Howell, 1987, for full details of this procedure). Results revealed that the correlation between Centrality and Ingroup Affect did not differ between group memberships. The correlation between Centrality and Ingroup Ties did not differ between the sex and student group memberships, but was significantly larger in the interest group membership ($r = .57$) than in the male/female group membership ($r = .29$, $Z = 3.63$, $p < .001$) and the student group membership ($r = .42$, $Z = 2.08$, $p = .038$). The correlation between Ingroup Ties and Ingroup Affect was significantly lower in the student group membership ($r = .29$) than in the male/female group membership ($r = .48$, $Z = 2.33$, $p = .020$) or the interest group membership ($r = .57$, $Z = 3.62$, $p < .001$). The latter two groups did not differ significantly.

Table 7.3

Internal Reliabilities, Descriptives and Correlations of Three Dimensional Strength of Group Identification Scale for Each Group Membership

Scale	Mean (SD)	Centrality	Ingroup Affect	Ingroup Ties	Total Scale
Sex					
Centrality	4.61 (1.21)	.75	.36***	.29***	.76***
Ingroup Affect	5.88 (1.01)		.70	.48***	.79***
Ingroup Ties	5.17 (1.17)			.78	.73***
Total Scale	5.15 (.87)				.83
Student					
Centrality	4.31 (1.32)	.81	.32***	.42***	.81***
Ingroup Affect	5.75 (1.05)		.82	.29***	.60***
Ingroup Ties	4.11 (1.31)			.81	.81***
Total Scale	4.61 (.94)				.84
Interest Group					
Centrality	4.21 (1.31)	.85	.46***	.57***	.85***
Ingroup Affect	5.79 (1.02)		.80	.57***	.74***
Ingroup Ties	4.89 (1.35)			.87	.88***
Total Scale	4.89 (1.04)				.91

Note: *** $p < .001$

Examining group differences in the correlations between the subscales and the total scale, the correlation between Centrality and the total scale was significantly lower in the male/female group membership ($r = .76$) than in the interest group membership ($r = .85$, $Z = 2.70$, $p = .007$), but did not differ significantly between other groups. The correlation between Ingroup Affect and the total scale was significantly lower in the student group membership ($r = .60$) than in the male/female group membership ($r = .79$, $Z = 3.93$, $p < .001$) or the interest group membership ($r = .74$, $Z = 2.67$, $p = .008$). The correlations in the latter two groups did not differ significantly. Finally, the correlation between Ingroup Ties and the total scale was significantly lower in the male/female group membership ($r = .73$), than in the student group membership ($r = .81$, $Z = 2.06$, $p = .041$) or the interest group membership ($r = .88$, $Z = 4.65$, $p < .001$). This correlation was also significantly smaller in the student group membership ($r = .81$) than in the interest group membership ($r = .88$, $Z = 2.58$, $p = .009$).

7.5 Discussion

The results of this study provide solid support for Cameron's (2004) concept of social identity as a multidimensional construct. Examination of the fit indices produced by the confirmatory factor analysis show that the three-factor model was a better fit for the data than either the one or two factor models. Further adequate fit indices were seen across group memberships indicating a degree of configural invariance. Thus, these findings are a strong indication of the applicability of the theoretical concept and measurement to diverse types of group memberships from ascribed categories to groups based on personal interest.

Examination of the factor loadings show that, in general, items loaded strongly on their specified factors. However, one item displayed lower loading in two

of the group memberships. This item, "I often think about being an (ingroup member)" also showed high standard residuals with the item "Generally I feel good about myself when I think about being an (ingroup member)" during analysis. Cameron (2004) allowed the cross loading of this item on 2 factors, suggesting that it is not a pure measure of either construct. The high standard residuals associated with these two items suggest that respondents are not clearly distinguishing between the questions or that these items are not well explained by the model (Bentler, 1995). These results, in combination with Cameron's (2004) own research, suggest that the modification of these scale items could improve the model fit.

Cameron (2004) found moderate correlations ranging from .13 to .61 across all four studies, with ingroup affect and ingroup ties having the most consistent and strongest relationship across studies. In the current study, while all factors displayed moderate relationships across all groups memberships, no consistent pattern emerged. This may present further support for the distinctiveness of the constructs of ingroup ties and affect.

Examination of the differences in means and correlations between subscales across the three group memberships provides further insight into the advantages of using a multidimensional measure of social identification rather than a unidimensional measure. Firstly, when looking at overall social identification, a significant difference emerged between all group memberships. Participants identified more strongly with their personal interest group membership than with their role based membership of the student category. As the interest group category represented a very personal group membership, it is unsurprising that participants felt more identification with this category than the student category. Interestingly, participants identified more strongly with their ascribed group membership male or

female, than with the other group memberships. This finding may be a result of the group boundaries for this membership being seen as impermeable and, thus, social identity and personal identity being strongly linked, while in the other group memberships boundaries are perceived as permeable, allowing participants to engage in different strategies to enhance the status linked to these social identities (Hogg & Abrams, 1988; Tajfel & Turner, 1979).

Examining group means on the three dimensions of social identification highlights some important differences between dimensions. The pattern identified on the overall social identification scale also emerged on the ingroup ties subscale. This finding indicates that the perception of similarity and bonds between group members was sensitive to different group memberships, with stronger ties to others in the personal group membership than the student category. The strong level of ties with other same sex members may be due to the link between personal and social identity in the case of ascribed categories. However, on the centrality subscale, while identification was higher with the ascribed male/female category, no difference was evidenced between the student and interest group categories. Thus, while their cognitive awareness of being male or female was stronger than the other categories, potentially due to the stronger link to personal identity, participants were equally aware of their membership in both the student and interest group categories. Finally, of note, is that no difference emerged between group categories on the emotional dimension of ingroup affect. The emotional evaluation of each group membership was quite positive and it appears the processes operating in the other dimensions which lead to differences across groups did not occur in this affective appraisal.

Similarly, when we examine the patterns of correlations between the subscales, differences emerge across the three group memberships. The relationship

between centrality and affect did not differ across groups, indicating the interplay between awareness of group membership and feelings about that group membership remain constant across the ascribed, role and personal group memberships. In the present study, the relationship between ingroup affect and ingroup ties is weaker in the student category than the other categories, while the relationship between centrality and ingroup ties is stronger in the interest group than the other groups. The relationship between centrality and the total scale and ingroup ties and the total scale was strongest in the interest group, followed by the student category and then the sex category, whilst the relationship between affect and the total scale was weaker in the student category than in the other two categories. Overall, it appears that the relationship between ingroup affect and the other dimensions shows the least variability across groups, consistent with the finding that groups did not differ on this dimension. Hence, in the current data it appears that the dimension of ingroup ties is the most sensitive dimension of social identification to different types of ingroup categorizations, whilst ingroup affect is the least sensitive to category differences.

The finding that different patterns emerged on each of the subscales provides further evidence for the multidimensionality of social identification. If all subscales had showed the same pattern of results as overall social identification, it could be argued that there is little value in examining the underlying dimensions of social identification. However, the fact that participants showed different levels of cognitive awareness, emotional evaluation and ingroup ties in different group categories suggests that the subscales could be sensitive to the different contributions that particular social groups make in relation to the various dimensions that contribute to the construction of our social selves.

Overall, the current findings support the construct validity of the Three-Dimensional Strength of Group Identification Scale. As such, the results of the present study add to the growing body of empirical evidence that suggests that the three-factor model of social identity has a sound theoretical and empirical basis. While evidence is emerging for the validity of Cameron's (2004) Three-Dimensional Strength of Identification Scale, there is evidence from Cameron's own research, as well as the current research, to suggest that participants are not distinguishing between the items "I often think about being an (ingroup member)" and "Generally I feel good about myself when I think about being an (ingroup member)" which, in fact, are designed to tap different dimensions. Thus, some scale modification is recommended to improve the construct validity of the scale.

As stated, the current research provides strong support for Cameron's (2004) conceptualization and measure of a three-dimensional model of social identification. This evidence is based on stringent testing of the model via confirmatory factor analysis across multiple group memberships and the further analysis of the group differences that emerge when analyzing subscale means and relations between the various subscales. The major strength of this research lies in examining the social identification of participants' membership in three very different categories from an ascribed group membership through to a group membership based on personal interest. Including a self chosen interest group category extends on past research by showing the applicability of the scale to groups such as sports teams, church groups, internet groups and professional associations. Future research should continue to assess the validity of the multidimensionality of social identity given the importance of this construct to the social identity literature.

Chapter Eight: Revisiting the Sense of Community Index:

A Confirmatory Factor Analysis.

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Taken From Obst, P. & White, K. (2004) Revisiting the Sense of Community Index: A Confirmatory Factor Analysis. *Journal of Community Psychology, 32, 691-705.*

8.1 Abstract

The Sense of Community Index (SCI) is one of the most commonly used measures of Psychological Sense of Community (PSOC). There is much discussion in the literature as to the validity of the scale as a measure not only of overall PSOC, but of the dimensions (Membership, Influence, Needs Fulfillment and Emotional Connection) theorized by McMillan and Chavis (1986) to underlie the construct. The current paper examines the factor structure of the Sense of Community Index in a study ($N = 219$) that examines multiple community memberships, including neighborhood, student and interest group communities. Data was analyzed via confirmatory factor analysis. The results showed that the SCI, in its original factor structure, did not adequately fit the data. The scale was revised, therefore, utilizing confirmatory factor analysis indicators, to produce a new four-factor structure based on the same items. This revised model was tested and found to display adequate fit indices to the data in all three communities. The results of the study provide empirical support for retaining measures that encapsulate the four dimensions of PSOC.

8.2 Introduction

Psychological Sense of Community (PSOC) is an integral construct in the area of community psychology. Sarason (1974), in his much cited seminal work on community psychology, presented the construct as the overarching value by which the field should be defined. Even at this early point, the inherent difficulties in empirically measuring what is essentially a value judgment were highlighted, as was the surety that community members knew when a sense of community existed and when it didn't (Sarason, 1974).

There exists, at the current time, considerable discussion in the community psychology arena about this essential construct of PSOC, exemplified by the dedication of a special seminar to its measurement at the 2003 SCRAL Biennial Conference. It is extremely important that this discussion continues, as a common theoretical foundation is needed on which to base future research into the myriad of communities that exist in our contemporary society. Such discussion and research will allow for more stringent empirical examination and comparison to be made into the nature of "community".

Continued debate flourishes as to the number and makeup of the dimensions that underlie PSOC. Earlier research that set out to discover these dimensions conducted exploratory factor analyses, which resulted in a number of scales being developed to measure psychological sense of community or closely related constructs (Bardo, 1976; Doolittle & McDonald, 1978; Glynn, 1981; Nasar & Julian, 1995; Skjaeveland, Garling, & Maeland, 1996). However, as pointed out by several authors (Chipuer & Pretty, 1999; Obst, Zinkiewicz, & Smith, 2002a), many of these scales were developed for use in specific contexts. If PSOC is a psychological construct in and of itself, a common theoretical basis and measure grounded in

theory are needed that can be adapted to any community, whilst remaining reliable and comparable across communities.

One of the few integrative theories of PSOC to date is that of the four dimensional structure proposed by McMillan and Chavis (1986). It currently provides the best foundation on which to build our understanding of this construct. According to McMillan and Chavis, PSOC consists of four dimensions: Membership, Influence, Integration and Fulfillment of Needs, and Shared Emotional Connection. Membership refers to the feeling of belonging, and emotional safety, created by being part of a defined community. Influence captures the idea of community cohesiveness and attractiveness being dependent on the communities influence on its individual members, and the member's feelings of control and influence over the community. The third dimension, Integration and Fulfillment of Needs, refers to the idea that common needs, goals, beliefs and values provide the integrative force for a cohesive community that can meet both collective and individual needs. Lastly, Shared Emotional Connection refers to the bonds developed over time through positive interaction with other community members. McMillan and Chavis suggest that these sub-elements work together to create the dimensions which, in turn, work dynamically together to create and maintain an overall sense of community. This model of PSOC is applicable to all types of communities where members feel a sense of belonging, influence, some kind of need fulfillment and an emotional connection with other members. Thus, communities from traditional neighborhoods, university settings, workplaces, through to virtual communities can have a PSOC as conceptualized by this theory.

The most widely used measure of PSOC is the Sense of Community Index (SCI), developed to capture the four elements of the McMillan and Chavis (1986)

model, as well as overall PSOC. Using the Sense of Community Profile (44 items extracted from a Neighborhood Participation Project);(see Chavis, Hogge, McMillan, & Wandersman, 1986) applied a Brunswick Lens methodology to examine the validity of McMillan and Chavis' (1986) theory. The data showed support for their four proposed dimensions of PSOC. As the measure designed to tap these four elements, the SCI, in its current 12 item form, was developed from data gathered in the large New York City Block Booster project by Chavis, Perkins, Florin, Prestby, Rich, and Wandersman (Long & Perkins, 2003) and was published in their 1990 paper (Perkins, Florin, Rich, Wandersman, & Chavis, 1990).

The importance of the Sense of Community Index in community psychology literature is twofold. Firstly, it is one of the few scales that can be and has been used to measure PSOC in diverse settings such as the workplace (Brodsky, 2001; Catano, Pretty, Southwell, & Cole, 1993; Mahan, 2000; Pretty & McCarthy, 1991; Pretty, McCarthy, & Catano, 1992), religious communities (Miers & Fisher, 2002), immigrant communities (Sonn, 2002), student communities (Pretty, 1990) and internet communities (Obst, Zinkiewicz, & Smith, 2002a) as well as residential or geographical communities (Brodsky, 2001; Brodsky, O'Campo, & Aronson, 1999; Perkins et al., 1990). Secondly, the Sense of Community Index has evolved from a sound theoretical basis that has empirical support.

Empirical support, from both qualitative and quantitative methodologies, has been found for the model of PSOC consisting of the four dimensions proposed by McMillan and Chavis (1986). Several qualitative studies have found evidence for the four factor structure with diverse populations such as planned towns (Plas & Lewis, 1996), urban barrios (Garcia, Giulani, & Wiesenfield, 1999), immigrants (Sonn, 2002; Sonn & Fisher, 1996), and single mothers (Brodsky, 1996; Garcia et al., 1999;

Plas & Lewis, 1996; Sonn & Fisher, 1996). In large factor analytic studies using multiple measures of SOC, evidence has also been found for the four dimensions in both geographical communities (Obst, Zinkiewicz, & Smith, 2002c) and an internet based virtual community (Obst et al., 2002a, 2002b). Whilst these studies have not been empirical examinations of the Sense of Community Index itself, they have provided strong support for the four factor theory underlying the Sense of Community Index.

In line with the current debate surrounding the Sense of Community Index, several papers examining the psychometric properties of the SCI have been presented recently. These papers take different analytic paths, presenting results from both exploratory and confirmatory factor analyses. Chipuer and Pretty (1999) examined the psychometric properties of the SCI in neighborhood and workplace settings. In both adult and adolescent neighborhood data, four factor solutions were found. However, items did not load on these factors as proposed by the SCI. In the workplace data, three factors emerged; again, items from the SCI did not load as expected. However, Chipuer and Pretty (1999) conclude that the SCI, as the one of the few measure of PSOC grounded in theory, provides a good foundation for further PSOC research. These authors suggest taking a theory driven, integrative approach to PSOC, which should include re-examining Sense of Community Index items to better represent McMillan and Chavis'(1986) four underlying dimensions.

In a more recent paper examining the psychometric properties of the Sense of Community Index, Long and Perkins (2003) criticize previous research utilizing exploratory factor analytic techniques stating that, as theoretical precedence exists for a four factor solution, confirmatory factor analysis is a more appropriate analysis in this instance. Examining both a one factor model and the theoretically- based four

factor model, their results indicated only small improvements in the model fit and parsimony indices in the four factor model compared to the one factor model, which, they argue, does not provide sufficient evidence for the SCI as a four factor scale. As a result, Long and Perkins reverted to the original data based on clustered resident surveys from 47 street blocks from the New York Lock Booster project and generated a new eight-item scale, the Brief Sense of Community Index (BSCI). This scale is based on the original Sense of Community Index, but with several modifications. Four items, which the authors argue measure place attachment rather than PSOC, were removed. A further three items, reflecting feeling at home, getting on with neighbors and caring about what neighbors think, loaded poorly in the confirmatory factor analysis and were also removed. Finally, three new face valid PSOC items, asking respondents if people watch out for each other and to rate importance, and quantity of sense of community, were added. The authors then conducted an exploratory factor analysis on this new scale that revealed a three-factor structure, representing Social Connections, Mutual Concerns and Community Values. This new factor structure was then confirmed via confirmatory factor analysis, which showed moderate to good fits across all fit indices.

Long and Perkins' (2003) Social Connections dimension encompasses items originally on the Membership and Influence dimensions. Mutual Concerns reflects aspects of Needs Fulfillment and encompasses items from this and the Influence Dimension. The last factor, Community Values, is comprised entirely of new items and reflects the importance to members of having a sense of community. Little theoretical justification is provided by the authors for this shift to a new dimension structure. Further, little critical analysis is provided to identify the conceptual limitations of the original four dimensional theory of McMillan and Chavis (1986).

Other authors have also examined the psychometric properties of the Sense of Community Index in relational communities. In a recent investigation of the SCI, Proescholdbell (2003) examined its structure via confirmatory factor analysis in a sample of gay and bisexual men. Extra items reflecting each of the four dimensions were developed, and the new scale was subjected to confirmatory factor analysis. As the data was not supportive of a four factor structure, an exploratory factor analysis was conducted revealing a three factor structure reflecting the original SCI factors of Influence, Emotional Connection and a new factor which was a combination of the original Membership and Fulfillment of Needs factors. Confirmatory factor analysis was conducted on this new three-factor structure, based on 17 items, and revealed good model fits and reliabilities.

Whilst agreeing that a rigorous empirical focus is needed in this area, and that confirmatory factor analysis provides a stringent and empirically strong technique for examining theoretically proposed models, it can be argued that there are some limitations in these recent approaches. Rather than attempting any modification based on the original model, in both these papers the authors "went back to the drawing board" (e.g., Long & Perkins, 2003, p. 285), and conducted an exploratory factor analysis with a resultant new factor structures. These new factor structures diverge from established theory as neither the BSCI, nor the three-factor structure of Proescholdbell (2003), tap the original four factor theory proposed by McMillan and Chavis (1986). However, Proescholdbell's findings can be seen to be supportive of the aspects of PSOC theorized to underlie the construct by McMillan and Chavis, with similar dimensions emerging. The merging of two dimensions into one is not as divergent from the original theory as is Long and Perkins' new factor structure.

At this point in the current debate it appears there are several possible ways to move forward. It may be that the theory underlying PSOC is in need of revision, and should address the large amount of variation in factor structure arising from PSOC research. It is possible that the construct PSOC has become too broad to be able to be reliably measured across so many contexts. However, the current paper argues that the four dimensional theory of McMillan and Chavis (1986) has proven to be of value in understanding PSOC across a diversity of communities from neighborhoods (Obst et al., 2002c; Plas & Lewis, 1996), workplaces (Pretty & McCarthy, 1991) through to virtual communities (Obst et al., 2002a). Factor analytic results from a survey comprised of 59 items (Obst et al., 2002a, 2002c) derived from the many scales measuring PSOC across both relational and geographical communities, showed support for the four factor structure of McMillan and Chavis (1986). Further, this theory is still the only comprehensive theory of PSOC that exists to date. Thus, the current authors suggest, in line with previous recommendations (e.g., Chipuer & Pretty, 1999) that, rather than developing an atheoretical factor structure, the Sense of Community Index is in need of modification in order to better tap the dimensions proposed by McMillan and Chavis' (1986) original theory. It can be argued that the BSCI, with only 5 of the original 12 items, is not a form of the SCI and raises the issue of comparability between new and previous research utilizing the measure. It is important that the community psychology literature supports an empirically consistent understanding of PSOC developed around both common meaning and measurement.

So whilst there are several possible paths to progress our knowledge of PSOC both theoretically and empirically, this paper presents one potential avenue that can add to our current understanding of the empirical measurement of PSOC. The current

research sets out to examine the original Sense of Community Index via confirmatory factor analysis, with the aim of utilizing the indicators available through this statistical technique to improve the model fit. Further, with the aim of improving the utilization of this scale across various types of communities, model fits are tested across multiple community memberships, both geographical and relational, which have been shown in past research to have a PSOC (e.g. Deneui, 2003; Obst et al., 2002a). Hence, the present study aims to re-examine the Sense of Community Index to investigate whether minor modifications to the scale can improve the model fit, while maintaining the theoretical structure of PSOC developed by McMillan and Chavis (1986).

8.3 Method

8.3.1 Participants and Procedure

Participants were 219 first year university students (63 males and 156 females) who participated in the experiment by voluntarily completing a questionnaire to gain course credit. The age range was 17 years to 62 years, with a mean of 23.48 years (*SD* = 8.51).

8.3.1 Design and Materials

The current study was a repeated measures design assessing PSOC over three community types. Participants responded to PSOC items relating to their membership in their local neighborhood, as a student at their university, and their membership in a self selected interest group generated by the participants themselves (e.g., sports club, internet based group, environmental group or religious group). While the actual community is self defined for both the neighborhood and interest community and will vary across the sample, this technique allowed for participants to

respond to items with their own definition of neighborhood and an interest group personally important to each participant. Thus, while some in-group variation did exist, the distinction between the three community types was clear. There are a number of advantages to using a repeated measures design in this study. Firstly, a greater degree of control is gained over extraneous individual difference variables such as personality or mood states, which can be expected to vary consistently across group memberships, allowing for any between group variance to be interpreted more clearly. Secondly, it allowed analysis of PSOC as a multilevel construct, in line with the notion that individuals belong to a variety of communities simultaneously.

Research materials consisted of a questionnaire including items assessing basic demographics, and a modified version of the 12 item Sense of Community Index (Perkins et al., 1990), adapted for the purpose of this research. This scale was repeated for each of three community memberships. All items were modified consistently across communities, replacing "neighborhood" with "university", or "interest group" (e.g. "It is important to me to live in my particular neighborhood"; "It is important to me to be a student at my university"; "It is important to me to be a part of my interest group")

Two items were removed from the original scale: "I can recognize most of the people who live in my neighborhood" and "I expect to live in this neighborhood for a long time" as these questions could not be adapted meaningfully across the different community memberships in the present study. As the current article aims to find a version of the Sense of Community Index applicable to diverse types of communities, physically recognizing other members is not an adaptable question, being only applicable to small, face-to-face communities. In relation to expecting to remain a community member for a long time, some communities, such as the student

community examined in this paper, do not have long-term membership prospects. However, this does not mean that a PSOC cannot exist in more temporary communities. Thus, this item was removed to increase the applicability of the scale to more temporary communities.

These 10 items were presented on a Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The scale contains both positive and negatively worded questions. Negatively worded questions were reverse scored before analysis. The questionnaires were counterbalanced in relation to the presented order of group membership items. Analysis via ANOVA confirmed that no order effects existed.

8.4 Results

8.4.1 Preliminary Analysis

Missing Data Analysis revealed that 1 case had 15% missing data, but no other case had more than 2%. The missing data was scattered randomly across variables with no item displaying more than 2% missing data. The 1 case was deleted and all other cases with missing data were deleted listwise during analysis (no more than 6 cases were eliminated in any analysis). Data was screened for outliers and multivariate normality via Mahalanobis distance, but no deletions were made as no one case was thought to have undue influence on the data.

8.4.2 Confirmatory Factor Analysis

To assess the fit between the data and one, and four factor models of PSOC, confirmatory factor analysis via EQS Windows V5.76 using maximum likelihood estimation was conducted. The models tested allowed items to load only on a single factor, with uncorrelated measurement error terms. In the four factor models, the factors were allowed to correlate as theory and research suggest intercorrelations

between factors (e.g., McMillan and Chavis, 1986). The original four-factor model assigned items to factors based on specifications set out in the Sense of Community Index development paper (Perkins et al., 1990).

Table 8.1 presents both absolute and comparative fit indices for the one factor model, the original four-factor model and final adjusted model to facilitate comparison between fit indices. As can be seen in Table 8.1, the original four-factor model, while not displaying adequate model fit indices, did display better fitting indices than the one factor model. Thus, modifications were made on the basis of the four-factor model. Further, as the scale was originally developed for use in geographical communities, scale modification was based on the neighborhood data.

Table 8.1

Fit Indices for the One Factor, Original Four Factor and Revised Four Factor Models

One Factor			
Fit Indicator	Neighborhood	Student	Interest Group
CFI	.760	.684	.772
AGFI	.786	.829	.756
GFI	.864	.891	.845
NNFI	.692	.593	.707
RMR	.086	.085	.083
RMSEA	.109	.094	.128
AIC	89.48	62.62	128.28
χ^2 *(df)*	159.47 (35)	132.62 (35)	198.28 (35)
Normed χ^2	4.56	3.79	5.67

Original Four Factor Fit Indicator	Neighborhood	Student	Interest Group
CFI	.785	.703	.813
AGFI	.773	.811	.745
GFI	.880	.900	.866
NNFI	.666	.540	.710
RMR	.085	.085	.081
RMSEA	.113	.099	.126
AIC	82.88	58.61	105.10
χ^2 *(df)*	140.88 (29)	120.61 (29)	163.11 (29)
Normed χ^2	4.86	4.16	5.63
Revised Four Factor Fit Indicator	Neighborhood	Student	Interest Group
CFI	.918	.908	.932
AGFI	.902	.912	.901
GFI	.948	.959	.936
NNFI	.901	.902	.903
RMR	.060	.047	.056
RMSEA	.064	.050	.072
AIC	18.93	5.56	27.24
χ^2 *(df)*	76.93 (29)	63.56 (29)	85.24 (29)
Normed χ^2	2.65	2.19	2.94

Note. All χ^2 are significant at $p < .001$

Firstly, the covariance between items was examined by inspecting items with large standard residuals. Large standard residuals can indicate variables not well explained by the model or items that wish to sit on the same factor rather than separate factors (Bentler, 1995). Items 9 ("If there is a problem in this neighborhood people who live here can get it solved") and 11 ("The people who live in this neighborhood get on well") showed a standard residual above .25. Further evaluation was conducted on the basis of the Wald test for dropping parameters, which indicated that the χ^2 value would not be significantly improved by the dropping of any item in any of the groups. The 10 items were also evaluated with the Lagrange Multiplier test, which indicated that moving item 1 ("I think my neighborhood is a good place to live") to the Membership factor, item 3 ("My neighbors and I want the same thing from this neighborhood") to the Influence factor, item 6 (Very few of my neighbors know me") to the Needs Fulfillment factor and item 10 ("It is important to me to live in this particular neighborhood") to the Emotional Connection factor, would each result in significant improvements to the χ^2 of the model. These alterations were made and the model retested. A high standard residual remained between items 9 ("If there is a problem in this neighborhood people who live here can get it solved") and 11 ("The people who live in this neighborhood get on well"). As the Wald test did not indicate that the model would be improved by removing either of these items, it was decided to allow these items to load on the same factor and item 9 was moved to the Emotional Connection factor.

When tested, this new four-factor model showed significant improvement in all fit indices and, hence, was then tested across all community groups. As seen in Table 8.1, fit indices for all groups showed improvement from the original four-

factor structure. Further, there is evidence of configural invariance between the datasets with the RMSEA < .08 and the CFI and NNFI > .90 in all data sets.

Table 8.2

Factor Loadings for the One Factor and Original Four Factor Models

Items	Neighbor		Student		Interest	
	1F	4F	1F	4F	1F	4F
1. I think my neighborhood is a good place for me to live	.70	.76	.51	.52	.74	.74
2. People in this neighborhood do not share the same values	.40	.46	.46	.41	.56	.59
3. My neighbors and I want the same thing from this neighborhood	.40	.39	.60	.56	.52	.52
5. I feel at home in this neighborhood	.53	.54	.41	.56	.63	.60
6. Very few of my neighbors know me	.50	.41	.20	.27	.59	.57
7. I care about what my neighbors think about my actions	.42	.38	.50	.64	.56	.43
8. I have almost no influence over what this neighborhood is like	.22	21	.21	.27	.48	.41
9. If there is a problem in this neighborhood people who live here can get it solved	.57	.58	.22	.22	.59	.56
10. It is important to me to live in this particular neighborhood	.69	.59	.70	.59	.73	.60
11. The people who live in this neighborhood get along well.	.61	.56	.34	.33	.56	.60

Table 8.3

Item Loadings for the Revised Four Factor Model.

Items	Neighborhood	Student	Interest
1. I think my neighborhood is a good place for me to live	.87	.56	.81
5. I feel at home in this neighborhood	.56	.57	.64
10. It is important to me to live in this particular neighborhood	.71	.81	.76
2. People in this neighborhood do not share the same values	.47	.78	.70
6. Very few of my neighbors know me	.61	.43	.69
3. My neighbors and I want the same thing from this neighborhood	.46	.72	.59
7. I care about what my neighbors think about my actions	.60	.68	.59
8. I have almost no influence over what this neighborhood is like	.46	.43	.57
9. If there is a problem in this neighborhood people who live here can get it solved	87	.45	.85
11. The people who live in this neighborhood get along well.	.80	.96	.78

As can be seen in Table 8.2, which presents factor loadings for the one factor model and the original four-factor model, there is no consistent increase across item loadings between the models. In contrast, an examination of the factor loadings for

the revised four-factor model (see Table 8.3) reveals a consistent increase in the factor loadings of all items in all groups. Further, all items loaded moderately to well in the neighborhood data (> .46), in the student data (> .43), and in the interest group data (> .56). At least 40 percent of the items in all data sets loaded above .70. While item loadings are moderate to high, there is obviously further variance in each dimension to be accounted for.

Table 8.4 presents the factor correlations, Cronbach's alpha reliabilities and descriptives for the new subscales calculated from the raw scores on each item. As can be seen in this table, all factors are significantly moderately correlated within each data set. The subscales all moderately to highly correlate with the total 10-item Sense of Community Index scale. Means on the subscales range from 3.33 to 5.86, from a possible range of 1 (low levels of the dimension) to 7 (high levels of the dimension). Interestingly, the pattern of means was the same for each community with the lowest mean obtained for Emotional Connection, then Influence, followed by Needs Fulfillment, with the highest means obtained for Membership. Means on the total Sense of Community Index scale range from 39.11 in the neighborhood data to 51.75 in the interest group data, from a possible range of 10 (low PSOC) to 70 (high PSOC).

Internal consistency of the new subscales, based on the confirmatory factor analysis findings, were moderate (de Vaus, 2002), with Cronbach's alpha levels for the subscales ranging from α =. 71 to α = .80, and the majority clustering around .75. The internal consistency for the 10 item Sense of Community Index was high with Cronbach's alpha levels ranging from α =. 80 in the student data to α = .84 in the interest group data.

Table 8.4

Correlations and Alpha Reliabilities for the Adjusted Four Factor Model

Scale	Mean (SD)	Membership	Influence	Needs Fulfillment	Emotional Connection	Total Scale
Neighborhood Membership	4.71 (1.25)	.75	.35**	.47**	.38**	.79**
Influence	3.33 (1.21)		.71	.25**	.44**	.73**
Needs Fulfillment	4.50 (1.29)			.75	.42**	.69**
Emotional Connection	3.01 (1.18)				.70	.71**
Total Scale	39.11 (9.10)					.80
Student Membership	5.63 (.92)	.78	.40**	.25**	.22**	.71**
Influence	4.16 (1.15)		.71	.19**	.38**	.81**
Needs Fulfillment	5.01 (.91)			.77	.10	.47**
Emotional Connection	3.45 (1.23)				.71	.64**
Total Scale	46.30 (7.17)					.80
Interest Group Membership	5.86 (.99)	.77	.64**	.47**	.50**	.83*
Influence	4.91 (1.14)		.76	.37**	.59*	.85**
Needs Fulfillment	5.41 (1.15)			.80	.46**	.68**
Emotional Connection	4.27 (1.54)				.76	.81*
Total Scale	51.75 (9.40)					.84

Note. Alpha reliabilities were calculated using Cronbach's alpha, based on the total variance of each item.

* $p < .05$, ** $p < .01$

8.5 Discussion

The results of the present research indicated that the Sense of Community Index, in its original four factor structure, was not a good model of the current data with inadequate model fits indices displayed in all groups. However, the four factor model was a better fit than the one factor model. Thus, rather than revert to the use of exploratory factor analysis to generate a new factor structure, the current authors worked with the indicators available, as part of the confirmatory factor analysis technique, to adjust the four factor structure and improve the model fit. Unlike Long and Perkins' (2003) findings, a number of empirical improvements to the model were obvious in the confirmatory factor analysis output. Working with these results, a new model structure was generated until no new improvements were evidenced in the output. This revised four factor structure displayed adequate model fits across all community groups and moderate to high factor loadings of items on the new factors. Further, both the subscales and total scales displayed adequate internal reliabilities across all community groups. Although somewhat divergent from the original structure, the new empirically derived structure does correspond to the theoretical basis of PSOC as presented by McMillan and Chavis (1986).

The results of the present study indicated that the items: "I feel at home in this neighborhood", "I think my neighborhood is a good place for me to live" and "It is important to me to live in this neighborhood" shared a degree of variance and, hence, were indicators of a common dimension. The first of these items was originally from the Membership dimension and the other two also tap into the notion of belonging, with the community being important to the participant and membership in the community being a positive experience. Further, both these items have loaded on the Membership dimension in some past research (e.g., Obst et al., 2002b; see

Table 8.5). Thus, in the present research, these three items are argued to be indicators of the dimension of Membership.

The items "I care about what my neighbors think about my actions", "I have no influence over what this neighborhood is like" and "My neighbors and I want the same thing from this neighborhood" were indicators of a common dimension. The first two of these items were originally measures of the Influence dimension. The third item, relating to members wanting the same thing from their community, can also be argued to be indicative of influence, with the community itself influencing members' notion of what they want from the community and highlighting the bi-directionality of influence in community groups. These three items, therefore, are labeled as indictors of the dimension of Influence.

The items "People in this neighborhood do not share the same values" and "Very few of my neighbors know me" were indictors of a common dimension. The first of these items was originally a measure of Needs Fulfillment, and has been an indicator of this dimension in earlier research (e.g., Chipuer & Pretty, 1999; Obst et al., 2002b; see Table 8.5). Although traditionally seen as an indictor of Membership, being known by other community members can be argued to fulfill a need for recognition within the community structure. It can further be argued that community members' awareness of each other provides a basis for cohesiveness which McMillan and Chavis (1986) state is a precursor to the fulfillment of collective and individual needs within a community structure. Thus, these items are seen as indictors of the dimension of Needs Fulfillment.

The items "The people who live in this neighborhood get on well" and " If there is a problem in this neighborhood people who live here can get it solved", showed a high overlap in variance in all data sets and, thus, were placed together on

the one dimension. The first item was an original measure of the dimension Emotional Connection, reflecting the bonds developed between community members. The second item refers to the willingness of members to work together, creating positive interaction. Both of these items have loaded together in previous exploratory work (e.g., Chipuer & Pretty, 1999). Thus, these items are seen as indicators of the dimension of Emotional Connection. The emotional connection derived from getting on well produces the ability to work together. These positive interactions, then, can lead to the resolution of community difficulties and the enhancement of emotional connection.

Table 8.5 presents a comparison of the revised factor structure with results from previous exploratory factor analyses (Chipuer & Pretty, 1999; Obst et al., 2002b). In both papers, multiple groups were analyzed. Chipuer and Pretty (1999) examined adolescent and adult PSOC in their local neighborhood and PSOC in a workplace. Obst et. al. (2002b) examined PSOC and Social Identity across participants' local neighborhoods and membership in a relational community Science Fiction Fandom. A number of differences in the factor structures emerged across findings for these different populations. To enable consistency, the table presents the results for adults PSOC with their geographical community.

Table 8.5

Comparison of Factor Structures Found Across Studies.

Items	Original [a]	Obst et al [b]	Chipuer & Pretty [c]	Revised [d]
1. I think my neighborhood is a good place for me to live	Needs Fulfillment	Membership	Membership	Membership
5. I feel at home in this neighborhood	Membership	Membership	Membership	Membership
10. It is important to me to live in this particular neigh/d	Emotional connection	Identification (Membership)	Needs Fulfillment	Membership
2. People in this neighborhood do not share the same values	Needs Fulfillment	Needs Fulfillment	Needs Fulfillment	Needs Fulfillment
6. Very few of my neighbors know me	Membership	Emotional Connection	Membership	Needs Fulfillment
3. My neighbors and I want the same thing from this neigh/d	Needs Fulfillment	Needs Fulfillment	Needs Fulfillment	Influence
7. I care about what my neighbors think about my actions	Influence	Influence	Influence	Influence
8. I have almost no influence over what this neighborhood is like	Influence	Influence	Influence	Influence
9. If there is a problem in this neighborhood people who live here can get it solved	Influence	Needs Fulfillment	Emotional Connection	Emotional Connection
11. The people who live in this neighborhood get along well	Emotional connection	Membership	Emotional Connection	Emotional Connection

Note. Labels placed on factors have been altered to facilitate comparison.

[a]Based on Perkins, Florin, Rich, Wandersman, and Chavis, 1990

[b]Based on Obst, Zinkiewicz and Smith, 2002 (geographical community data)

[c]Based on Chipuer and Pretty, 1999, (adult neighborhood data)

[d]Based on Current Findings

As can be seen in this table, four items have consistently factored on to the same dimensions. It could be argued, therefore, that these items are clear indicators of the dimensions on which they load. For the other items, the majority have loaded on the same dimensions as the current research in at least one other study. However, of particular note in terms of factorial discrepancies across studies are items 10 “It is important to me to live in this particular neighborhood” and 6 “Very few of my neighbors know me”. These items seem to display little consistency in assessing any particular dimension. Of note also is item 3 “My neighbors and I want the same thing from this neighborhood”, which, in past studies has been a measure of Needs Fulfillment, and emerges here as a measure of influence. This overall pattern suggests that the overlapping variance between these items and others on the current revised dimensions needs to be seriously considered. Although not fitting the original structure, the items on each dimension in the new empirically derived model developed in the current study can be conceptualized in terms of the theory presented by McMillan and Chavis (1986).

The consistent pattern which emerged in the mean responses on the four dimensions across community groups can be construed as an indication of the reliability of interpretation by respondents on these dimensions. This uniformity across community groups can also be interpreted as further evidence for the distinctiveness of the dimensions. It must be noted that some of this consistency may be due to the repeated measures nature of the methodology. However, it can be argued that, whilst the pattern of means on the subscales is consistent, the fact that there are differences in the absolute values of the means shows a substantial variation in the individuals’ experience of PSOC between community types. A further consideration to note is that, in its current 10-item form, on two of the dimensions

there are only two indicators, which is not sufficient to be a stable measure of a factor. New items need to be developed to enhance the Sense of Community Index and add validity to its use as a measurement tool of the four dimensions of PSOC proposed by McMillan and Chavis (1986).

The approach taken in this paper differs from that of authors, such as Long and Perkins (2003), who have developed revised measures reflecting new factor structures. In this paper, rather than finding a new factor structure, the purpose was to re-examine the original model to improve fit indices while remaining consistent with the established theory in this area. This approach is more in line with the view presented in previous papers (e.g., Chipuer & Pretty, 1999) which indicated support for the McMillan and Chavis (1986) concept of PSOC and called for re-examination of the Sense of Community Index.

Long and Perkins (2003) argue that several items in the Sense of Community Index are actually measures of place attachment rather than PSOC. The current findings however, suggest that these items ("My neighborhood is a good place to live", "It is important to me to live in this neighborhood" and "People in this neighborhood do not share the same vales") are indicators of the dimensions of PSOC. Stronger evidence for this lies in the fact that they are indicators of separate dimensions of PSOC. If all of these items loaded on the one dimension, the nature of that dimension may be able to be questioned. However, the first two of these items in the current study have been shown to be indictors of Membership and the last an indicator of Needs Fulfillment. Thus, it can be argued that these items are indicators of different aspects of PSOC.

This study has shown evidence for the existence of the four dimensions (Membership, Influence, Emotional Connection and Needs Fulfillment) theorized to

underlie PSOC by McMillan and Chavis (1986). Results indicate that these four factors, while closely interrelated, are separate constructs, tapping different aspects of PSOC. While, a growing body of evidence points to the inadequacy of the Sense of Community Index, in its current format, to measure these four dimensions, the present findings indicate that the Sense of Community Index does have good internal consistency as a measure of overall PSOC. Further, these results suggest that the Sense of Community Index can be modified to improve its properties as an indicator of the four dimensions proposed by McMillan and Chavis. Thus, it is argued here that the concept of the four dimensions should not be summarily dismissed in favor of new atheoretical factor structures, as there is a substantial body of research which indicates the validity and usefulness of the four dimensional theory (e.g., Brodsky, 1996, Garcia et al., 1999 Obst et al., 2002a, 2002b, 2002c, Plas & Lewis, 1996). Rather, the Sense of Community Index as a measure of this theory is in need of development. The current study has shown that the Sense of Community Index does fit a four factor data model consistent with the dimensions proposed by McMillan and Chavis. However, it also indicates that substantial item development is needed to improve measurement.

The present study does not aim to present a definitive answer to the discussion surrounding the Sense of Community Index and its factor structure. The paper set out to examine one possible avenue for improving the measurement of PSOC, that is to re-examine the Sense of Community Index to investigate whether minor modifications to the scale could improve the empirical fit while maintaining the theoretical structure of PSOC conceptualized by McMillan and Chavis (1986). Indeed, the results have provided evidence to suggest that the Sense of Community Index can be a viable measure of the four factor structure based on the theory of

McMillan and Chavis. Importantly, this evidence emerged in both geographical and relational communities. However, it should be noted that the repeated measure nature of the design may have led to response bias leading to a greater similarity between community groups than may otherwise be the case. The design itself may have contributed to the consistency of the structure across the community groups.

A further methodological limitation which should be noted when examining the results of this study is the self defined nature of the referent communities used by respondents, which lead to a great variation of actual communities within each community type. However, the nature of each community type (i.e., where you live, or a group with which you share a common interest) was consistent, indicating the applicability of these results to diverse types of communities. Lastly, having fewer than three items reflecting each dimension decreases the validity of the scale as a measure of the dimension. Further item refinement and scale development is needed. Scale development is an onerous task that does not occur in a single study. Further research is needed in which empirically based models, consistent with the theoretical dimensions of McMillan and Chavis (1986) are tested. The moderately high alpha levels of the overall Sense of Community Index which emerged in the current study are promising; however, the student sample used here may be a more homogenous group than a sample of geographical community residents, resulting in higher levels of internal consistency. The current model could be tested again within non student samples to evaluate whether the consistency of the findings holds across other populations. Further, more research and discussion is needed in relation to other avenues for adding to the empirical measurement of PSOC in multiple communities. While the current paper argues that PSOC, theoretically and consequently its measurement also, should be applicable to multiple community types, others may

argue that PSOC has become an over-encompassing construct causing it to lose its clarity and precision. Thus, the theory itself needs to be considered from both views. More research and discussion on this important construct and its measurement is required.

In summary, this study has given a strong indication that continuing to examine the Sense of Community Index in terms of the theory of McMillan and Chavis can add to our theoretical understanding of PSOC and the refinement of a valid, theoretically-based measure of PSOC. Continuing to work rigorously in this area will lead to a growing body of research that enhances our understanding of PSOC in a society comprised of a diversity of community memberships.

Chapter Nine: The Interplay of Psychological Sense of Community, Social Identification and Salience

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Taken From Obst, P. & White, K. (2004). The interplay of psychological sense of community, social identification and salience. Under Review: *Journal of Community and Applied Social Psychology*

9.1 Abstract

Past research indicates that there is a strong relationship between the constructs of Psychological Sense of Community (PSOC) and social identification. The current study draws on data ($N = 219$) examining participants' membership in a number of different communities to present an examination of the relationship between these constructs. In particular, the study examines the relative strength of the separate aspects of social identification (based on Cameron's 2004, Three Factor Model of Social Identification) as predictors of overall PSOC, accounting for situational salience. Results indicate that Ingroup Ties is consistently the strongest predictor of PSOC and that the strength of Ingroup Affect and Centrality alter according to the group or community context. The theoretical implications of these results are discussed in terms of the interplay and overlap of these important community processes.

9.2 Introduction

The term community is highly familiar to the general population and is used frequently in everyday conversation, yet it signifies different things to different people. In its broadest sense, community can simply be seen as a set of people with some kind of shared element, which can vary widely from a situation, such as living in a particular place, to some kind of interest, beliefs or values.

From a psychological framework, the concept of psychological sense of community (PSOC) is the defining element of any healthy community. Chavis, Hogge, McMillan, and Wandersman (1986) developed the first psychological theory of PSOC, which remains the most accepted and widely used theoretical discussions of the concept. This theory proposes that PSOC consists of four elements: Membership, Influence, Fulfillment of Needs, and Shared Emotional Connection. Membership refers to the feeling of belonging and identification, of being part of a collective from which you derive emotional safety. Influence, refers to the bi-directional need, for a group to exert influence of its members to promote cohesion, and also for members to feel they have some control and influence within the community. Fulfillment of Needs refers to the need for the individual-group association to be rewarding for the individual members, and places importance on common needs, goals, beliefs and values on achieving this. The last dimension is that of Shared Emotional Connection, based on a sense of shared history and identification with the community and the bonds developed over time through positive interaction with other community members. McMillan and Chavis state that these dimensions work dynamically together to create and maintain an overall sense of community.

Although developed on data collected from a neighborhood setting, this theory has also been shown to be applicable to relational communities, such as the

workplace (Brodsky, 2001; Catano, Pretty, Southwell, & Cole, 1993; Mahan, 2000; Pretty & McCarthy, 1991; Pretty, McCarthy, & Catano, 1992), religious communities (Miers & Fisher, 2002), immigrant communities (Fisher & Sonn, 1999; Sonn, 2002), student communities (Pretty, 1990) and internet communities (Obst, Zinkiewicz, & Smith, 2002a).

9.2.1 Identification

As is evidenced in McMillan and Chavis' (1986) theory of sense of community, identification with the community appears to play an important part in several of the dimensions of PSOC. In particular, identification plays an important role in the dimensions of Membership, an essential part of which is a sense of identification with the community, and Emotional Connection, in which identification with other community members is central. In much of the literature on community, the notion of identification with the community arises in understanding members' attachment to their community, be it their geographical community (Hedges & Kelly, 1992; Puddifoot, 1995, 2003) or memberships in multiple communities, both geographical and relational (Brodsky & Marx, 2001).

Several theorists (e.g. Chavis & Pretty, 1999; Chipuer & Pretty, 1999; Fisher & Sonn, 1999, 2002) have suggested that differences in levels of PSOC may be understood in terms of the degree to which members identify with their community, yet few PSOC studies have explored the role of identification or incorporated measures of identification with the community into their research. Studies that have incorporated identification (Fisher & Sonn, 1999; Obst, et. al., 2002a, 2002b; 2002c; Smith, Zinkiewicz, & Ryall, 1999) suggest that identification with the community may be an important aspect of PSOC. Smith and colleagues (1999) examined PSOC and ingroup identification with one's neighborhood, incorporating social identity

theory measures of identification as well as traditional PSOC measures. Identification emerged as distinct from other PSOC dimensions, and was also a significant predictor of overall sense of community. These results indicated that a strong relationship exists between PSOC and identification but that the two constructs are, indeed, distinct.

These studies have shown the utility of using a social identity theory framework to understand the relationship of identification to PSOC. Social identity theory is a well-established theory of group processes and intergroup relations (Abrams & Hogg, 1990; Hogg & Abrams, 1988; Tajfel, 1978; Tajfel & Turner, 1979). According to social identity theory, when an individual is strongly aware of their group membership and it is of strong value and emotional significance to them, they are said to have strong ingroup identification (Hogg, 1992). Thus, ingroup identification has both affective and cognitive consequences.

Recently, Cameron (2004) has put forward a three dimensional model of social identification which incorporates both these affective and cognitive dimensions. The three factors underlying this model are: *Centrality*, that is the cognitive prominence of a given group membership; *Ingroup Affect,* the emotional evaluation of that group membership; and *Ingroup Ties*, the perception of similarity and bonds with other group members.

Obst and colleagues (2002a, 2002b; 2002c), who utilized Cameron's (2004) three dimensional model of social identification, reported that identification emerged as a separate dimension of PSOC in both geographical and relational communities. However, these studies indicated that the affective aspects of social identification (Ingroup Ties and Ingroup Affect) were subsumed into the dimensions of PSOC, and it was the conscious awareness of community membership (Centrality) which

emerged as a unique dimension. This notion of conscious awareness of group membership raises another related construct that may also impact on group processes, that of salience.

9.2.2 Salience

Much research from a social identity theory perspective has shown that the salience of group membership can have a strong impact on social identification (e.g., Hewstone, Hantzi & Johnston, 1991; Stangor, Lynch, Duan & Glas, 1992). Salience refers to the cognitive accessibility of our membership in particular groups. Group membership accessibility is defined as the relative readiness of a given group membership to be activated (Oakes, 1987). This accessibility can be separated into two components: chronic accessibility and situational accessibility. Chronic accessibility refers to the ease with which that category can be cognitively activated across all sorts of social situations. A category is more likely to be chronically accessible if it has been recently or frequently activated (Higgins & King, 1981; Wyer & Srull, 1981), affectively charged, or if one is motivated to use it (Klinger, Barta, & Maxeiner, 1980). This concept is closely related to the Cameron's (2004) social identification dimension of Centrality. Situational accessibility is the availability of a categorisation in a particular social context. This accessibility may be enhanced by contextual factors such as priming (Devine, 1989), visible differences in dress or physical arrangement of members (Gartner & Dovidio, 1986), competition (Myers, 1962) and direct intergroup contact (Rodriguez & Gurin, 1990).

Thus, salience is a fundamental construct which can impact on intergroup behaviors and processes (Hewstone, Hantzi & Johnston, 1991; Stangor, Lynch, Duan & Glas, 1992; White, Hogg & Terry, 2002). It is likely, therefore, that salience may also impact on community processes. Little research in the community arena has

explicitly looked at the role of salience. Thus, in the current research, measures of contextual salience were included to further examine the influence of salience on the relationship between social identification and PSOC.

9.2.3 The Current Study

The current study aims to provide further empirical exploration of the interplay between the important constructs of sense of community and social identification. Little previous research has examined the relationship between PSOC and social identification at the dimensional level. In the present study, both PSOC and social identification of participants' membership in various community types was measured. A regression analysis was then conducted to asses the impact of the dimensions of social identity on PSOC. Based on previous research (e.g. Obst et. al., 2002a, 2002c), it was expected that the social identification dimensions of Ingroup Ties and Ingroup Affect and Centrality would be strong predictors of PSOC. This study also extends on past research by exploring the influence that situational salience may have on these relationships. Thus, the aim of the present study was to examine if situational salience itself was predictive of PSOC and to examine if the dimensions of social identification remained predictive of PSOC accounting for the effects of situational salience.

9.3 Methodology

9.3.1 Participants

Participants were 219 first year university students (63 males and 156 females). The age range was 17 years to 62 years with a mean of 23.4 years (*SD* = 8.51 years). Participants provided information about their membership in three distinct communities: their local neighborhood, their student community and a self chosen interest group to which they belonged (e.g., a religious, environmental, sports group or internet group).

9.3.2 Materials and Procedure

Research materials consisted of a questionnaire which contained items that assessed basic demographics, a 10 item modified version of the Sense of Community Index (Perkins, Florin, Rich, Wandersman, & Chavis, 1990, Obst & White, 2004a), and the 12 item Three Dimensional Strength of Group Identification Scale (Cameron, 2004).

The 10 item SCI measures overall PSOC and the four dimensions underlying PSOC: Membership (e.g., "I feel at home in my *neighborhood*"); Influence (e.g., "I have almost no influence over what this *university* is like"); Emotional Connection (e.g., The people in my *interest group* get along well); and Needs Fulfillment (e.g., People in my *neighborhood* do not share the same values"). The SCI has been shown to be a sound measure of overall PSOC, however, its reliability as a measure of the dimensions has been more problematic.

The recently developed 12 item Three Dimensional Strength of Group Identification Scale (Cameron, 2004) examines three distinct dimensions of identification: Centrality (e.g., "I often think about being a member of my *interest group*"); Ingroup Affect (e.g., "In general I'm glad to be a *student at this university*"); and Ingroup Ties (e.g., "I don't feel a strong sense of being connected to others in my *local neighborhood*"). This scale has been shown to have sound psychometric properties in previous studies (e.g. Cameron, 2004, Obst & White 2004b). All PSOC and social identification items were presented on a Likert scale ranging from 1 *strongly disagree* to 7 *strongly agree* and contained both positive and negatively worded questions which were reverse scored before analysis. Questions in the scales were adapted according to the community being examined.

Situational salience items regarding each group membership were included at the end of the questionnaire (e.g., “To what extent were you responding to the questions in this questionnaire as a member of your interest group?”; “How often, when filling out this questionnaire were you thoughts drawn to your status as a student of this university”, “When filling out this questionnaire how aware were you of your identity as a member of your local neighbourhood?”). Questions were presented on a Likert scale from 1 *not at all* to 7 *very much*. These questions have been used effectively as salience measures in previous research (e.g., White et al., 2002).

9.4 Results

9.4.1 Preliminary Analysis

Table 9.1 presents the internal reliabilities, means and standard deviations for each scale in each community group. As can be seen in this table the internal reliability for each scale was moderate to high.

Table 9.1

Scale Reliabilities, Means and Standard Deviations for Each Community Group

Scale	Community Group					
	Neighborhood		Student		Interest Group	
	Alpha	Mean (SD)	Alpha	Mean(SD)	Alpha	Mean (SD)
Total PSOC	.80	39.11(9.10)	.80	46.30(7.17)	.84	51.75 (9.41)
Centrality	.75	2.95(1.27)	.81	4.32(1.31)	.85	4.22(1.31)
Ingroup Affect	.77	5.30(1.07)	.82	5.73(1.05)	.80	5.79(1.02)
Ingroup Ties	.79	3.23(1.33)	.81	4.11(1.31)	.87	4.85(1.34)
Salience	.91	4.08(1.62)	.87	5.08(1.36)	.91	4.75(1.52)

9.4.2 Predicting Psychological Sense of Community

To investigate the relationship between social identification and PSOC, a series of hierarchical regressions were run separately for each group membership, with overall PSOC as the criterion variable. In the regression for each group membership, salience was entered as the first step to examine any effect the situational context may have on PSOC. The subscales of Social Identification, Centrality, Ingroup Ties and Ingroup Affect, were entered as the second step to examine the predictive strength of each of the identification dimensions of PSOC while controlling for the influence of situational salience. The overall model of salience and the three subscales of social identification (Ingroup Ties, Ingroup Affect and Centrality) as predictors of PSOC was significant for all group memberships: neighborhood, F (4, 213) = 103.65, p = .000; student, F (4, 212) = 111.22, p = .000; and interest group, F (4, 212) = 154.90, p = .000. Table 2 presents the beta weights and correlations from the final model and the R^2 change for each of these analyses.

As can be seen in Table 9.2, salience was a significant predictor of PSOC in the student community. However, even accounting for the influence of salience, the three dimensions of social identification were all significant predictors of overall PSOC in each of the three community types. As was expected, Ingroup Ties was the strongest predictor in each group. However, for the Student and Self Chosen Interest Group, Centrality emerged as a stronger predictor of PSOC than did Ingroup Affect.

Table 9.2

Beta Weights for Salience, Ingroup Ties, Ingroup Affect and Centrality in Hierarchical Regressions Predicting PSOC in Each Community Group Membership.

	Predictor	Beta Weight	R^2 Change	Zero Order Correlation	Partial	Semi Partial
Neighborhood						
Step 1	Salience	.03	.06***	.25	.05	.03
Step 2	Ingroup Ties	.53***	.60**	.76	.55	.39
	Ingroup Affect	.29***		.46	.42	.27
	Centrality	.21***		.55	.26	.15
Student						
Step 1	Salience	.13*	.14***	.37	.20	.12
Step 2	Ingroup Ties	.47***	.46***	.65	.56	.42
	Ingroup Affect	.22***		.46	.29	.19
	Centrality	.25***		.57	.30	.20
Interest Group						
Step 1	Salience	.07	.17***	.41	.13	.07
Step 2	Ingroup Ties	.47***	.58***	.79	.57	.35
	Ingroup Affect	.25***		.65	.36	.19
	Centrality	.30***		.67	.40	.22

Note: All beta weights and correlations are taken from the final model

* $p < .05$, *** $p < .001$

9.5 Discussion

The current study has added to our understanding of the relationship between Social Identification and Psychological Sense of Community, an association that is beginning to be explored in the literature. Situational salience was only a significant predictor of PSOC in the student community, most likely due to this being the context in which the data was collected. However, even accounting for the influence of salience, as hypothesized, the three dimensions of social identification were significant predictors of overall PSOC in each of the three community types.

Past research indicates that a relationship between social identification and PSOC exists (e.g., Fisher & Sonn, 1999; Obst et al., 2002a, 2002b, 2002c), but that the strength of this relationship might vary for the different aspects of social identification. Of particular interest in the current research was the predictive influence of Centrality in comparison to the other dimensions of social identification, as previous research has indicated a strong relationship between both Ingroup Ties and Ingroup Affect with PSOC (see Obst et al., 2002a, 2002b, 2002c). As was expected, Ingroup Ties emerged as the strongest predictor of PSOC in each group. However, for the student and self chosen interest groups, Centrality emerged as a stronger predictor of PSOC than did Ingroup Affect. This finding was surprising as it was expected that Ingroup Affect would be more closely related to PSOC. This finding is in line with previous research that indicates that Centrality is a more important predictor of PSOC in relational than geographical communities (Obst et al., 2002b). It is probable that relational communities are a more important part of an individual's sense of identification as they are communities to which they have chosen to belong for ideological or personal interest. Thus, Centrality or conscious awareness of membership in the community may be enhanced.

The interplay of identification and sense of community leads us to question the similarity between the two processes. The current research indicates that there is a consistent and strong relationship between Ingroup Ties and Sense of Community. Theoretically, there is a strong association between the perception of similarity and bonds with other group members which make up the construct of Ingroup Ties and the feeling of being part of a collective of membership and the bonds developed over time through positive interaction with other community members central to the development of sense of community. In this data, both Centrality and Ingroup Affect were less closely associated with PSOC, indicating that, while clearly significant predictors of sense of community, they are measuring constructs with more theoretical distinction to PSOC. The distinction between Centrality and sense of community has been seen in previous research (e.g. Obst et. al., 2002a, 2002b, 2002c). Acknowledgment and awareness of community membership is clearly important to developing a sense of community. However, a sense of community is much more than only membership. The distinction between Ingroup Affect and PSOC is less clear. It may be that it is possible not to have strong feelings about a community but still have a sense of togetherness with other community members.

Thus, while again highlighting the strong relationship that exists between the constructs of PSOC and social identification, this brief examination of this relationship points to the fact that they are separate constructs. While Ingroup Ties, Membership and Emotional Connection have obvious strong overlaps, these results suggest that Ingroup Affect and Centrality, while predictive of PSOC, appear to be more distinct from the construct and more specific to identification processes.

The current study provides an initial examination to begin to draw out the complex relationship between identification and PSOC. These results imply that the

two constructs are strongly related, but may examine different aspects of community processes. This paper again highlights the extent to which the processes and constructs examined in social psychological research can be applied to the community psychology arena and, likewise, how social psychological research could incorporate the insights of community psychologists. While there are likely to be unique processes occurring in “groups” rather than “communities”, it would appear that some integration or transfer of theories and models could enhance the understanding in both domains.

Chapter Ten: Choosing to Belong: The influence of Choice on Social Identification and Sense of Community.

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10.1 Abstract

The influence of choice on individuals' social identification and Psychological Sense of Community (PSOC) with their group memberships is a little examined area. The current study examined participants' ($N = 219$) level of social identification and PSOC across multiple group memberships that differ in the degree of choice associated with membership. In addition, consideration was given to the influence of contextual salience on the relationship between choice and social identification and PSOC. Results indicated that, controlling for contextual salience, choice was positively associated with levels of social identification and PSOC.

10.2 Introduction

Past research has indicated that the nature of community and our sense of belonging to a community are changing. Modern society presents us with a much greater degree of choice in community membership than ever before. The current paper presents an investigation of this notion of choice and how it may influence our identification and sense of community with the communities to which we belong. The introduction presents an overview of the literature on community, sense of community, and identification, before moving on to examine work which indicates that choice in community membership may be influential on these constructs.

10.2.1 Community and Sense of Community

In today's world, meanings of community can range dramatically from the small village ideal of community (Tonnies, 1988), through to virtual communities, where members are connected through technology rather than geography (Rheingold, 1991). In its broadest sense, community can simply be seen as a set of people with some kind of shared element, which can vary widely from a situation, such as living in a particular place, to some kind of interest, beliefs or values. In this sense, then, we can all belong to multiple communities, our local neighborhoods, our workplace, and a diverse arrange of ideological or interest based groups. There is research in the community psychology arena which indicates that individuals can have a strong affiliation with various communities (Brodsky & Marx, 2001; Pretty, Andrewes, & Collett, 1994; Royal & Rossi, 1996).

From a psychological framework, the concept of psychological sense of community (PSOC) is presented as an essential element of any type of community. McMillan and Chavis (1986) developed the first psychological theory of PSOC, which remains one of the most accepted and used theoretical discussions of the

concept. This theory proposes that PSOC consists of four elements: Membership, Influence, Integration and Fulfillment of Needs, and Shared Emotional Connection. Membership refers to the feeling of belonging and identification, of being part of a community collective. The second dimension is that of Influence, a bi-directional concept, given that for a group to be attractive, an individual must feel they have some control and influence over it, while, on the other hand, for a group to be cohesive, the group itself must also have influence on its individual members. The third dimension, Integration and Fulfillment of Needs, assumes that for a community to maintain a positive sense of togetherness, the individual-group association must be rewarding for the individual members. It is suggested that common needs, goals, beliefs and values are important elements of this dimension. The last dimension is that of Shared Emotional Connection, which is based on a sense of shared history and identification with the community. It also refers to the bonds developed over time through positive interaction with other community members. McMillan and Chavis (1986) suggest that these dimensions work dynamically together to create and maintain an overall sense of community.

Although developed in a neighborhood setting, this theory has been shown to be applicable to a diverse array of communities. These include planned towns (Plas & Lewis, 1996), urban barrios (Garcia, Giulani, & Wiesenfield, 1999), the workplace (Catano, Pretty, Southwell, & Cole, 1993; Mahan, 2000; Pretty & McCarthy, 1991; Pretty, McCarthy, & Catano, 1992), religious communities (Miers & Fisher, 2002), immigrant communities (Fisher & Sonn, 1999; Sonn, 2002), student communities (Pretty, 1990) and internet communities (Obst, Zinkiewicz, & Smith, 2002a).

10.2.2 Identification

As is evidenced in McMillan and Chavis' (1986) theory of sense of community, identification with the community appears to play an important part in several of the dimensions of PSOC. In much of the literature on community, the notion of identification with the community arises in understanding members' attachment to their community, be it their geographical community (Hedges & Kelly, 1992; Puddifoot, 1994, 1996, 2003) or memberships in multiple communities, both geographical and relational (Brodsky & Marx, 2001).

Recently Cameron (2004) has put forward a three factor model of social identification, providing researchers with a tool to look more closely at the concept of identification in relation to community membership. Cameron's three factors are: *Centrality*, that is the cognitive prominence of a given group membership; *Ingroup Affect,* the emotional evaluation of that group membership; and *Ingroup Ties*, the perception of similarity and bonds with other group members.

10.2.3 Notion of Choice

In a recent study by Obst and colleagues (Obst, Zinkiewicz & Smith, 2002b) examining participants' levels of PSOC and social identification in both their local neighborhood and an interest community, results showed that the dimensions of PSOC were consistent across both interest and geographical communities. However, participants felt higher levels of PSOC and the Centrality aspect of social identification with their interest community than with their local neighborhood. This finding was also consistent across the dimensions of PSOC (Membership, Influence, Fulfillment of Needs and Shared Emotional Connection); respondents reported higher scores on all dimensions with their community of interest than with their local geographical communities. One obvious difference between membership in a geographical

community and a community of interest is the notion of choice. For most of us, there is a degree of choice in where we live; however, the choice is constrained by many variables such as work, finances, significant others, schools and other conveniences. In relational groups, members have a much greater degree of choice to belong to such communities and are drawn together through a common interest. The Obst et al. (2002b) study was limited in making stronger conclusions in relation to these findings as data was collected in the context of the community of interest rather than in a neutral context, which may have triggered the situational accessibility of membership in the community of interest.

Research has shown that the salience of group membership can have an impact on social identification measures (e.g., Hewstone, Hantzi & Johnston, 1991; Stangor, Lynch, Duan & Glas, 1992). Salience refers to the cognitive accessibility of our membership in particular groups which impacts on our behavior. This accessibility can be separated into two components: chronic and situational accessibility. Chronic accessibility refers to the ease with which that category can be cognitively activated across all sorts of social situations, while situational accessibility is the availability of a categorisation in a particular social context and which may be enhanced by contextual factors (Devine, 1989, Oakes, 1987). Therefore, in the current research, measures of contextual salience were included.

The perception of choice has been shown to have a positive impact on a number of psychological and behavioral variables. A sense of choice or freedom has been linked with greater intrinsic motivation (Zuckerman, Porac, Lathin, Smith & Deci, 1978), greater trust in leaders (Deci & Ryan, 1987), and enhanced environmental climate (Ryan & Grolnick, 1986). In the community psychology literature, an early study by Compas (1981), which examined the influence of

perceived choice on the PSOC of group members in a minimal groups design, found that individuals who perceived a greater degree of choice in belonging to an experimental group reported a greater sense of community than those who felt they had less choice in belonging to the group.

In the literature exploring ingroup identification, the notion of choice has arisen in some studies. In a study examining ingroup bias, (Finchilescu, 1986) found that participants categorized into a group to which they had chosen to belong displayed more ingroup bias than those who were categorized into a group that differed from their choice. Other more recent studies have found that participants only identified with a group when the assigned categorization coincided with their self-categorization of group membership (Barreto & Ellemers, 2002), and that affective commitment to the group was higher when participants self-selected their group membership (Ellemers, Kortekaas, & Ouwerkerk, 1999). Hence, there seems to be some support for the notion that group processes may be stronger in groups that members choose to belong to.

10.2.4 Current Study

Thus, the major aim of the current study was to examine empirically if the degree of choice of community membership was associated with higher levels of overall PSOC and social identification. This was further examined at the dimensional level of each construct. Data regarding participants' level of PSOC and social identification with three distinct group memberships was collected. These group memberships differed in the degree of choice available to participants in becoming members. The low choice category was participants' local neighborhood. Although there can be a degree of choice in where we live, a number of factors such as financial, practicality, work and family related factors impinge on our decision. Deciding to be a student at a particular university (medium choice category) has

more choice involved; however, it is still restricted by a factors such as place availability, prior academic achievement, and convenience factors. The category representing high choice was a self chosen interest group (e.g., sports club, religious group, environmental group, internet group). As membership is based purely on personal interest, there are negligible constraints on membership choices.

Secondly, the current study aimed to control for the influence of the salience of group membership on social identification and PSOC. Situational salience was controlled for by priming techniques, (i.e., having students write down the name of each category before answering questions on that group membership). Further, salience checks, taken from White et al. (2002), were included at the end of the questionnaire, and salience entered as a covariate in all analyses.

Based on the findings of research examining choice in the social identity theory literature (Barreto & Ellemers, 2002; Ellemers et al., 1999; Finchilescu, 1986), it was expected that identification would increase as the degree of choice over membership in the group increased. Further, it was expected that this would be seen on both the cognitive (Centrality) and affective dimensions (Ingroup Ties and Ingroup Affect) of social identification. Based on the findings of Compas (1981) and Obst et al. (2002b), it was also expected that PSOC would increase with the greater degree of choice in group membership and this would also be reflected across the dimensions of PSOC (Membership, Emotional Connection, Needs Fulfillment and Influence).

10.3 Methodology

10.3.1Participants

Participants were 219 first year university students (63 males and 156 females), who participated in the experiment to gain course credit. The age range was 17 years to 62 years with a mean of 23.4 years (*SD* = 8.51). The majority were single

(74%), 19% were married or in a defacto relationship and 7% were divorced or separated. Twenty percent were from a non-English speaking background.

10.3.2 Pilot Study

To ensure that the chosen categories of neighborhood, university student, and self chosen interest group, represented low, medium and high levels of choice, a pilot study was conducted with 19 undergraduate students, 3 males and 16 females, with an age range of 18 to 36 years (M = 25.37, SD = 5.58). The study asked participants to indicate on a scale from 1 (*no choice*) to 7 (*complete choice*) the degree of choice they felt they had in belonging to these groups. A one way ANOVA was conducted which revealed these groups differed significantly in the degree of choice associated with their membership (F (3, 13) = 53.63, p = .000). Bonferroni adjusted post hoc analysis revealed that the mean level of perceived choice associated with membership in a local neighborhood (M = 4.43) was significantly lower than that associated with being a student (M = 5.75), which, in turn, was significantly lower than that associated with membership in a self chosen interest group (M = 6.62).

10.3.3 Materials and Procedure

Research materials consisted of a questionnaire containing 79 items. Four items assessed basic demographics: sex, age, ethnicity, and marital status. Twenty-two items assessed PSOC and social identification. These 22 items were repeated for each of three communities, which differed in the degree of choice of membership. Low choice was represented by the category “local neighborhood”, medium choice of membership was represented by the category “student of a particular university”, and high choice was represented by a self selected interest group (e.g., religious group, environmental group, sports club or internet-based chat group).

PSOC was measured by a modified version of the Sense of Community Index (Perkins, Florin, Rich, Wandersman, & Chavis, 1990), adapted for the purpose of this research. This 10 item scale was repeated for each of the three community memberships with items modified consistently across communities. This 10 item scale measures overall PSOC and the four dimensions underlying PSOC: Membership (e.g., "I feel at home in my *neighborhood*"); Influence (e.g., "I have almost no influence over what this *university* is like"); Emotional Connection (e.g., The people in my *interest group* get along well); and Needs Fulfillment (e.g., People in my *neighborhood* do not share the same values"). While the SCI has been shown to be a sound measure of overall PSOC, its reliability as a measure of the dimensions has been more problematic. However, in the current study a modified version of the scale was used, which has been shown to provide an adequate measure of the four dimensions of PSOC, as well as overall PSOC (Obst & White, 2004a).

Social identification was assessed by the Three Dimensional Strength of Group Identification Scale (Cameron, 2004). This recently developed 12 item scale was chosen as it examines three distinct dimensions of identification: Centrality (e.g., "I often think about being a member of my *interest group*"); Ingroup Affect (e.g., "In general I'm glad to be a *student at this university*"); and Ingroup Ties (e.g., "I don't feel a strong sense of being connected to others in my *local neighborhood*"). This scale was repeated for each of the three community memberships. This scale has been shown to have sound psychometric properties (Cameron, 2004; Obst & White, 2004b). All PSOC and social identification items were presented on a Likert scale ranging from 1 *strongly disagree* to 7 *strongly agree*. The scales contained both positive and negatively worded questions. Negatively worded questions were reverse scored before analysis.

To control for situational salience of group membership, each group membership was primed by having participants write down the name of the group immediately before answering questions regarding that membership. Further, three salience check items regarding each group membership were included at the end of the questionnaire (e.g., "To what extent were you responding to the questions in this questionnaire as a member of your interest group?"; "How often, when filling out this questionnaire were you thoughts drawn to your status as a student of this university?", "When filling out this questionnaire how aware were you of your identity as a member of your local neighborhood?"). Questions were presented on a Likert scale from 1 *not at all* to 7 *very much*. These questions have been used effectively as salience checks in previous research (White, Hogg & Terry, 2002). The questionnaires were counterbalanced in relation to the presented order of group membership items. Analysis via ANOVA confirmed that no order effects existed.

10.4 Results

10.4.1 Preliminary Analysis

Missing data was random across variables and deleted list wise during analysis. Scale construction was based on participants who responded to 75% or more of items on any scale. Data was screened for outliers and normality.

10.4.2 Scale Reliabilities

Table 10.1 presents the internal reliability calculated via Cronbach's alpha for the Sense of Community Index and the Three Factor Strength of Identification Scale and the corresponding subscales of each measure for each community. As can be seen from this table, the reliability of the total scales was high across all community types, while the subscale reliabilities ranged from moderate to high.

Table 10.1

Internal Reliabilities for the SCI and TDSIS total scales and subscales.

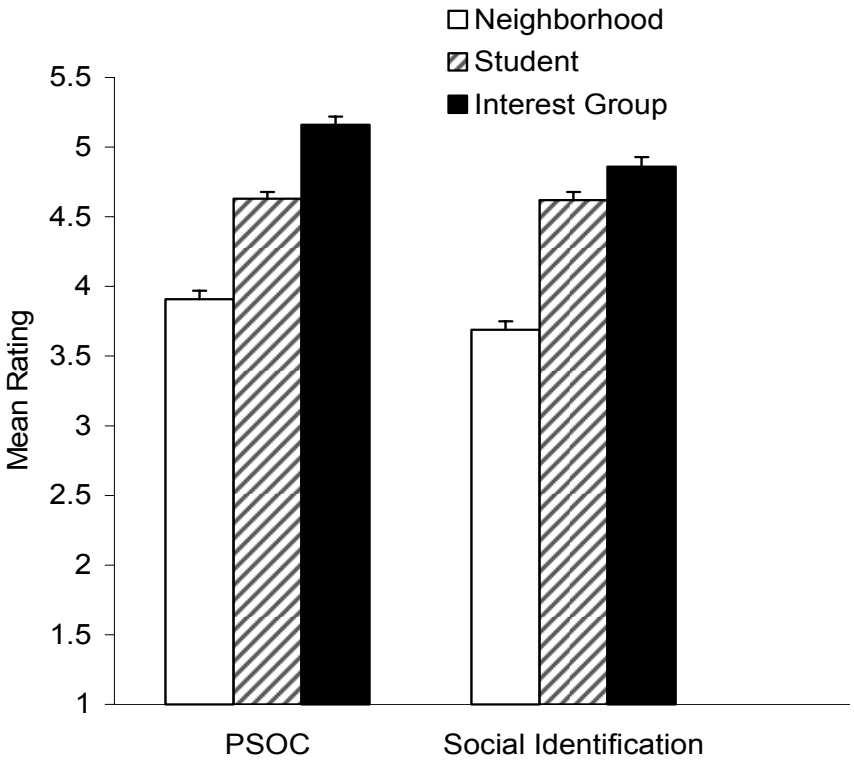
	Community Group		
Scale	Neighborhood	Student	Interest Group
Total Identification	.82	.84	.91
Centrality	.75	.81	.85
Ingroup Affect	.77	.82	.80
Ingroup Ties	.79	.81	.87
Total PSOC	.80	.80	.84
Membership	.75	.78	.77
Influence	.71	.71	.76
Emotional Connection	.70	.71	.76
Needs Fulfillment	.75	.77	.80

10.4.3 Influence of Choice

Examination of the influence of choice on social identification and PSOC was carried out via a series of repeated measures ANCOVAs. In all cases, salience of group membership was entered as a covariate in order to control for any possible confounding effects of this variable.

10.4.3.1 Identity. Controlling for salience, a significant difference in overall social identification between community groups was found F (2, 210) = 4.45, p = .013. Bonferroni adjusted pairwise comparisons revealed that all groups differed significantly. Neighborhood social identification (M = 3.69, SD = 0.96) was lower than student social identification (M = 4.62, SD = 0.95), which, in turn, was lower than interest group social identification (M = 4.86, SD = 1.03) (see Figure 10.1).

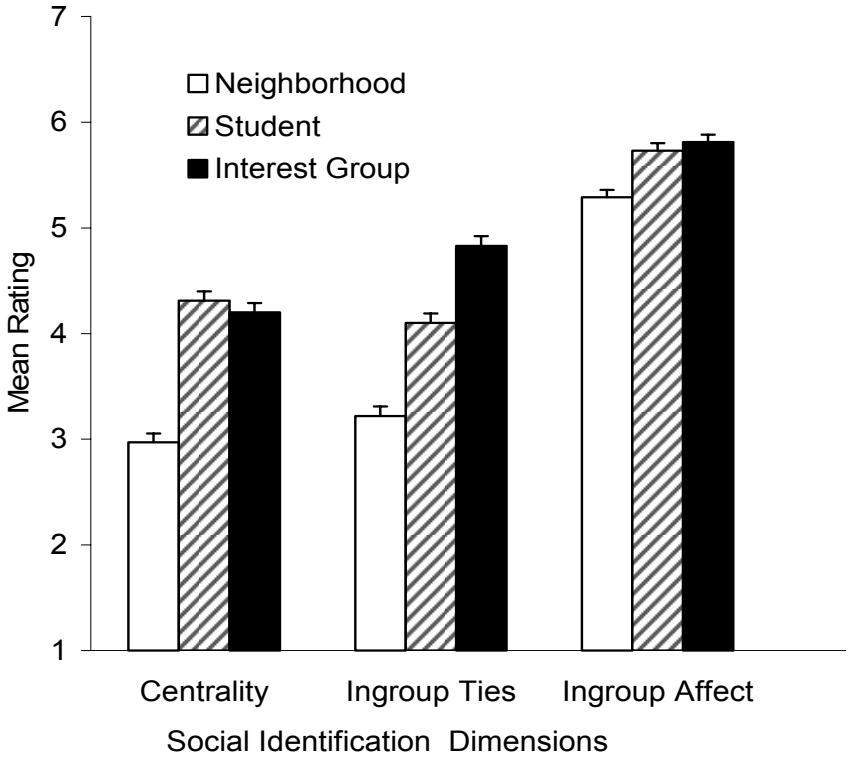
Figure 10.1. Mean social identification and PSOC across group memberships.



This pattern differed somewhat in the subscale differences. Controlling for salience, a significant difference emerged between groups on the subscales Ingroup Ties, F (3, 210) = 4.85, p = .009 and Centrality, F (3, 210) = 5.13, p = .007. Figure 10.2 shows mean ratings for each social identification subscale across group memberships. Bonferroni adjusted pairwise comparisons revealed that the mean responses were significantly higher on the Ingroup Ties subscale when responding as a member of an interest group (M = 4.83, SD = 1.33) than as a student (M = 4.10, SD = 1.32) and were significantly lower than both groups when responding as a member of their neighborhood (M = 3.32, SD = 1.33). When responding as a neighborhood member (M = 2.97, SD = 1.27), respondents displayed lower scores on the Centrality subscale than when responding as a student (M = 4.31, SD = 1.32) or as a member of

an interest groups (*M* = .20, *SD* = 1.29). These latter groups did not differ significantly on the Centrality subscale. Respondents did not show differences in mean levels of Ingroup Affect between the three group memberships.

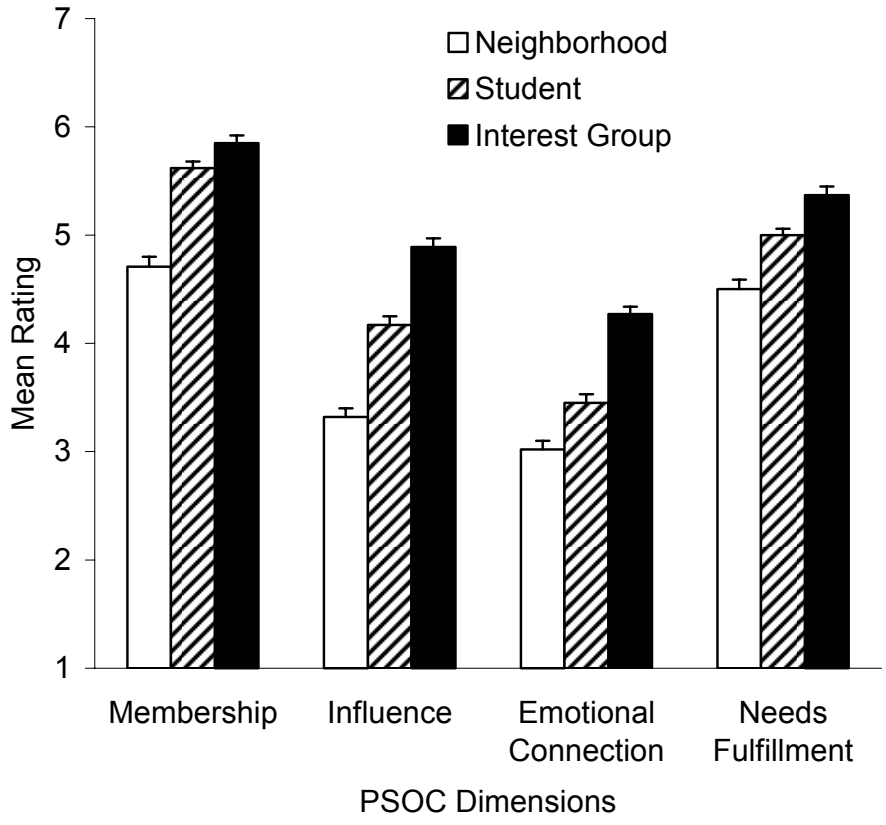
Figure10. 2. Mean rating on social identification subscales across group memberships.



10.4.3.2 Psychological Sense of Community. Controlling for salience, a significant difference in overall PSOC between community groups was found, *F* (2, 210) = 3.44, *p* = .034. Bonferroni adjusted pairwise comparisons revealed that all groups differed significantly from each other. Neighborhood PSOC (*M* = 3.91, *SD* = 0.91) was significantly lower than student PSOC (*M* = 4.63, *SD* = 0.72), which, in

turn, was significantly lower than when responding as a member of their interest group (M = 5.16, SD = 0.93) (See Figure 10.1).

Figure 10.3. Mean ratings for each dimension of PSOC across group memberships.



This pattern of results also emerged on the subscales of PSOC. Respondents' means levels of Influence differed significantly between group memberships, F (3, 210) = 5.39, p = .005. Figure 10.3 shows mean ratings for each dimension across group memberships. Mean PSOC responses as a member of an interest group (M = 5.62, SD = 0.92) were higher than responses as a student (M = 4.17, SD = 1.51), which were higher than mean responses as a member of a local neighborhood (M = 3.32, SD = 1.21).

Respondents' mean levels of Membership differed significantly between groups, F (3, 210) = 4.25, p = .005. Mean responses as a member of an interest group (M = 5.85, SD = 0.99) on the Membership subscale were significantly higher than mean responses as a student (M = 5.62, SD = 0.92), which were significantly higher than responses as a member of their neighborhood (M = 4.71, SD = 1.27).

This pattern also emerged on the Emotional Connection subscale, F (3, 210) = 3.23, p = .042. Mean responses as a member of an interest group (M = 4.27, SD = 1.43) on the Emotional Connection subscale were significantly higher than mean responses as a student (M = 3.45, SD = 1.15) which, again, were higher than responses as a member of their neighborhood (M = 3.02, SD = 1.09). This pattern of results also emerged on the Needs Fulfillment subscale, F (3, 210) = 5.37, p = .005. When responding as members of an interest group (M = 5.37, SD = 1.13), mean levels of Needs Fulfillment were higher than when responding as a student (M = 5.00, SD = 0.92), which were, in turn, higher than mean responses a member of a local neighborhood (M = 4.50, SD = 1.30).

10.5 Discussion

The findings of the current study suggest that the degree of choice we have in our community group memberships may be influential on individuals' sense of belonging towards that community group. The results are supportive of the hypotheses that the degree of choice we have in being a member of a community group is associated with higher levels of social identification and PSOC. Importantly, these findings emerged irrespective of the impact of the situational context, indicating that differences in social identification and PSOC were not due to contextual priming of certain group memberships. For example, in the current study, the student

membership category had higher contextual accessibility as the questionnaires were completed within a university context.

10.5.1 Social Identification

Levels of social identification with each group membership increased significantly as the degree of choice associated with that membership increased. Participants showed the lowest levels of social identification with their local neighborhood community, a group membership constrained by a number of factors including family, work and financial constraints. Participants identified more strongly with the student category which, while arguably still having some restrictions such as academic performance, and place availability, has a greater degree of choice than where you live. Participants identified most strongly with their self-chosen interest group. Membership in this category was based on participants' individual interests and was, therefore, more likely to be an important source of social identity for participants. These findings are consistent with other research findings indicating a positive association between choice and ingroup ratings, bias, commitment and self categorization (Barreto & Ellemers, 2002; Ellemers et al., 1999; Finchilescu, 1986)

A more in-depth examination of social identification, via analysis of the three subscales, reveals a slightly more complex picture. Ingroup Ties can be viewed as a similar concept as ingroup cohesiveness, emphasizing identification with other group members rather than the group as a whole (Cameron, 2004). In the current study, participants felt a greater cohesiveness with other students than with other members of their neighborhood. This finding is understandable given that participants would probably have much more in common with other students than their neighbors. Participants felt the strongest ties with other members of their

interest group. As members of such groups are drawn together through a common interest and often a common associated ideology, a strong sense of cohesion is likely to result. Thus, the degree of choice in membership is likely to lead to members having more in common and, therefore, a greater level of connectedness to other members.

Participants' awareness and readiness to respond as a student or a member of their interest group was equally high. Membership in an interest group, is potentially an important social identity. Being a member of Amnesty International or Greenpeace, a religious group or even a gym, says something important about the identity of a person. Being a student is obviously also an important social identity, as it is a large part of participants' current social self. So, although choice in being a student is more restricted than being a member of an interest group, the awareness and cognitive readiness of the student category is also high. Thus, both the student and interest group categories had a greater importance for the social identity of the participants than the local neighborhood category and, thus, their awareness of their membership in these communities was high.

The finding that group memberships did not differ on Ingroup Affect was unexpected. Ingroup Affect relates to the feelings associated with our group membership (Cameron, 2004). It would seem logical, then, to hypothesize that individuals would feel more positively towards group memberships that they had a greater degree of choice in belonging to. However, in the current study, the level of positive affect was high for all group memberships, in fact considerably higher than the means for the other two social identification subscales. The lack of difference between groups on this subscale may have been attributable to a ceiling affect. It is possible that conscious awareness and connectedness to other community members

may be more tangible and specific aspects of social identification (where individuals differentiate between various community memberships), whereas our generalized feelings towards a community may reflect more an overall positive regard for the communities to which we belong.

It should be noted that other group related factors, such as size and status, may also have influenced these findings. For example, while members of high status groups will identify strongly with their group (e.g., Ellemers, van Knippenberg, de Vries, & Wilke, 1988; Ellemers, van Knippenberg & Wilke, 1990; Rijsman, 1983), members of low status groups, not being provided with a satisfactory social identity, may not have such high levels of social identification (Hogg & Abrams, 1988). It is possible that participants saw the student of interest groups as having higher status than their local neighborhood. Size of the group can also influence social identification (Hogg & Abrahams, 1988). It is likely that the interest groups were much smaller than the student or neighborhood categories fostering higher levels of group cohesiveness. However, the influence of choice of group membership on differences in social identification with these memberships remains a plausible and consistent explanation of these findings in line with social identity theory assumptions. Integration of other group-related variables should be considered in future research within this domain.

10.5.2 Psychological Sense of Community

Similarly to the effect of choice on social identification, participants' levels of overall PSOC increased significantly as the choice associated with membership in the community group increased. Thus, the current results provide support for previous findings (e.g., Compas, 1981; Obst et al., 2002b) which found higher levels of PSOC in groups in which they had a greater degree of choice in belonging.

The pattern of results across the dimensions of PSOC, reflect the findings of overall PSOC. Membership scores increased significantly with each increase in the level of choice of group membership. The highest sense of belonging was seen in the self chosen interest group, indicating that choosing to belong to a community of people with similar interests resulted in a greater feeling of belonging to that community.

Emotional Connection, the bonds developed through interaction with other community members, also increased with greater degree of choice of group membership. This finding is again most likely due to the common interest which has drawn them together to form the community. Similarly, the perceived similarity and closeness to other students of the university was greater than that with members of their neighborhood.

The highest mean levels of Needs Fulfillment were seen in the self selected interest group. Many of the self selected interest groups participants belonged to were political (e.g., student union), environmental (e.g., Greening Australia), religious, or lifestyle related (e.g., sports clubs), which represent an ideology or an interest. These groups have a focused purpose and, as such, participants are more likely to have common goals, beliefs and values with other members of such groups than with their neighbors, who are likely to have more diverse interests. Mean levels of Influence also increased with the level of choice of community membership. Again, the effect of choice may explain this finding. Few people are likely to choose to belong to a community in which they feel little or no influence.

Hence, these results add empirical strength to the notion that having a greater degree of choice in being a member of a particular community may lead to higher levels of overall PSOC and the dimensions of Membership, Emotional Connection, Needs

Fulfillment, and Influence. Thus, the findings of the current research support and strengthen those of Obst et al. (2002) and Compas (1981).

Taken together, these results evidence the changing nature of community. Respondents felt comparatively lower levels of membership, emotional connection, influence, and needs fulfillment with their local neighborhoods and higher levels of all four dimensions with their self selected interest group. These results indicate growing importance in our current society of communities which develop from common interest rather geography, which provide new community networks to meet needs traditionally met by the neighborhood setting.

10.5.3 The Impact of Choice: Theoretical and Practical Implications

The aim of the current study was to present an initial examination of the construct of choice of group membership and how it may impact on the psychological processes of social identification and PSOC. The findings of the current study provide some initial evidence that choice of group membership may impact on social identification and PSOC and builds on past research which has indicated that such a relationship may exist (e.g., Barreto & Ellemers, 2002; Compas, 1981; Obst et al., 2002b). By controlling for situational salience, these results provide stronger evidence for the influence of choice of membership on respondents' social identification and PSOC with these communities.

While a large body of research into PSOC begins to give us an insight, still much is unknown about the processes underlying individuals' development and maintenance of a sense of community in the communities to which they belong. Amongst the myriad of factors that can impact upon the strength of connections, sense of belonging, feelings of influence, and needs fulfillment, it seems that a sense of choice in belonging to a community may be one factor that can positively

influence these elements. If we look more broadly at the significance of a sense of choice and the associated values of freedom or personal autonomy, it is not surprising. Rokeach (1973) wrote extensively on the importance to our core human values of a sense of freedom and autonomy. Fiske (2004) views having a sense of control as an important aspect of individuals' feelings of effectiveness in both their selves and their social environments. Perceived choice has been shown to have a positive influence on a number a psychological processes and behaviors (e.g., Deci & Ryan, 1987; Ryan & Grolnick, 1986; Zuckerman et al., 1978). Thus, it is clear that a sense of choice or autonomy can have a strong impact on how we view the world and operate within it. While there are many other aspects of our community memberships that will impact on our sense of community and identification with that community, this study provides some initial evidence that having a sense of choice in belonging to a particular community may have a positive effect on these constructs. *Limitations*

There are several limitations in the current study which should be noted. Firstly, this sample was an urban, predominately young population. Past research has shown that various demographic variables such as age, gender, having children, length of membership, participating in local community organizations, and the size of the town of residence also impact on PSOC (e.g., Buckner, 1988; Davidson, Cotter & Stovel, 1991; Lounsbury & De Neui, 1996; Obst et al., 2002c; Prezza & Costantini, 1998; Wandersman & Giamartino, 1980). Future research needs to be conducted in different and more diverse populations to examine if the influence of choice is generalizable to other populations.

Secondly, in the current study, participants' social identification and PSOC was assessed with different community memberships which ranged in the degree of choice associated with membership, from low to high. A continuum beginning from

some choice was used in this study as research from a social identity theory perspective indicates different processes are likely to occur in groups where group boundaries are perceived as permeable, (i.e. some choice) and when group boundaries are seen as impermeable as in a no choice group such as gender or ethnicity. In such categories the individuals' social identity may be integrated with their personal identity. Thus, levels of social identification may actually be higher in a no choice category than in a high choice category (Hogg & Abrams, 1988; Tajfel & Turner, 1979). Future research could incorporate considerations of no choice categories and how absence of choice may impact upon the processes underlying social identification and PSOC.

Finally, while a pilot study was used to provide evidence for the memberships chosen to represent different degrees of choice, other factors may also have differed between these community types, such as size, time perspective in being a community member, and length of membership status. The results presented here are an initial examination of the construct, which indicate that further research into the influence of choice is warranted to strengthen the empirical evidence of the current results.

10.5.4 Conclusion

The results of this study have presented initial evidence for the notion that degree of choice of membership may influence levels of social identification and PSOC with that community group. By controlling for the effects of the salience of group membership, differences emerging between groups can be attributed to the difference in the level of choice rather than the situational accessibility of the group membership. The findings of the current study also have a practical application for those working with communities. Programs that heighten individuals' awareness of

the degree of choice associated with that membership may be useful in developing and enhancing individuals' PSOC and identification with those communities.

Finally, the current study also provided an original examination of community membership by examining participant's membership in concurrent groups. Thus, this study has added to the growing evidence that we can and do find sense of community in the many and varied groups to which we belong. The results of the present research indicate that a factor which may have an important contribution to make, both theoretically and practically is the extent to which community members perceive that they have a choice in being a member of their particular community.

Chapter Eleven: General Discussion

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11.1 Introduction

The seven papers presented in this manuscript add substantially to the theoretical understanding of Psychological Sense of Community. The first three papers (Papers 1-3) examined the underlying dimensions of PSOC in both geographical and relational communities and the role of social identification in these dimensions. The next two papers (Papers 4-5) looked at the empirical measurement of social identification and PSOC. Paper six then presents an exploration of the relationship between the dimensions of social identification and PSOC. The last paper (Paper 7) examines the influence of the degree of choice in community membership on PSOC and social identification with a community. The following discussion brings together the results from each of these articles to present a synthesis of the key findings of the current program of research and how this research contributes to theory and practice in the field. The strengths and limitations of the research are then discussed. Finally, this chapter provides recommendations for future research which extends from the current program of research.

11.2 Integration of Key Findings

11.2.1 Underlying Dimensions of PSOC

The first stage of the current research sought to elucidate the dimensions underlying PSOC. As noted, there is much confusion in literature as to the nature and number of dimensions underlying this construct. Thus, in the first stage of the current research, PSOC was measured using a large number of existing scales to test the dimensions of PSOC proposed by previous research. This was done for both a large, mainly non-contact, relational community (Science Fiction Fandom) and a large

sample of urban regional and rural geographical communities, which allowed an examination of the communality of dimensions across community types.

The results of these studies showed that there was a clear four factor structure which emerged fairly consistently across geographical and relational communities. The factors that emerged in the factor analyses support those theorized by McMillan and Chavis (1986). In the relational community data, the first factor, tapped items dealing with being attached to, a part of, or belonging to SF fandom. Some ingroup identification items from the ingroup ties and affective dimensions of social identification, also loaded on this factor. This factor fits with McMillan and Chavis' (1986) dimension of Membership, the underlying sense of belonging and identification with the community.

Items loading on the second factor were those relating to the similarity of members and the ability of members to work together and get things done. This factor fits with McMillan and Chavis' (1986) notion of Fulfilment of Needs, which taps the idea that PSOC allows individuals to get their needs met through cooperative behaviour within the community, thereby reinforcing individuals' appropriate community behaviour.

Factor three tapped items reflecting emotional support and friendship. Items from the ingroup ties aspect of social identification also loaded on this factor. This factor fits with McMillan and Chavis' (1986) notion of Shared Emotional Connection, again highlighting the importance of contact. Finally, the last factor tapped items related to influence over the organization and leadership, is similar to McMillan and Chavis' notion of Influence. This represents the reciprocal relationship between individuals and the community in terms of their impact on one another.

In the geographical community data, a factor analysis of these multiple scales also supported the four dimensions theorized by McMillan and Chavis (1986). The first factor taped items dealing with creating friendships and emotional ties within the community and the similarity of community members, which fits with McMillan and Chavis' notion of Emotional Connection. The second factor tapped items related to influence over the area and the leadership by local councillors. This factor is congruent with McMillan and Chavis' notion of Influence, being concerned with the idea of a reciprocal relationship between individuals and the community in terms of their impact on one another.

Items loading on the third factor related to support available in the community and the ability to work together and get things done. This factor is similar to McMillan and Chavis' (1986) notion of Fulfilment of Needs, which taps the idea that a sense of community enhances feelings of support and safety within their neighbourhood and the belief that needs will be met within the community. Factor four tapped items dealing with being attached to, being a part of, or belonging to the neighbourhood. Again, ingroup identification items tapping the affective and ingroup ties aspects of identification, also loaded on this factor. This factor fits with McMillan and Chavis' dimension of Membership, which they state is the underlying sense of belonging and identification with the community collective.

It is of interest to compare the factor structure which emerged in the geographical community with the structure that emerged in the interest community. While Membership, and Influence emerged as almost identical factors, Emotional Connection and Needs Fulfilment loaded a little differently in the two community types. In the interest community data, items relating to shared values and common beliefs loaded with those relating to cooperative behaviour whereas in the

geographical community data they loaded with items relating to friendship and community ties. Thus, in the geographical community, the factor indicative of Fulfilment of Needs deals with more tangible aspects of being able to depend on people, receiving help when needed, and the community's ability to achieve goals, rather than dealing with more emotional feelings of similarity between members. This difference may be because, in geographical communities, the community is required to provide for more tangible needs, such as safety and security issues, without the necessity for one to be very similar to one's neighbours. Similarity may be less important than tangible support when developing friendship and ties within a geographic community where you live. In an interest community, there may already be a sense of similarity present as members are joined together through their common interest and this similarity provides the cohesive force for cooperative behaviour and community achievements.

By factor analysing a large number of PSOC scales with items measuring a large number of dimensions, these studies were exploratory in nature. Hence, the emergence of these four factors across both the relational and geographic communities provide strong support for the four dimensional theory of McMillan and Chavis (1986). However, it is also important to note that contextual differences in the exact composition of these dimensions did emerge. This indicates that while PSOC is applicable across community types, consideration still needs to be made of the context in which the community is operating.

Paper two also examined the underlying dimensions of PSOC in both relational and geographical communities; however, measures were confined to the Sense of Community Index (SCI) and the Three Dimensional Strength of Identification Scale (TDSIS) only. This paper collected data for the same participants

across their community of interest and their geographical community, thus allowing a direct comparison between how individuals perceive their membership in these two community types. Again, the factors that emerged in the factor analysis supported those theorized by McMillan and Chavis (1986) regarding participants' PSOC with both the relational community (SF Fandom) and their respective geographical communities.

The emergence of these factors in both relational and geographical communities provides strong support for McMillan and Chavis' (1986) conceptualization of PSOC. Furthermore, it indicates that this theoretical conceptualization can be applied equally well to geographical communities and communities of interest. Again, however, in line of the findings of slightly different factor loadings in the geographical and relational community data, the influence of the community context must also be considered. The overall support for McMillan and Chavis' theoretical conceptualisation of PSOC, is important in terms of theory building in the PSOC area, given the evolving nature of community settings.

11.2.2 The Role of Identification

In all three papers from Stage One of the research examining the dimensions of PSOC, both a unidimensional (Brown et al., 1986) and a multidimensional (Cameron, 2004) measure of social identification were included. The multidimensional Three-Dimensional Strength of Identification Scale measures three aspects of identification: *Ingroup Ties*, the sense of connection with other group members; *Ingroup Affect*, the affective component of identification, the feeling of fitting in; and *Centrality* or awareness of group membership, the extent to which group membership contributes to self-definition. The use of this scale allowed for a more indepth exploration of the relationship between social identification and PSOC.

In all of the factor analyses conducted on both the relational and geographical communities, a factor emerged beyond the four theorized by McMillan and Chavis (1986). The items that loaded on this factor reflected conscious identification and awareness of fellow members. This factor was, therefore, labelled Conscious Identification. Interestingly, the items from Cameron's (2004) scale measuring Ingroup Ties loaded mainly on the factors of, Membership and Shared Emotional Connection while the items measuring Ingroup Affect loaded on the Membership factor. The items from Cameron's scale which measured Centrality were those that formed the basis of the factor of Conscious Identification. These results suggested that the distinct aspects of identification may relate to different dimensions of PSOC. While the affective and ingroup ties aspects of social identification were subsumed within McMillan and Chavis' theorized dimensions of PSOC, knowledge and awareness of group membership is a separate and important construct, not subsumed by the existing dimensions of PSOC.

The Centrality aspect of social identification refers to the cognitive accessibility and importance of the group membership. Hence, this Conscious Identification factor seems to refer to the cognitive acknowledgment of membership in the community and the importance of this membership to one's own self definition. This dimension does not appear to be an aspect of existing PSOC dimensions, but certainly the more important a community is to one's sense of self, the more likely you are to have strong feelings about that community.

The interplay of identification and sense of community leads us to question the similarity between the two processes. The results of this body of research indicate that there is a consistent and strong relationship between Ingroup Ties, and Sense of Community. Examination of the table in Appendix D, which presents the correlations

between the dimensions of PSOC and social identification in all studies of this thesis, indicates that the strongest Ingroup Ties is most strongly related with Membership and Emotional Connection. Theoretically there is indeed a strong relationship between the perception of similarity and bonds with other group members which make up the construct of Ingroup Ties and the feeling of being part of a collective of membership and the bonds developed over time through positive interaction with other community members central to shared emotional connection. The table in Appendix D also shows that Ingroup Affect and Centrality emerged as most closely related to Membership and Emotional Connection. Thus, while again highlighting the strong relationship that exists between the constructs of PSOC and social identification, the results presented in this thesis indicate that they are separate constructs. While Ingroup Ties, Membership and Emotional Connection have obvious strong overlaps, these correlations suggest that Influence and Needs Fulfillment are dimensions more specific to PSOC and less strongly related to identification.

11.2.3 The Dimensions as Predictors of Overall Sense of Community

When the strength of the PSOC dimensions and Conscious Identification in predicting overall sense of community was compared in relational and geographical communities, differences did emerge. In the relational community (SF fandom), Conscious Identification with fandom emerged as the strongest predictor, while in the neighbourhood setting it was the weakest predictor. The Membership dimension was a strong predictor in both communities. This finding suggests that Membership is an important dimension of sense of community in whatever context we are examining. Conscious Identification, however, may be more important in the communities to which we choose to belong than in those communities which we may

have made a less conscious decision to join. Influence was an important predictor in geographical communities; however, it did not emerge as strongly in the interest community.

In the large geographical community study, after controlling for the effects of demographic factors, again all the underlying dimensions of PSOC and Conscious Identification emerged as independent predictors of overall sense of community. In this geographic sample, Conscious Identification actually emerged as the strongest predictor of global PSOC. The more consciously aware a resident was of their membership in their particular community, the more likely they were to have a strong sense of community. Membership and Shared Emotional Connection were the next most important predictors, with Influence and Needs Fulfilment the weakest predictors of global SOC within the community of interest.

Thus, while differences emerged between the importance of the dimensions as predictors when comparing the same participants' PSOC in a relational and geographical community, these differences did not emerge again when examining geographical communities alone. One explanation for this finding may have been that the context in which participants filled out the questionnaire was that of their relational community, not their geographical community. Being at a SF fandom convention may have made their fandom identity more salient which may, in turn, have influenced these results.

In paper six a further exploration was made of the predictive strength of the social identification dimensions of PSOC. As was expected, Ingroup Ties was the strongest predictor in each group. However, for the Student and Self Chosen Interest Group, Centrality emerged as a stronger predictor of PSOC than did Ingroup Affect. This is in line with the findings from the earlier papers that indicated that Centrality

was a more important predictor of PSOC in relational than geographical communities (Obst et al., 2002b). This finding is perhaps due to relational communities being a more important part of an individuals personal identification as they are communities to which they have chosen to belong for ideological or personal interest.

Overall, these findings do show that each of the dimensions of PSOC and social identification are significant predictors of overall sense of community. This indicates that each of these dimensions is important to the development and maintenance of an overall sense of community.

11.2.4 Differences in Geographical and Relational Communities

Firstly, what does emerge in the comparison of findings between the relational and geographical communities is the consistent support for McMillan and Chavis' (1986) four theorized dimensions in both community types. However, the differences in the exact make up of the dimensions did differ slightly between these two community types. Conscious identification also emerged as a separate dimension to existing PSOC dimensions in both the relational and geographical communities. Finally, the four existing PSOC dimensions and Conscious Identification emerged as significant predictors of overall sense of community in both community types.

The results of the first paper show that members of SF fandom felt high levels of PSOC. This is an important finding, suggesting that PSOC can be a strong facet of communities of interest. This finding may be due to the fact that members choose to belong to such communities and are drawn together by a common interest. In the first paper, this was an important finding as SF Fandom operates on an international basis with fewer geographical connections than most other relational communities. In fact, over a quarter of the sample in the study report interacting with other fans primarily over the internet rather than face-to-face. Furthermore, the fact

that no significant differences emerged in the PSOC of those whose major contact was text based rather than face-to-face suggests that regular face-to-face contact is not essential to the development and maintenance of PSOC. Thus, strong PSOC can exist in the absence of geographical proximity and regular face-to-face contact.

The results of the second paper showed that, although the dimensions of PSOC were essentially consistent across both interest and geographical communities, participants felt higher levels of PSOC with fandom than with the geographical communities within which they live. This finding reiterates the proposition that PSOC can be a strong facet of communities of interest. Higher scores on each of the factors also emerged in relation to PSOC with fandom, the community of interest, than in their PSOC with geographical communities. Respondents reported feeling more belonging, ties, shared values and influence with fandom than with their local communities. Respondents were also more aware of their membership in fandom, their community of interest, than in their geographical community membership. This finding, again, may be due to the fact that members choose to belong to such communities and are drawn together through a common interest. However, this study was limited in making stronger conclusions in relation to this finding, as participants responded to PSOC and social identification items at a SF convention rather than in their local neighbourhood or a neutral setting. Thus, the SF Fandom community may have been more salient at the time of filling out the questionnaire, leading to higher reported levels of PSOC and social identification with fandom than their geographical communities.

The results of paper seven, where respondents were asked about the PSOC they experienced in relation to several community types (their neighbourhood, their student body, and an interest group they belonged to), contribute further

understanding of the differences between individuals' experience of social identification and PSOC in relational and geographical communities. In this study, situational salience was controlled for in all analyses. Results again demonstrated that the lowest levels of PSOC occurred in respondents' membership in their local neighbourhoods. Further, respondents felt comparatively lower levels of membership, emotional connection, influence, and needs fulfilment with their local neighbourhoods and higher levels of all four dimensions with their self selected interest group.

Together, these results attest to the importance, in our current society, of communities which grow from common interest rather than geography in the development of new community networks. These findings also highlight the greater degree of choice we have in our current society in the number and types of communities to which we can belong.

11.2.5 Role of Choice

As noted above, the differences which emerged between the relational and geographical communities in the second paper led to the suggestion that such differences may have been due to the amount of choice participants had in belonging to their respective communities. However, because of the possible confound of situational salience and the effect that salience may have on identification and other group processes, a study which controlled for any influence of salience was needed in order to draw stronger conclusions. The final paper in this thesis examined the role of choice on PSOC and social identification, while controlling for situational salience. Although aspects of identification were shown to be subsumed within the Belonging and Shared Emotional Connection dimensions of PSOC, the two constructs were examined separately in this paper for several reasons: firstly, the

results of paper six indicate that while strongly related the two constructs are separate and cannot be assumed to be measuring the same underlying phenomenon, secondly, to enable the use of scales which were comparable to the wider community and social psychological literature; and thus, to enable the findings to be used to inform literature from both disciplines. The two scales used in this paper, the SCI and the Three Dimensional Strength of identification scale were both based on the versions from the earlier papers which presented validations of both scales.

This paper examined individuals' membership in three community types; neighbourhood (representing low choice), QUT student community (representing medium choice) and a self selected interest group (representing high choice). The results suggested that the degree of choice we have in our community group memberships can influence individuals' sense of belonging towards that community group. This influence can lead to increased levels of social identification and PSOC in communities with a higher degree of choice associated with membership. Importantly, these findings emerged irrespective of the impact of the situational context. Thus, it would seem that the concept of choice may be influential in the development of our sense of community and identification with particular communities in which our degree of choice can vary.

11.2.5.1 Social Identification. As noted above, while controlling for the salience of the situational context, levels of social identification with each group membership category increased with the degree of choice associated with that membership. However, on the three social identification subscales, a slightly more complex picture emerged. Mean levels of Ingroup Ties showed the same pattern as overall social identification, with the greatest perception of connectedness to other group members increasing with the degree of choice of membership. Ingroup Ties is

a similar concept as ingroup cohesiveness, emphasizing identification with other group members rather than the group as a whole (Cameron, 2004). Thus, the degree of choice in membership is likely to lead to members having more in common and, therefore, a greater level of connectedness to other members.

Conscious awareness of group membership was lowest in the low choice group (neighbourhood), with no difference between the medium (student) and high (interest) choice groups. Centrality is more strongly related to cognitive readiness to respond as a group member (Cameron, 2004). Thus, these results suggest that choice may have some impact on awareness and readiness to respond as a community member, but that this impact may plateau as choice increases.

Levels of Ingroup Affect did not differ significantly between choice groups. This finding was unexpected. Ingroup Affect relates to the feelings associated with our group membership, which may determine how we respond to that group membership (Cameron, 2004). It would seem logical, then, to hypothesize that individuals would feel more positively towards group memberships that they had a greater degree of choice in belonging to. However, this finding did not emerge. As suggested in paper seven, the lack of difference between groups on this subscale may have been attributable to a ceiling affect. This finding may have occurred as the dimensions of Centrality and ingroup ties may be more tangible and specific aspects of social identification (where individuals differentiate between various community memberships), whereas Ingroup Affect may reflect our generalised feelings towards a community, representing more an overall positive regard for the communities to which we belong. Literature from a SIT perspective suggests also, that when group boundaries are perceived as impermeable (as in a low choice category), processes can occur whereby members reframe their group membership in a favourable light to

maintain a positive self concept (Hogg & Abrams, 1988). Such processes may have occurred in the current research, resulting in all choice categories being evaluated favourably.

11.2.5.2 Psychological Sense of Community. In a similar vein to the effect of choice on social identification, participants' levels of PSOC increased significantly as the choice associated with membership in the community group increased. This finding occurred while controlling for the influence of situational salience.

The pattern of results across the dimensions of PSOC reflects the findings of overall PSOC. Feelings of Membership with the community group increased significantly as the degree of choice associated with group membership increased. Emotional Connection, the bonds developed through interaction with other community members, also increased as the degree of choice of group membership increased. This finding is, again, most likely due to greater choice leading to a greater level of common interest. The dimension of Needs Fulfilment relates to having common needs, goals, beliefs and values which lead to a cohesive community that meets both individual and collective needs (McMillan & Chavis, 1986). Levels of Needs Fulfilment also increased as the degree of choice of membership increased. Again, the influence of choice can be seen as an explanation of these findings. Many of the self selected interest groups participants belonged to were political (e.g., student union), environmental (e.g., Greening Australia), religious, or lifestyle related (e.g., sports clubs), most of which represent an ideology as well as a hobby or interest. These groups have a focused purpose and, as such, participants are more likely to share common goals, beliefs and values with other members of such groups than with their neighbours, who are likely to have more diverse interests. Mean levels of Influence also increased with the level of choice involved in community

membership. Few people are likely to choose to belong to a community in which they feel little or no influence.

Hence, the results of the study presented in paper seven add empirical strength to the notion that having a greater degree of choice in being a member of a particular community can lead to higher levels of PSOC and social identification. This finding was consistent across all the dimensions of PSOC: Membership, Emotional Connection, Needs Fulfilment, and Influence. However, some differences in the underlying dimensions of social identification were noted.

11.2.6 Measurement Issues

The second phase of the research program was dedicated to the measurement of the multidimensional models of PSOC and social identification. The aim of this stage was to examine the validity of the Sense of Community Index and the Three-Dimensional Strength of Identification Scale and their corresponding multidimensional models.

11.2.6.1 Social Identification. The results of the study of paper four presented in Chapter Seven provide solid support for Cameron's (2004) concept of social identity as a multidimensional construct. Examination of the fit indices produced by the confirmatory factor analysis show that the three-factor model was the better fit for the data and adequate fit indices were seen across group memberships indicating a degree of configural invariance. Thus, these findings gave a strong indication of the validity of the theoretical concept of social identification having the three underlying dimensions of Centrality, Ingroup Affect and Ingroup Ties. Further, the results supported the applicability of the as a measure of this model across diverse types of group memberships, from ascribed categories to groups based on personal interest.

Examination of the differences in means and correlations between subscales across the three group memberships provided further insight into the advantages of using a multidimensional measure of social identification rather than a unidimensional measure. The finding that different patterns of results emerged on each of the subscales provides further evidence for the multidimensionality of social identification and the advantages of using a multidimensional construct. If all subscales had showed the same pattern of results as overall social identification, it could be argued that there is little value in examining the dimensions of social identification. However, as participants showed different levels of cognitive awareness, emotional evaluation and ingroup ties in different group categories, this finding suggested that the subscales could be sensitive to the different contributions that particular social groups make to our social identities. A scale which allows us to examine social identification in such detail provides a valuable contribution to future research. By allowing an examination of these distinct aspects of social identification, research can begin to look at how each specific aspect relates to other psychological constructs impacting on social identification, such as status, or impacted on by social identification, such as ingroup bias and discrimination. Such research may be able to develop a more detailed and richer understanding of the processes underpinning social identification.

11.2.6.2 Psychological Sense of Community. The study in paper five presented in Chapter Eight aimed to examine the Sense of Community Index as a measure of the four dimensions (Membership, Influence, Emotional Connection and Needs Fulfilment) theorized to underlie PSOC by McMillan and Chavis (1986). Results indicated that these four factors, while closely interrelated, are separate constructs tapping different aspects of PSOC, providing further support for the

theory of McMillan and Chavis. While a growing body of evidence points to the inadequacy of the current format of the Sense of Community Index as a measure of these four dimensions, the findings in this study indicated that the Sense of Community Index is an adequate measure of overall PSOC. Importantly, the results also indicated that the Sense of Community Index can be modified to improve its properties as an indicator of the four dimensions proposed by McMillan and Chavis (1986). Thus, paper five argued that the concept of the four dimensions should not be summarily dismissed in favour of new atheoretical factor structures, as there is a substantial body of research which demonstrates the validity and usefulness of the four dimensional theory (e.g., Brodsky, 1996, Garcia et al., 1999 Obst et al., 2002a, 2002b, 2002c, Plas & Lewis, 1996). Rather, the Sense of Community Index, as an assessment tool reflecting this theory, needs further development. It is important to reiterate at this point the findings from the earlier papers which indicate that there is some differences in the actual composition of the four dimensions between community contexts. This may be one reason that the SCI has failed to be validated as reliable measure of the four dimensions. Thus, the work presented here provides a starting point for further development of the SCI. It may actually be necessary to modify the SCI slightly for application to each specific community context.

It is also worthy of mention here that, in the preliminary analysis for paper five, a number of items from the studies reported in papers one and three, including some of the identification items, were included in the hope of improving the scale by adding items shown to load on each PSOC dimension in the previous studies. However, no improvement in fit indices resulted from the inclusion of these items and, hence, they were not included in the final analyses presented in the paper. So, while the results of the study presented in paper five have shown that the Sense of

Community Index does fit a four factor data model consistent with the dimensions proposed by McMillan and Chavis, it also indicates that substantial item development is needed to improve measurement. However, it is not certain at this stage whether items reflecting the affective aspects of identification or other underlying processes would be the most appropriate for scale improvement. So, while the current research has identified a need for improvement of the Sense of Community Index as a measure of the dimension of PSOC, and had indicated that community context may need to be considered, this is an area where much further work needs to be done.

11.2.7 Applicability of PSOC to diverse communities

The results of the papers presented in this manuscript show that PSOC, as described by McMillan and Chavis (1986) is indeed applicable to a diverse array of communities, from geographical communities through to communities developed around specific interests. This is in line with a growing body of literature exploring PSOC, not only in geographical communities, but also in the workplace (Mahan, 2000; Pretty & McCarthy, 1991; Royal & Rossi, 1999); in religious communities (Miers & Fisher, 2002); student campuses (Deneui, 2003); and immigrant communities (Regis, 1988; Sonn, 2002). The current research also provided evidence that PSOC can exist in communities where, rather than in face to face interaction, primary communication takes place via computer mediated mediums, such as chat rooms or newsgroups. There is a growing body of research which supports the notion that PSOC can, and does, exist in so called virtual communities and that it is similar in nature to the PSOC found in more traditional face to face to communities (Blanchard, 2000; Blanchard & Markus, 2002; Kruger et al., 2001; Roberts, Smith, & Pollock, 2002).

The results of the current program of research also indicate that Centrality or cognitive awareness of community membership is an important construct in the development and maintenance of sense of community, not explained by the existing dimensions of PSOC. Thus, while the ingroup ties and to a lesser extent ingroup affect appear to be closely related to the existing dimensions of PSOC, this cognitive awareness and importance of community membership is separate to the existing dimensions. Future PSOC research needs to consider this notion of Centrality and its possible impact in the development of a sense of community.

Finally, the research presented in this thesis is among the first to examine the notion that individuals belong to multiple, concurrent communities. Results indicated that individuals do have a sense of belonging to more than one community and further, that they may have a strong PSOC in more than one community. This is in line Brodsky and Marx's (2001) research which has found evidence for individuals psychological belonging to multiple communities. This new line of enquiry may have strong implications for future research and practice, particularly when working in areas where community members have loyalties to several different communities, such as immigrant communities existing within the wider geographical community.

11.3 Implications for Practice

The findings of the current research have several practical applications for those working with communities. Most importantly, by understanding the dimensions that underlie PSOC, practitioners can examine which dimensions are strong or weak in particular communities and target interventions accordingly.

The findings that indicate that conscious awareness of membership is positively related to PSOC suggests that programs which heighten individuals' awareness of community membership may be useful in developing and enhancing

individuals' PSOC with those communities. Further, the implication emerging from this research that having a degree of choice in belonging to community can influence PSOC and social identification may also provide practioners with a potential avenue for interventions. Interventions which highlight the degree of choice members have in belonging to a community may serve to increase individuals' sense of community and identification with their communities.

Finally, this research has indicated that we can belong to many communities and that we may satisfy different aspects of PSOC from our membership in each distinct community. This has direct implications for practioners in understanding how community members may experience community in today's society.

11.4 Strengths and Limitations of the Current Research

The major strength of the current research lies in the integration of past research by the use of items tapping the large array of dimensions of PSOC found in previous research. Thus, rather than factor analysis based on limited items, a large scale factor analysis was able to be conducted with items from a multitude of dimensions. Thus, the results presented in paper one and three provide much stronger evidence for McMillan and Chavis' (1986) conceptualisation of PSOC than if only the Sense of Community Index had been used.

Further, by testing these dimensions in both a geographical sample and a community of interest sample, the generalisability of the results to diverse types of communities was enhanced. Gathering information on participants' geographical and interest communities allowed for a direct comparison on the dimensions and the importance of the dimensions between these two community types.

Another major strength of the current research was the use of confirmatory factor analysis to examine evidence for the underlying factor structure and measurement of both social identification and PSOC. Confirmatory factor analysis provides a much more stringent test of theorised dimensionality than exploratory factor analysis. By using confirmatory factor analysis, the support provided for the multidimensionality of both social identification and PSOC was stronger than if other techniques had been used.

In the final study, the examination of participants' memberships in multiple community types was a unique addition to the literature. The research examined the PSOC and social identification of participants' membership in three very different categories, from a neighbourhood setting through to a very personal group membership based on personal interest. Including a self chosen interest group category extends on past research by showing the applicability of social identification and PSOC to groups such as sports teams, church groups, internet groups and professional associations.

The use of multiple community memberships not only allowed for the examination of the influence of choice, but also an examination of the differences in PSOC and social identification and their dimensions across community types. Further, it provided an initial exploration into the concept of multiple community memberships and the contributions of our different communities to PSOC.

The basic methodology of a self report survey has some inherent limitations. While the collection of self reported data provided an opportunity to quantitatively examine the psychological factors underpinning PSOC, it is not always the most accurate form of data collection due to several potential biases, such as social desirability bias. Participants may have reported greater levels of positive feelings

towards their community than they actually felt. Further, all surveys were completed by voluntary participants and, therefore, there was not a true random sample which may impact on the generalisability of results. The voluntary nature of participants may also have resulted in a sample that were more community minded, with stronger feelings about there community, than a more random sample may have reported.

Collecting the data from the SF fandom interest community at a Science Fiction convention may have had an impact on results. Being at the convention may have heightened the importance of this community to attending members, leading to higher reported levels of social identification and PSOC. In particular, this may have lead to larger than normal differences in social identification and PSOC when these constructs were compared between participants' interest and geographical communities. However, in the final study, by including measurements of salience and entering these as covariates in all analysis, the potential confounding influence of salience was controlled for.

A limitation with the final study was that the sample was an urban, predominately young population. Past research has shown that various demographic variables such as age, gender, having children, participating in local community organizations, and the size of the town of residence also impact on PSOC (e.g., Buckner, 1988; Davidson, Cotter & Stovel, 1991; Lounsbury & De Neui, 1996; Obst et al., 2002c; Prezza & Costantini, 1998; Wandersman & Giamartino, 1980). Thus, these demographic variables may have had some impact on results.

Overall sample sizes were large, providing for adequate power for the analyses conducted. For both exploratory and confirmatory factor analyses, sample sizes of greater than 200 or five cases per parameter are deemed adequate when effect size is moderate (Tabachnick & Fidell, 2001), thus the current sample sizes

were adequate. However, while seven separate series of analysis were conducted, each with adequate power in regards to sample size, these analyses were conducted on data gathered from only three samples. For example, papers one and two are based on data gathered from the same participants. Thus, the shared sampling characteristics of these analyses need to be noted.

11.5 Contributions to Theory

The seven papers which make up the body of the current manuscript have added substantially to the current understanding of PSOC and its measurement. The current program of research has attempted to integrate the large body of previous work into PSOC and related constructs to begin to provide a common understanding of the construct applicable to the diverse array of communities to which we belong. There are several areas, in both the community and social psychology arenas, to which the current body of work has contributed.

Firstly, in line with the principle aim of this thesis, the current research has contributed substantially to the understanding of the underlying dimensions of PSOC. By including items based on the many scales developed to assess levels of PSOC, all of which have been found to tap slightly different dimensions, the first stage of the current research was able to provide clarification on the number and nature of the dimensions of PSOC, which importantly supported those theorised by McMillan and Chavis (1986). This quantitative empirical support is an extremely important move forward in the literature surrounding PSOC, as it suggests that this theory does provide a solid basis for future research in the PSOC area. Further, support for the theory was found in both relational and geographical communities, indicating its applicability to a diversity of community types. Hence, providing a

common theoretical basis from which researchers can further develop understanding of PSOC. The results of the current program of research are important as they are the only studies, to date, which have incorporated multiple measures of PSOC and one of the few studies to provide quantitative support for McMillan and Chavis' theory of PSOC, in multiple contexts.

The research from the second stage of this research program provides an initial validation of a commonly used measure of PSOC, the Sense of Community Index, shown to be a sound measure of overall PSOC, but with little support as a valid indicator of the four underlying dimensions of PSOC. The study presented in paper five was unique in that, rather than proposing yet another factor structure of PSOC, the study attempted to improve the Sense of Community Index as a measure of the existing four dimensional theory. This work may provide a basis for further research in the area to continue working with the Sense of Community Index to develop a sound measure of PSOC and its dimensions for use in diverse community types. Once again, the development of a common meaning and measure of PSOC will allow research in this area to move forward to a build a deeper and more comprehensive of how PSOC in developed and maintained.

Another major contribution of the current research was providing an initial quantitative exploration of the role of identification in PSOC. Findings indicated that the affective aspects of social identification, in particular ingroup ties, were closely related to the Membership and Emotional Connection dimensions of PSOC, whereas conscious identification with a community was separate to existing PSOC dimensions. The Centrality dimension of social identification was, however, a strong predictor of PSOC across community types. Thus, these results provide important information on the role of social identification in PSOC. Further, these results

indicate that while certain dimensions of social identification and PSOC are closely related, the two constructs tape dimensions which are distinct. The use of measures of identification developed from a social identity theory perspective contributed significantly to the understanding of the role of identification in PSOC. This work has shown the utility of incorporating theory and measures derived from the extensive body of research into group processes, from this perspective, into research building on understanding the complexity of community processes.

In terms of social psychological research, the current research has provided evidence for the validity and usefulness of a multidimensional model of social identification. This body of research has shown the greater depth of understanding that can be gained from a multidimensional model rather than measuring social identification as a unidimensional construct. In particular, the study presented in paper four has added to the literature supportive of a multidimensional model of social identification and the validity of the measure developed by Cameron (2004).

Finally, the last paper of this manuscript presented an initial exploration of a possible explanation for the differences found between relational and geographical communities. The role of choice in PSOC and social identification is a little explored relationship. The study presented in paper seven presented evidence that the degree of choice of membership in a community can influence an individual's level of PSOC and social identification with that community. This initial exploration suggests that this is a construct which may warrant further investigation. This study also provided evidence that individuals can, and do, belong to multiple communities and have both PSOC and social identification with multiple communities. This is an important contribution to understanding individuals in our current society in that it may be the case that no one community can provide for all of an individual's needs.

Further, with the advent of telecommunications, individuals in our current society have many more avenues for finding PSOC in communities which are tailored to their personal interests. It may well be that, rather than seek to improve the PSOC in their geographical area, individuals simply seek out communities to belong where that need is more fully met. Further, perhaps different communities provide us with the ability to satisfy different elements of PSOC.

As an overall body of research, the current investigations have provided much needed validation of the theoretical conceptualisation of PSOC as proposed by McMillan and Chavis (1986). More importantly, it has opened a number of avenues on how this theory can be utilised in our current society. Firstly, by extending the use of PSOC theory from local neighbourhood settings to a range of relational communities including virtual communities, this work has expanded the application of PSOC. Further, by introducing the concept that, in today's world, we can belong to multiple communities, each of which may serve our needs in different ways, this research has broadened the view of community membership in our present society.

This research has also opened the way for incorporating identification into PSOC research and theory. Importantly, it has shown that developing theory from a community psychology perspective can benefit greatly from theory and research from a social psychological perspective which can provide a detailed understanding of intergroup processes. Social psychology can also benefit from work undertaken from a community psychology perspective which is conducted in important applied settings. Community psychology can also provide rich information about group processes, especially those applying to broader or larger groups such as large geographical communities. A major outcome of the current body of research has been the highlighting of the interplay between these two disciplines and the benefits

to be gained from incorporating the knowledge base of each in enhancing our understanding of community and group processes. Further integration of these perspectives will allow more understanding of the relationship between groups and communities. Future research may come closer to answering the question of wethere or not a community is a specific kind of group or, in fact, all groups can become communities under the correct conditions.

Within the social identification literature, there is also research which examines identification from a more functional approach, in terms of what individuals gain from their group membership (e.g. Deaux et al., 1999). There is, thus, an obvious connection with McMillan and Chavis' (1986) concept of Fulfilment of Needs. This connection did not emerge in the current research, but may also be worthy of examination. Thus, there are a number of potential avenues in which the perspectives of social identity theory and community psychology can be fruitfully integrated.

The current program of research has provided an initial examination of these new avenues of exploration. However, while the findings from this research give some insight and explanation of the way individuals experience community in our society, and the role of identification in developing PSOC, it also presents many possible pathways for future exploration.

11.6 Future Directions

While the current findings have presented strong quantitative support for the four dimensions of PSOC theorised by McMillan and Chavis (1986), further research is warranted. In the current research the exact composition of the dimensions changed slightly between community contexts. Thus, further examination of the

influence of context on the expression and structure of PSOC is needed. In particular, more quantitative examination, using multiple measures of PSOC, is needed to enhance generalisability of the current findings. More work is also needed on the development of the Sense of Community Index as a valid measure of PSOC and, importantly, the four underlying factors of PSOC. This work should be conducted with diverse populations to ensure the generalisability of the current results.

Further, the current research has provided initial evidence that the conscious awareness aspect of social identification is separate to the existing dimensions of PSOC and, yet, an important predictor of PSOC. Future research needs to explore the interplay of social identification and PSOC in greater depth to provide more insight into the nature of the relationship between these important constructs. Research is needed to examine in more detail how identification and PSOC dynamically interrelate. Perhaps the self categorization aspect of identification is a necessary prerequisite for PSOC to develop or possibly the two constructs develop reciprocally. Further examination is also needed to determine the relationship between the affective dimensions of identification and PSOC.

Future research should also continue to assess the validity of the multidimensionality of social identity given the importance of this construct to the social identity theory literature and the usefulness of this multidimensional measure in examining social identification and PSOC. This, again, highlights the benefit of future research which incorporates the overlap in understanding of group processes from a social psychological theory and models with that of community psychology.

In a broader framework, continuing research and theoretical discussion on PSOC is required. The relationship between the aspects of identification and the existing PSOC dimensions needs further definition. Community psychologists need

a reliable measure of PSOC, applicable to diverse communities, to provide a stable and consistent empirical base for further exploration of PSOC. Researchers in this field should be aware of the difficult delineation between a PSOC theory which is broad enough to be applicable to diverse communities and yet remain a definable construct. PSOC theory has come a long way since Sarason (1974) first introduced the concept, but there is still much work needed to develop a truly empirically sound and consensual theory and measure of PSOC.

Additional examination is also warranted of the influence of the degree of choice we have in community membership in relation to both PSOC and social identification, using different populations to increase the validity and generalisability of the current findings. Research is also required to examine the practical implications on individuals' PSOC of having choice in belonging to a community.

In a broader framework, future research needs to examine where individuals in our current society derive their PSOC. Research needs to explore the notion of belonging to multiple communities and the aspects of PSOC we derive from each membership to enhance understanding of the role of PSOC in our current society.

Finally, the current research examines PSOC at the individual level only. As the primary purpose was to enhance understanding of the construct at this level, this research did not attempt to examine community level variables which may impact on PSOC. Keeping in mind the ecological approach underpinning community psychology, future research needs to also examine community level factors and place PSOC in a whole community context.

11.7 Conclusion

The current program of research has provided a solid theoretically based examination of PSOC, which enhances current understanding of this important

construct. The work has provided a unique perspective into PSOC which has implications for both theory and practice.

This project has highlighted that research into PSOC can benefit from the inclusion of theory and research from a social identity theory perspective, which has a long history of research and explanation of inter and intra group behaviour. Communities are groups with many complex processes impacting on individual members' behaviour. By utilising insights from social identity theory, practitioners in the community psychology field may be able to gain a greater understanding of the group processes occurring within the communities in which they are working.

Finally, this research has added to the growing evidence that we can and do find sense of community in the many and varied groups to which we belong. It seems it is no longer possible to expect any one community to meet any one individual's needs. Even within geographical communities, it is important for practitioners, politicians, and planners, endeavouring to build community to take this into account and consider encouraging a sense community at multiple levels of abstraction. A need for connections with others and a feeling of belonging to a larger stable structure, an overall need to have a sense of community, in some way is a fundamental aspect of our social selves. There is obviously a strong link between community and social issues such as poverty, crime and health. Hence, creating and maintaining a strong sense of community has broader repercussions in terms of individual and community level health and prosperity. By providing a sense of belonging, emotional connections with others, fulfilling individuals' needs and giving individuals a sense of control in their lives, while also moulding socially appropriate behaviour, communities play an essential role in the healthy functioning

of our society. Thus, this thesis has provided important information to help practioners foster the growth and development of PSOC in our current society.

In conclusion, in contrast to much current rhetoric suggesting that community is in decline, the findings which have emerged from this program of research have shown that community and sense of community do still exist. What seems to be changing, however, is where we find that sense of community. It appears that in today's world the possible sources for finding a community connection are infinite.

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Appendix A:

Questionnaire Papers One and Two

Psychological Sense of Community in Science Fiction Fandom

Sense of Community in Science Fiction Fans

Principal Researchers: Patricia Obst and Dr Lucy Zinkiewicz
School of Psychology and Counselling, Queensland University of Technology

You are invited to participate in a research project that is examining the feeling of belonging or "sense of community" in science fiction fandom in general, and what it is that makes up this sense of community. If you agree to participate you'll be asked to provide some personal details and then to fill out a questionnaire. The questionnaire consists of questions about how you feel about science fiction fandom in general, what aspects you like and what aspects you don't like. The questionnaire should take approximately 15 minutes to complete and we ask you to answer these questions as honestly as you can. Some questions may appear repetitive; however, each gives a different piece of information. Please answer as many questions as you can. All questions are of course voluntary, but the more you can complete the more useful your questionnaire will be. Although your participation will have no direct benefit to you, results from this research will expand the current understanding of modern communities.

To participate in this research it is important that you give your active consent to show that you have been fully informed about the research project and what you are expected to do. **To provide your active consent please read the following statement and if you agree transfer the consent number that appears at the top of the last page of the questionnaire into the space provided below.**

> "I understand that I am taking part in this study of my own free will and can withdraw at any time. If I object to any particular question I am not obliged to answer. I understand that all my responses are completely confidential and anonymous. I am not required to put my name or any other identifying mark on the questionnaire.
>
> I give permission to the researchers to use my questionnaire responses in this study. I declare that I am an adult (18 years or older) and agree to participate in this study."

If you agree to participate transfer the consent number that appears at the top of the last page of the questionnaire into the space provided below.

Consent Number:_____ **Date**: _____

If you have any questions or would like any further information regarding this research, please contact me on 07 46312381 or see the research assistant at the table in the dealers room. Results will be available from the principal researcher and will also be posted to various science fiction newsgroups, mailing lists and the website http://www.usq.edu.au/users/zinkie

When you have completed the questionnaire, please place it in the marked boxes provided. You will find these boxes near the registration table and at the research table in the dealers room.

Thank You for Your Time

Section 1: About You

Please answer the following questions by writing your answer in the blank space provided, or ticking (checking) the appropriate box.

1. What is your sex? ☐ Male ☐ Female

2. What is your age in years? _____years

3. What is your current relationship status?
☐ Married ☐ De Facto / Living Together ☐ Single ☐ Widowed ☐ Divorced or Separated

4. Which town and country do you live in? _____

5. What is your current primary occupation?
☐ Professional ☐ Manager/Administrator ☐ Trades ☐ Clerical/Sales/Service
☐ Student ☐ Unemployed ☐ Primary Carer ☐ Retired

6. Is this work
☐ Full Time ☐ Part Time ☐ Casual?

7. What is your nationality? _____

8. Do you identify with an ethnic background that is not that of your nationality?
☐ No ☐ Yes

If yes what background? _____

9. What is your average household income in relation to everyday needs?
☐ Very Insufficient ☐ Insufficient ☐ Just Sufficient
☐ Sufficient ☐ Very Sufficient

10. What is the highest education level you have completed?
☐ Junior High school ☐ Senior High school ☐ Trades/Vocational Qualification
☐ Associate Diploma ☐ Diploma ☐ Undergraduate Degree
☐ Postgraduate Diploma ☐ Postgraduate Degree (eg, MA, PhD)

11. How long have you been a member of science fiction fandom?_____

12. Where do you **most frequently** come into contact with other fans? (tick/check only one)
☐ On the Internet
☐ Through print zines/magazines
☐ Through the post ('snail mail')
☐ In person at local gatherings/conventions
☐ In person at gatherings/conventions outside my local area
☐ In person at get-togethers with individual fans
☐ Through phone conversations with individual fans

Section 2: How You Feel About Science Fiction Fandom In General

This section gives a series of statements about your feelings towards Science Fiction Fandom in general. Please indicate on the scale provided how strongly you agree or disagree with these statements, by ticking/checking the number that best describes your feelings.

Strongly Agree	**Moderately Agree**	**Slightly Agree**	**Neither Agree or Disagree**	**Slightly Disagree**	**Moderately Disagree**	**Strongly Disagree**
1	**2**	**3**	**4**	**5**	**6**	**7**

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
1. I consider science fiction fandom to be important.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
2. I plan to be a member of science fiction fandom for a number of years.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
3. I think science fiction fandom is a good thing for me to be a part of.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
4. I feel at home and comfortable in science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
5. People in science fiction fandom do not share the same values.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
6. I can recognise most people who are members of science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
7. I care about what other fans think about my actions.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
8. Other fans and I want the same things from science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
9. If there is a problem in science fiction fandom fans can get it solved.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
10. I have almost no influence over what science fiction fandom is like.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
11. Members of science fiction fandom get along well.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
12. If I have a personal problem, there is no one in science fiction fandom I can turn to.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
13. I feel like I belong in science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
14. My friends in science fiction fandom are part of my everyday activities.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
15. If I feel like talking I can generally find someone in fandom to chat to.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
16. I am quite similar to most members of science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
17. If I had an emergency, even people I don't know well in science fiction fandom would help.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
People know that they can get help from others in science fiction fandom if they are in trouble.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
18. Science fiction fandom does not have an overall sense of community.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
19. I feel good when my fellow fans do good things.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
20. Very few members of science fiction fandom know me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
21. I don't care if science fiction fandom does well.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
22. Overall I am very attracted to being a part of science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
23. I have no friends in science fiction fandom on whom I can depend.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
24. Given the opportunity I would like to leave science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
25. I contact fellow fans often.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
26. The friendships I have with other people in science fiction fandom mean a lot to me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
27. If members of science fiction fandom were planning something, I'd think of it as something **we're** doing rather than something **they're** doing.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
28. If I need advice about something I could ask someone in science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
29. I think I agree with most people in science fiction fandom about what is important in life.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
30. I make excuses for belonging to science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
31. Few people in science fiction fandom make a decent income.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
32. I exchange favours with fellow members of science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
33. I really fit in science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
34. I plan to remain a member of science fiction fandom for a number of years.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
35. I rarely contact individual members of science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
36. A feeling of fellowship runs deep between me and other people in science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
37. Being a member of science fiction fandom is an important part of my self image.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
38. Fan leaders run fandom to suit themselves.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
39. I feel a strong sense of ties to other members of science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
40. I often help my fellow fans with small things, or they help me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
41. I am often irritated with some of my fellow fans.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
42. I feel strongly attached to science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
43. I don't feel comfortable in science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
44. I chat with my fellow fans when I can.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
45. Science fiction fandom lacks real leaders.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
46. People in science fiction fandom give you a bad name if you insist on being different.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
47. I feel loyal to people in science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
48. I have made new friends by joining science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
49. Thinking about being a member of science fiction fandom sometimes makes me annoyed.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
50. No one seems to care how science fiction fandom is going.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
51. The leaders get very little done in science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
52. I don't feel a sense of being connected with other science fiction fans.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
53. Science fiction fandom is better than any other group I've been a member of before.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
54. Science fiction fandom is a part of me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
55. In general I'm glad to be a member of science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
56. I have a lot in common with other members of science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
57. Science fiction fandom is well maintained.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
58. Science fiction fan leaders care about what happens in science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
59. Science fiction fandom is dull.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
60. I see myself as belonging to science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
61. I often regret that I am a member of science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
62. As compared to other groups science fiction fandom has many advantages.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
63. I have strong feelings for science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
64. Leaders of fandom don't hear the voice of ordinary fans.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
65. I would rather belong to a different group.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
66. Lots of things in science fiction fandom remind me of my past.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
67. I am not usually conscious of the fact that I am a member of science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
68. If I need a little company, I can contact a fandom member I know.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
69. Science fiction fandom is very familiar to me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
70. Science fiction fandom plays a part in my every day life.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
71. The fact that I am a member of science fiction fandom rarely enters my mind.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
72. Science fiction fandom is seen as having prestige.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
73. I am looking forward to seeing future developments in science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
74. Being a member of science fiction fandom has little to do with how I feel about myself in general.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
75. Science fiction fandom is a good thing to belong to.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
76. I would be willing to work together with others on something to improve science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
77. I often think about being a member of science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
78. There is not enough going on in science fiction fandom to keep me interested.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
79. I find it difficult to form a bond with other members of science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
80. Science fiction fandom plays a part in my future plans.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
81. Generally I feel good when I think about being a member of science fiction fandom.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
82. In general I feel that science fiction fandom has a strong sense of community.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Section 3: About the Neighbourhood You Live In

This section gives a series of statements about your feelings towards the *neighbourhood* you live in. Please indicate how strongly you agree or disagree with these statements, by ticking/checking the number that best describes your feelings.

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
1. It is important to me to live in my particular neighbourhood	**1**	**2**	**3**	**4**	**5**	**6**	**7**
2. I expect to live in my neighbourhood for a long time	**1**	**2**	**3**	**4**	**5**	**6**	**7**
3. I often regret that I live in my neighbourhood	**1**	**2**	**3**	**4**	**5**	**6**	**7**
4. People who live in my neighbourhood get along well.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
5. People in my neighbourhood do not share the same values.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
6. I really fit in with my neighbours.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
7. I care about what my neighbours think about my actions.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
8. I don't feel good when I think about living in my neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
9. Very few of my neighbours know me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
10. If there is a problem in my neighbourhood people who live here can get it solved.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
11. I am not usually conscious of the fact that I am a part of my neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
12. The people who live in my neighbourhood get along well.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
13. I have a lot in common with my neighbours.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
14. I find it difficult to form a bond with my neighbours.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
15. I don't feel a sense of being connected with my neighbours.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
16. My neighbours and I want the same thing from our neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
17. I often think about the fact that I am a part of my neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
18. Being a member of my neighbourhood has very little to do with how I feel about myself.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
19. In general being a part of my neighbourhood is an important part of my self image	**1**	**2**	**3**	**4**	**5**	**6**	**7**

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
20. I have almost no influence over what my neighbourhood is like.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
21. I feel strong ties to my neighbours	**1**	**2**	**3**	**4**	**5**	**6**	**7**
22. In general I'm glad to live in my neighbourhood	**1**	**2**	**3**	**4**	**5**	**6**	**7**
23. I think my neighbourhood is a good place for me to live.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
24. I can recognise most of the people who live in my neighbourhood	**1**	**2**	**3**	**4**	**5**	**6**	**7**
25. In general I feel good when I think about living in my neighbourhood	**1**	**2**	**3**	**4**	**5**	**6**	**7**
26. I feel at home in my neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Thank You For Your Time

Please return this questionnaire to the marked boxes in the dealers room or near registration.

Appendix B:

Questionnaire Paper Three

Psychological Sense of Community in Geographical Communities

Community in Action

Principal Researcher: Patricia Obst
School of Psychology and Counselling (Phone 3864 4568)

You are invited to participate in a research project that is examining why some communities have a strong feeling of belonging or "sense of community" and what it is that makes up this sense of community. If you agree to participate you'll be asked to provide some personal details and then to fill out a questionnaire. The questionnaire consists of questions about how you feel about your community, what aspects you like and what aspects you don't like. The questionnaire should take approximately 10 to 15 minutes to complete. We ask you to answer these questions as honestly as you can.

Although your participation may have no direct benefit to you, the results from this research will expand the current understanding of communities and will aid those working to enhance community development in many types of communities across Australia.

Your participation is voluntary and you are able to discontinue your involvement in the study at any time, without comment or penalty. If you object to any particular question you are not obliged to answer. All your responses are completely confidential: you are not required to put your name or any other identifying mark on the questionnaire, and all published results will only be in aggregate form.

If you are happy to participate in this research simply complete the questionnaire and return it to the person who gave it to you or post it in the reply paid envelope provided. By completing this questionnaire after reading all the information on this page, you are giving your consent to participate in this research project.

If you have any questions regarding this research, please contact Patricia on 38644568, or the project supervisor Dr Sandy Smith on 38644502. If you have any concerns about the ethical conduct of this research please contact the Queensland University of Technology's Registrar, on 38641056.

Thank You for Your Time

Section 1: About You

Please answer the following questions by writing your answer in the blank space, or ticking the appropriate box.

1. What is your sex? ☐ Male ☐ Female

2. What is your age in years? _____years

3. What is your current relationship status?
☐ Married ☐ De Facto / Living Together ☐ Single ☐ Widowed ☐ Divorced or Separated

4. Where do you currently live? _____Postcode _____

5. How long have you lived in this area? _____

6. Do you own or rent your house? ☐ Own Home ☐ Rent Home

7. How many children do you have? _____

8. How many of your children live at home? _____

9. How many people live in your home?
_____

10. What is your current primary occupation?
☐ Professional ☐ Manager/Administrator ☐ Trades ☐ Clerical/Sales/Service
☐ Student ☐ Unemployed ☐ Primary Carer ☐ Retired

11. Is this work?
☐ Full Time ☐ Part Time ☐ Casual

12. Do you identify with an ethnic background that is not Australian? ☐ No ☐ Yes
If yes what background? _____

13. What is your average household income in relation to your everyday needs?
☐ Very Insufficient ☐ Insufficient ☐ Just Sufficient
☐ Sufficient ☐ Very Sufficient

14. What is your highest education level completed?
☐ Junior Highschool ☐ Senior Highschool ☐ Trades/Vocational Qualification
☐ Associate Diploma ☐ Diploma ☐ Undergraduate Degree
☐ Postgraduate Diploma or Honours Degree ☐ Postgraduate Degree

15. Are you a member of a local community organisation? ☐ No ☐ Yes
If yes what type of organisation? _____

16. When you think of your local neighbourhood, what do you think of?

☐ Your Street ☐ Your Suburb or District ☐ Your Whole Town/ City ☐ Your Region

Section 2: About How You Feel About the Neighbourhood You Live In

This section gives you a series of statements about your feelings towards your local area. Please indicate on the scale provided how strongly you agree or disagree with these statements, by marking the number that best describes your feelings.

Strongly Agree	Moderately Agree	Slightly Agree	Neither Agree or Disagree	Slightly Disagree	Moderately Disagree	Strongly Disagree
1	2	3	4	5	6	7

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
1. It is important to me to live in my local neighbourhood.	1	2	3	4	5	6	7
2. I expect to live in my local neighbourhood for a long time.	1	2	3	4	5	6	7
3. I think my local neighbourhood is a good place for me to live.	1	2	3	4	5	6	7
4. I feel at home and comfortable in my local neighbourhood.	1	2	3	4	5	6	7
5. People in my local neighbourhood do not share the same values.	1	2	3	4	5	6	7
6. I can recognise most of the people who live in my local neighbourhood.	1	2	3	4	5	6	7
7. I care about what my neighbours think about my actions.	1	2	3	4	5	6	7
8. My neighbours and I want the same thing from our local neighbourhood.	1	2	3	4	5	6	7
9. If there is a problem in my local neighbourhood people who live here can get it solved.	1	2	3	4	5	6	7
10. I have almost no influence over what my local neighbourhood is like.	1	2	3	4	5	6	7
11. The people who live in my local neighbourhood get along well.	1	2	3	4	5	6	7
12. If I have a problem, there is no one in my local neighbourhood I can turn to.	1	2	3	4	5	6	7
13. I feel like I belong in my local neighbourhood.	1	2	3	4	5	6	7
14. I have friends in my local neighbourhood, who are part of my everyday activities.	1	2	3	4	5	6	7
15. If I feel like talking I can generally find someone in my local neighbourhood to chat to.	1	2	3	4	5	6	7
16. I am quite similar to most people who live in my local neighbourhood.	1	2	3	4	5	6	7
17. If I had an emergency, even people I don't know well in my neighbourhood would be willing to help.	1	2	3	4	5	6	7

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
18. People know that they can get help from others in my local neighbourhood if they are in trouble.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
19. If there was a serious problem in my local neighbourhood, people who live in could get together and solve it.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
20. I feel good when my neighbours do good things.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
21. Very few of my neighbours know me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
22. I don't care if my local neighbourhood does well.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
23. Overall I am very attracted to living in my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
24. I have no friends in my local neighbourhood on whom I can depend.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
25. Given the opportunity I would like to move out of my neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
26. I often visit my neighbours.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
27. The friendships and associations I have with other people in my local neighbourhood mean a lot to me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
28. If the people who live in my local area were planning something, I'd think of it as something **we're** doing rather than something **they're** doing.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
29. If I need advice about something I could ask someone in my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
30. I think I agree with most people in my local neighbourhood about what is important in life.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
31. I believe my neighbours would help me in an emergency.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
32. Few people in my local neighbourhood make enough money.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
33. I borrow things and exchange favours with neighbours.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
34. I really fit in my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
35. I plan to remain a resident of my local neighbourhood for a number of years.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
36. I rarely visit other people who live in my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
37. A feeling of fellowship runs deep between me and other people in my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
38. In general being a resident of my neighbourhood is an important part of my self image.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
39. The local council run this area to suit themselves.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
40. I feel a strong sense of ties with the other people who live in my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
41. I often help my neighbours with small things or they help me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
42. I sometimes get irritated with some of my neighbours.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
43. I feel strongly attached to my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
44. I don't feel comfortable in my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
45. I chat with my neighbours when I run into them.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
46. My local neighbourhood lacks leaders to give it direction.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
47. People in my local neighbourhood give you a bad name if you insist on being different.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
48. I feel loyal to the people in my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
49. I have made new friends by living in my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
50. People in my local neighbourhood are generally critical of others.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
51. No one seems to care how our neighbourhood looks.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
52. The council does very little done for my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
53. I don't feel a sense of being connected with other people who live in my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
54. My local neighbourhood is better than any other area I've lived in before.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
55. Belonging to my neighbourhood is a part of who I am.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
56. In general I'm glad to be a resident of my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
57. I have a lot in common with other people who live in my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
58. Public facilities in my local neighbourhood are well maintained.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
59. The local council cares about what happens in our neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
60. My local neighbourhood is dull.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
61. I see myself as being a part of the community that exists in my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
62. I often regret that I am a resident of my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
63. As compared to other areas my local neighbourhood has many advantages.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
64. I have strong feelings for my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
65. The local council members don't hear the voice of ordinary people who live here.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
66. I would really rather live in a different neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
67. Lots of things in my local neighbourhood remind me of my past.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
68. I am not usually conscious of the fact that I am a resident of my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
69. If I need a little company, I can contact a neighbour I know.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
70. My local neighbourhood is very familiar to me.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
71. My local neighbourhood is part of my daily life.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
72. I would like to stay a resident of my local neighbourhood indefinitely.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
73. My local neighbourhood is seen as having prestige.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
74. I am looking forward to seeing future development in my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
75. Being a resident of my local neighbourhood has little to do with how I feel about myself.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
76. My local neighbourhood is a good place to live.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
77. I would be willing to work together with others on something to improve my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
78. I often think about being a resident of my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
79. There is not enough going on in my local neighbourhood to keep me busy.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
80. I find it difficult to form a bond with other people who live in my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
81. My local neighbourhood plays a part in my future plans.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
82. Generally I feel good when I think about being a resident of my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
83. In general I feel that my local neighbourhood has a strong sense of community.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
84. The authorities in my local neighbourhood are generally friendly.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
85. If I don't have something I need I can borrow it from a neighbour.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
86. Noise, which my neighbours make, can occasionally be a big problem.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
87. I never feel quite safe in my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
88. I would have better contacts with friends or family if I lived in another area.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
89. My local neighbourhood is peaceful and orderly.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
90. Parents in my neighbourhood let their children do whatever they want to.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
91. I think the buildings in my local neighbourhood are not as nice as most other places I've lived in.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
92. The green areas help make my local neighbourhood a nice place to live.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
93. National economic problems are hurting the quality of life in my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
94. Medical care in my local neighbourhood is not as good as in some other places.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
95. People in my local neighbourhood don't paint their houses often.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
96. People in my local neighbourhood don't take care of their gardens.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
97. I feel really at home in my local neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
98. I would recognise my local neighbourhood in a photograph.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
99. I think the layout of my local area is nice.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
100. I cannot imagine living anywhere else.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
101. My neighbourhood does not have an overall sense of community.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Thank You For Your Time

Appendix C:

Plot Study Paper Six
and
Questionnaire Papers Four Five and Six

Measurement of Social Identification and PSOC and the Influence of Choice

Pilot Study: Group Membership and Choice

I am conducting a study on the groups which we belong to and the degree of choice we have in being a member of a particular group. Could you take a minute and answer the following questions regarding some of the groups you belong to and how much choice you feel you have in being a member of these groups.

Please indicate your sex _____ and age_____

Part 1

Could you please rank the following groups in which you are a member according to the amount of choice you feel you have to belong to that group or not. Please place one number in each box from **1** the least amount of choice to **5** the greatest amount of choice to belong or not.

☐ Being a QUT student

☐ The neighbourhood where you live

☐ Being a member of your group of friends

☐ Being a male or female

☐ Being a member of a particular interest or hobby group (e.g. sports team, religious group, environmental group such as Greenpeace, or internet group)

Part 2

Please indicate by circling the number on the following scale which best indicates the degree of choice you feel you have in belonging to the groups stated below.

1	**2**	**3**	**4**	**5**	**6**	**7**
No Choice						**Complete Choice**

A. Being a QUT student

1	2	3	4	5	6	7
No Choice						Complete Choice

B. The neighbourhood where you live

1	2	3	4	5	6	7
No Choice						Complete Choice

C. Being a male or female

1	2	3	4	5	6	7
No Choice						Complete Choice

D. Being a member of a particular interest or hobby group (e.g. sports team, religious group, environmental group such as Greenpeace, internet group)

1	2	3	4	5	6	7
No Choice						Complete Choice

Communities and Groups

Principal Researcher: Patricia Obst
School of Psychology and Counselling (Phone 3864 4810)

You are invited to participate in a research project that is exploring how we feel about the different communities or groups we belong to by completing the following questionnaire.

The questionnaire consists of questions about how you feel about being a member of several groups such as being male or female, being a part of the neighbourhood you live in, being a student and a member of a interest group which you will be asked to nominate. *Some questions may appear to be repetitive; however, each requires a slightly different piece of information*. Please be patient, and answer each item carefully and honestly. After reading the instructions for each section, circle the number of the response, for each item, that best suits your opinion. The questionnaire should take approximately 20 to 30 minutes to complete.

After having read, signed and handed back your consents forms, please now fill out the questionnaire and return it to the researcher at the end of the session. Consent forms and questionnaires will not be kept together and there will be no way of matching them. Your questionnaire responses are completely confidential.

If you have any questions regarding this research, please contact Patricia on 38644810, or the project supervisor Dr Katy White on 38644689.

Thank You for Your Time

Section 1: About You

Please answer the following questions by writing your answer in the blank space provided, or ticking the appropriate box.

1. What is your sex ? ☐ male ☐ female

2. What is your age in years? _____years

3. What is your current marital status?

☐ Married/De Facto ☐ Single ☐ Widowed ☐ Divorced or Separated

4. What is your current employment status?

☐ Full Time ☐ Part Time ☐ Casual ☐ Volunteer ☐ Not Employed

5. Do you identify with an ethnic background that is not Australian? ☐ No ☐ Yes

If yes, what background? _____

6. What is your highest attained education level?

☐ Junior Certificate ☐ Senior Certificate ☐ Associate Diploma

☐ Diploma ☐ Degree ☐ Higher Degree

That's all about you.
Now about your group memberships

Section 2: How you feel about being male or female

Please write down your sex _____

This section gives you a series of statements about your feelings towards being male/female. Please read the questions which state male/female as relating to your sex category (i.e. either male or female) and indicate on the scale provided how strongly you agree or disagree with these statements, by marking the number that best describes your feelings.

Strongly Agree	Moderately Agree	Slightly Agree	Neither Agree or Disagree	Slightly Disagree	Moderately Disagree	Strongly Disagree
1	2	3	4	5	6	7

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
1. It is important to me to be a male/female.	1	2	3	4	5	6	7
2.Others of my sex want the same things from life as I do.	1	2	3	4	5	6	7
3. I feel comfortable being a male/female.	1	2	3	4	5	6	7
4. I would be willing to work together with others of my sex to improve our conditions.	1	2	3	4	5	6	7
5. I care about what other males/females think about my actions.	1	2	3	4	5	6	7
7. I have almost no influence over what being male/female is like.	1	2	3	4	5	6	7
8. The fact I am male/female rarely enters my mind.	1	2	3	4	5	6	7
9. I think being a male/female is a good thing for me to be.	1	2	3	4	5	6	7
10. Others of my sex do not share my values.	1	2	3	4	5	6	7
11. I rarely contact other people of my sex.	1	2	3	4	5	6	7
12. I find it difficult to form a bond with other people of my sex.	1	2	3	4	5	6	7
13. Being a male/female is an important part of my self image.	1	2	3	4	5	6	7
14. I feel strong ties to others of my sex.	1	2	3	4	5	6	7
15. In general I'm glad to be a male/ female.	1	2	3	4	5	6	7
17. I don't feel good about being a male/female.	1	2	3	4	5	6	7
18. Very few people of my sex know me well.	1	2	3	4	5	6	7
19. I see myself as belonging to the category male/female	1	2	3	4	5	6	7

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
20. I have a lot in common with others of my sex.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
21. Being a male/female has little to do with how I see myself in general	**1**	**2**	**3**	**4**	**5**	**6**	**7**
22. Most members of my sex get on well.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
23. If there is a problem members of my sex can get it solved.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
24. I don't feel a strong sense of being connected to others of my sex.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
25. Other males/females give you a bad name if you insist on being different.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
27. I often regret being a male/female.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
29. I often think about being a male/female.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
30. Generally I feel good when I think about being a male/female.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Section 3: How You Feel About the Neighbourhood You Live

Please write down the name of your local neighbourhood (e.g. your suburb, or town).

_____

This section gives you a series of statements about your feelings towards the local area where you live. Please indicate on the scale provided how strongly you agree or disagree with these statements, by marking the number that best describes your feelings.

Strongly Agree	Moderately Agree	Slightly Agree	Neither	Slightly Disagree	Moderately Disagree	Strongly Disagree
1	**2**	**3**	**4**	**5**	**6**	**7**

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
1. It is important to me to live in my particular neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
2. My neighbours and I want the same things from our neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
3. I feel at home and comfortable living in my neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
4. I would be willing to work together with others in my neighbourhood to improve its condition.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
5. I care about what others in my neighbourhood think about my actions.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
6. I have almost no influence over what my neighbourhood is like.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
7. The fact I am a part of my neighbourhood rarely enters my mind.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
8. I think my neighbourhood is a good place for me to live.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
9. People in my neighbourhood do not share my values.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
10. I rarely contact my neighbours.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
11. I find it difficult to form a bond with my neighbours.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
12. Being a member of my neighbourhood is an important part of my self image.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
13. I feel strong ties to others in my neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
14. In general I'm glad to be a male/ female.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
15. I don't feel good about being a member of my neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
16. Very few of my neighbours know me well.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
17. I see myself as belonging in my neighbourhood	**1**	**2**	**3**	**4**	**5**	**6**	**7**
18. I have a lot in common with my neighbours.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
19. Being a member of my neighbourhood has little to do with how I see myself in general	**1**	**2**	**3**	**4**	**5**	**6**	**7**
20. Most of my neighbours get on well.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
21. If there is a problem in our neighbourhood a group of neighbours can get it solved.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
22. I don't feel a strong sense of being connected to my neighbours.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
23. People in my neighbourhood give you a bad name if you insist on being different.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
24. I often regret living in my neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
25. I often think about being a part of my neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
26. Generally, I feel good when I think about living in my neighbourhood.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Section 4: How you feel about being a QUT Student

Please write down wether you are QUT student only (write QUT student) or also employed by QUT (write QUT student/staff).

_____

This section gives you a series of statements about your feelings towards being a QUT student . Please read the questions as relating to being a QUT student and indicate on the scale provided how strongly you agree or disagree with these statements, by marking the number that best describes your feelings.

Strongly Agree	Moderately Agree	Slightly Agree	Neither	Slightly Disagree	Moderately Disagree	Strongly Disagree
1	2	3	4	5	6	7

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
1. It is important to me to be a student at QUT.	1	2	3	4	5	6	7
2. Other QUT students want the same things from QUT as I do.	1	2	3	4	5	6	7
3. I feel comfortable being a QUT student.	1	2	3	4	5	6	7
4. I would be willing to work together with other QUT students to improve our conditions.	1	2	3	4	5	6	7
5. I care about what other QUT students think about my actions.	1	2	3	4	5	6	7
6. I have almost no influence over what being a QUT student is like.	1	2	3	4	5	6	7
7. The fact I am QUT student rarely enters my mind.	1	2	3	4	5	6	7
8. I think being a QUT student is a good thing for me to be.	1	2	3	4	5	6	7
9. Other QUT students do not share my values.	1	2	3	4	5	6	7
10. I rarely contact other QUT students.	1	2	3	4	5	6	7
11. I find it difficult to form a bond with other QUT students.	1	2	3	4	5	6	7
12. Being a QUT student is an important part of my self image.	1	2	3	4	5	6	7
13. I feel strong ties to other QUT students.	1	2	3	4	5	6	7
14. In general I'm glad to be a QUT student.	1	2	3	4	5	6	7
15. I don't feel good about being a QUT students.	1	2	3	4	5	6	7

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
16. Very few other QUT students know me well.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
17. I see myself as belonging to the QUT student body.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
18. I have a lot in common with other QUT students.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
19. Being a QUT student has little to do with how I see myself in general	**1**	**2**	**3**	**4**	**5**	**6**	**7**
20. Most QUT students get on well.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
21. If there is a problem a group of QUT students can get it solved.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
22. I don't feel a strong sense of being connected to other QUT students.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
23. Other QUT students give you a bad name if you insist on being different.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
24. I often regret being a QUT student.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
25. I often think about being a QUT student.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
26. Generally I feel good when I think about being a QUT student.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Section 5: How you feel about being a member of a club, interest group or association

Please write down the name of a club, interest group or association you have chosen to be a member of. Examples are a soccer or football club, an on line internet group of some kind, an environmental group, a bush walking club, a music group, a student association.

I am a member of _____

***Please do not leave this section out. If you are having trouble thinking of an interest group you belong to, please put your hand up and ask the experimenter for help*.**

This section gives you a series of statements about your feelings towards being a member of your interest group. Please read the questions as relating to this interest group and indicate on the scale provided how strongly you agree or disagree with these statements, by marking the number that best describes your feelings.

Strongly Agree	Moderately Agree	Slightly Agree	Neither	Slightly Disagree	Moderately Disagree	Strongly Disagree
1	**2**	**3**	**4**	**5**	**6**	**7**

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
1. It is important to me to be a member of my interest group.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
2. Others in my interest group want the same things from it as I do.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
3. I feel comfortable being a member of my interest group.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
4. I would be willing to work together with other members of my interest group to improve our condition.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
5. I care about what other members of my interest group think about my actions.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
6. I have almost no influence over what my interest group is like.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
7. The fact I am a member of my interest group rarely enters my mind.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
8. I think my interest group is a good thing for me to belong to.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
9. Other members of my interest group do not share my values.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
10. I rarely contact other members of my interest group.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
11. I find it difficult to form a bond with other members of my interest group.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
12. Being a member of my interest group is an important part of my self image.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
13. I feel a strong ties to other members of my interest group.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
14. In general I'm glad to be a member of my interest group.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
15. I don't feel good about being a member of my interest group.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
16. Very few members of my interest group know me well.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
17. I see myself as belonging to my interest group	**1**	**2**	**3**	**4**	**5**	**6**	**7**
18. I have a lot in common with other members of my interest group.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
19. Being a member of my interest group has little to do with how I see myself in general.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

	1 Strongly Agree	2 Mod. Agree	3 Slightly Agree	4 Neutral	5 Slightly Disagree	6 Mod. Disagree	7 Strongly Disagree
20. Most members of my interest group get on well.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
21. If there is a problem my interest group members can get it solved.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
22. I don't feel a strong sense of being connected to other members of my interest group.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
23. Other members of my interest group give you a bad name if you insist on being different.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
24. I often regret being a member of my interest group.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
25. I often think about being a member of my interest group.	**1**	**2**	**3**	**4**	**5**	**6**	**7**
26. Generally I feel good when I think about being a member of my interest group.	**1**	**2**	**3**	**4**	**5**	**6**	**7**

Section 6: A few last things

Please answer these questions by circling the number which best describes your response.

1. When you were filling out this questionnaire how aware were you of your identity as a ***male or female***?

1	2	3	4	5	6	7
Not at all aware						Very much aware

2. To what extent were you responding to the questions in this questionnaire as a ***male or female***?

1	2	3	4	5	6	7
Not at all						Very much so

3. How often, when filling out this questionnaire, where your thoughts drawn to your status as a ***male or female***?

1	2	3	4	5	6	7
Not Often						Very often

4. When you were filling out this questionnaire, how aware were you of your identity as a ***member of your local neighbourhood***?

1	2	3	4	5	6	7
Not at all aware						Very much aware

5. To what extent were you responding to the questions in this questionnaire as a ***member of your local neighbourhood***?

1	2	3	4	5	6	7
Not at all						Very much so

6. How often, when filling out this questionnaire, were your thoughts drawn your status as a ***member of your local neighbourhood***?

1	2	3	4	5	6	7
Not Often						Very often

7. When you were filling out this questionnaire, how aware were you of your identity as a ***QUT student***?

1	2	3	4	5	6	7
Not at all aware						Very much aware

8. To what extent were you responding to the questions in this questionnaire as a ***QUT student***?

1	2	3	4	5	6	7
Not at all						Very much so

9. How often, when filling out this questionnaire, were your thoughts drawn your status as a ***QUT student***?

1	2	3	4	5	6	7
Not Often						Very often

10. When you were filling out this questionnaire, how aware were you of your identity as a ***member of your interest group***?

1	2	3	4	5	6	7
Not at all aware						Very much aware

11. To what extent were you responding to the questions in this questionnaire as a ***member of your interest group***?

1	2	3	4	5	6	7
Not at all						Very much so

12. How often, when filling out the questionnaire, were your thoughts drawn to the fact of your status as a ***member of your interest group***?

1	2	3	4	5	6	7
Not Often						Very often

You've Finished!!!!!

Thank You For Your Time And Patience In Completing This Questionnaire

Appendix D:

Bivariate Correlations between Social Identification Subscales and PSOC Subscales

	Centrality	Ties	Affect	Total SI
Science Fiction Fandom				
Membership	.473**	**.600****	.509**	.611**
Needs Fulfilment	.424**	.408**	.382**	.473**
Emotional Connection	**.582****	.582**	**.613****	**.687****
Influence	.175**	.308**	.335**	.305**
Total SCI	.617**	**.728****	.669**	.777**
General Community				
Membership	**.620****	.695**	.675**	.752**
Needs Fulfilment	.504**	.732**	.667**	.723**
Emotional Connection	.534**	**.776****	**.829****	**.807****
Influence	.406**	.709**	.655**	.674**
Total SCI	.622**	**.768****	.744**	.884**
Neighbourhood				
Membership	**.654****	.613**	**.695****	.622**
Needs Fulfilment	.220**	.475**	.371**	.461**
Emotional Connection	.414**	**.647****	.222**	**.699****
Influence	.269**	.504**	.039	.495**
Total SCI	.545**	**.758****	.463**	.797**
Student				
Membership	.474**	.428**	**.678****	**.661****
Needs Fulfilment	.112	.250**	.324**	.285**
Emotional Connection	**.549****	**.573****	.195**	.578**
Influence	.232**	.561**	.067	.419**
Total SCI	.566**	**.649****	.459**	.749**
Interest Group				
Membership	.547**	.647**	**.700****	**.742****
Needs Fulfilment	.412**	.514**	.482**	.559
Emotional Connection	**.594****	**.703****	.448**	.722
Influence	**.**586**	.641**	.454**	.691
Total SCI	.671**	**.794****	.652**	.860**

Note: ** $p < .01$