Sense of place amongst adolescents and adults in two rural Australian towns: The

discriminating features of place attachment, sense of community and place

dependence in relation to place identity

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Abstract

This study investigates whether dimensions of sense of place can discriminate those residents who identify with their rural town, and prefer to stay, from those who do not, and whether patterns of association between these dimensions differ between adolescent and adult residents. Participants were 246 adults and 365 adolescents in two remote rural towns in Australia. Place identity was determined from residents' responses on a single item, "I would really rather live in a different town. This one is not the place for me". Three groups were classified, those agreeing, undecided and disagreeing with the statement. Discriminating variables were place attachment (emotional bonding and behavioural commitment), sense of community (affiliation and belonging) and place dependence (available activities, quality and quality comparison with alternative communities). A direct discriminant function analysis showed 76.4 % of adults were correctly classified from one discriminant function accounting for 92 % of the variance. Indicators of dependence, belonging, behavioural commitment and emotional bonding, loaded above .45. Sixty-two percent of adolescents were correctly classified from one discriminant function accounting for 93.6 % of the variance. Indicators of dependence and belonging loaded .45 and above. Discussion considers distinguishing dimensions of sense of place and identifying associations amongst them as ways to explore the experience of community in everyday life.

The sense of place amongst adolescents and adults in two rural Australian towns: The discriminating features of place attachment, sense of community and place dependence in relation to place identity

This study is part of a project conducted to determine how adolescent and adult residents feel toward their remote rural towns in the wake of increasing economic threat and declining sustainability. Specifically, it explored residents' identity with their town, assessed by the extent of their agreement with the sentiment "this is not the place for me", in relation to sense of place dimensions including place attachment, sense of community and place dependence. Also of interest was whether young people showed patterns of associations between these sense of place dimensions and community identity similar to those shown by adult residents. A community development project had begun in the region to address the alienation rural young people were experiencing (Chipuer & Pretty, 2000). The question was asked whether community sentiment might be implicated in the risk factors affecting the significant rise in mental health problems in rural Australian youth, as had been suggested in studies of rural adults in America (O'Brien, Hassinger & Dershem, 1994).

In addition to addressing these practical questions, the project provided an opportunity to explore the distinctiveness of, and the relationship between, sense of place dimensions.

Place as residential community

Place can be understood as a unit of "environmental experience" (Canter, 1986), a convergence of cognitions, affect and behaviours of the people who are experiencing them (Canter, 1991). The word place conveys many different

dimensions such as physical size, tangible versus symbolic, known and experienced versus unknown or not experienced. Place also includes that which influences the meaning occupants give to it through personal, social, and cultural processes (Altman and Low, 1992). Hence place can be described in terms of many multidimensional physical and psychological environmental attributes. In this study the place about which participants were asked to respond in survey questions was the town where they lived.

Like place, the word community can convey different meanings such as inhabited geographically defined areas or groups of people identified by common interests, values, culture, etc, but not bounded by physical locale. In this study we use the word community, as in sense of community, to indicate specific geographical residential locations with municipal boundaries identifiable by its inhabitants. It designates a residential place and, as such, communities in this research are considered to have all the multidimensional attributes of place described above. The psychological dimensions of person-place relationships in the residential community are the focus of this study.

Difficulties differentiating sense of place dimensions for empirical study

The psychological dimensions of experiencing place have been described under several umbrella concepts such as community sentiment (Hummon, 1992) and sense of place (Relph, 1976; Jorgensen & Stedman, 2001). Location itself is not enough to create a sense of place. It emerges from involvement between people, and between people and place.

The specifications of concepts subsumed under sense of place, particularly place identity, place attachment and sense of community, have not been clearly articulated. There is considerable overlap between factors such as emotional bonds,

affiliation, behavioural commitment, satisfaction and belonging which are loosely associated in theoretical descriptions. For example, Cuba and Hummon (1993) describe emotional ties and affiliation with place as aspects of identity, whereas Altman and Low (1992) use these same factors to define attachment. Attachment is also described in terms of behavioural commitment and emotional bonding (Brown & Perkins (1992), which is similar to the emotional connection and fulfilment of needs components of sense of community (McMillan & Chavis, 1986). Shamai (1991) distinguishes between belonging and affiliation, and bonding, however Puddifoot (1995) identifies these as common aspects of community identity without distinguishing between them. In the sociological literature, there is a similar lack of specificity in definitions of attachment and identity (Goudy, 1990a; Stinner, Van Loom, Chung & Byun, 1990; O'Brien et al, 1994).

The theoretical quagmire reflected in this blurring of conceptual boundaries is also evident in the lack of precision of the operational definitions that are used to study these sense of place dimensions. Researchers find statistical relationships and common loadings of items on different subscales indicating a high degree of commonality amongst the dimensions. This makes conceptual interpretation of participants' responses difficult. Attempts to address these problems and to develop better models and measures (for example, Shamai, 1991; Lalli, 1992; Cuba & Hummon, 1993; Puddifoot, 1995; McAndrew, 1998; Jorgensen & Stedman, 2001; Obst, Smith & Zinkiewicz, 2002) have resulted in further expansion and complexity, but little progress in conceptually and empirically disentangling the dimensions.

This problem was foreshadowed by those who cautioned against the positivist tradition of dissecting sense of place phenomena into precisely defined and measurable dimensions (Relph, 1976). However, the value of discovering the unique

features of sense of place dimensions is maintained by those who propose how understanding facets of the community experience might help to illuminate solutions to social and ecological problems. (See for example Fried's (2000) discussion of social issues related to the functions and dysfunctions of place attachment, Cantrill and Senecah's (2001) description of the role of 'sense of self-in-place' in environmental planning, and Chavis and Wandersman's (1990) findings regarding sense of community and citizen participation).

For the purposes of this study, we attempted to assess place attachment, sense of community and place dependence as separate concepts. However, theoretically we consider them as different ways of thinking about the same phenomenon, self-in-community. We take the view that each concept exists and has meaning by its relationship to the other. We endeavour to be clear in our operational definitions of these concepts, and how we distinguish each from the other. We attempted to choose subscales of reliable and valid questionnaires, and individual items, to measure the concepts such that there is little overlap in item content. This was essential in order to answer empirically the project question posed to us by a systematic analysis of psychological features of residents' relationships with their rural communities. Next we provide a brief description of how we defined these concepts.

Place identity with one's residential community

The dependent variable in this study is a self-definitional attitude toward a place which indicates " the ways locales are imbued with personal and social meanings, and …serve in turn as an important sign or locus of the self" (pg 258, Hummon, 1992). Proshansky, Fabian and Kaminoff (1983), Sarbin (1983), Twigger-Ross and Uzzell (1996) and, more recently, Breakwell (2000), Gustafson (2000) and Fried (2000) have suggested that place identity is a cognitive structure which

contributes to global self-categorisation and social identity processes. This aspect of sense of self answers the "who am I?" question by answering the "where am I?" question (Cuba & Hummon, 1993). Hence place identity develops from acts of locating oneself within environmental contexts throughout daily routines as well as during exceptional circumstances. One's residential community can have personal meanings that are constructed such that the experiences and images of the place constitute a symbolic extension of the self (Hummon, 1992; Prochansky et al, 1983; Sarbin, 1983).

Discursive evidence that a place has become integrated into one's self identity is reflected in "I" and "me" statements regarding the place. Such personal positioning with respect to place can indicate that the person's construction of self identity has included that place. In this study participants were asked to position themselves with respect to their residential community by agreeing or disagreeing to the statement "I would really rather live in a different town. This one is not the place for me". As the physical surroundings in which one chooses to situate one's self can communicate qualities of self to self or to others (Cuba & Hummon, 1993), indicating that one's town is not the place "for me", is to suggest that one's town is not constituted as part of one's self identity.

Researchers such as Korpela (1989) suggest that place identification reflects the belonging one feels within that particular context. In this study, we describe belonging in terms of one's sense of community.

Sense of community

Sense of community is associated with the social environmental characteristics of place, although residents' perceptions of it have been linked to physical features of the built environment (Plas & Lewis, 1996). Sarason (1974) described this "sense" as

the extent to which a person feels part of a readily available, supportive and dependable structure; that one belongs somewhere. One model of sense of community (McMillan & Chavis, 1986) further delineates its content in terms of affective, cognitive and behavioural components. When one has a sense that one belongs to an identified community, one anticipates receiving resources from that community. One then reciprocates by responding in kind when the community requires something of his/her resources. In other words, people care for, and are cared for by, those with whom they feel they belong.

Place attachment

Bonding and the emotions associated with it are central to the concept of attachment (Altman & Low, 1992). However, unlike sense of community, the cognitions are not related to the social environment of place only. Borrowing from attachment theory, Fried (2000) maintains that attachment to a community can be understood in terms the deeper meaning of experiencing close, local relationships with people and, by extension, to places of relational interaction.

Initial sociological studies (Gerson, Stueve & Fisher, 1977) defined attachment in terms of both subjective feeling toward the geographical locale, and the behaviour of neighbouring, social involvement and commitment of personal resources. Both dimensions have been included in psychological research of attachment in rural (Goudy, 1990b) as well as urban settings (Brown and Perkins, 1992).

In previous studies attachment has been subsumed under the concept of place identity (Lalli, 1992; Puddifoot, 1995). However these researchers did not operationally define the affective and behavioural commitment features, and did not differentiate between bonding and belonging. Hence they have not sought to

distinguish, conceptually or operationally, attachment from sense of community, or from place identity, as we attempt to do here. In this study, both the affective and the behavioural aspects of place attachment are assessed.

Another behavioural sense of place dimension closely related to attachment, and also implicated in place identity, is place dependence.

Place dependence

Place dependence considers the goal oriented behavioural component of residents' sense of place. Stokols and Schumaker (1981) describe two components of place dependence, the quality of the current place in terms of the availability of social and physical resources to satisfy goal directed behaviour, and how it compares to other alternative places. While residents are not always consciously monitoring their transactions within a place, or comparing the quality of their life with that in other communities, particular circumstances can heighten their awareness. One such circumstance might be exposure to highly publicised concerns regarding the economic viability of one's community, as in the case of the towns we study here.

Several studies of community identity have assessed residents' perceptions of the quality their town and how it compared to other towns. However, the researchers did not conceptualise their measures as indicative of place dependence features. For example, Lalli (1992) has a component in her Urban-identity Scale that requires an evaluative comparison with other towns. Puddifoot's (1995) dimensions of community identity contain residents' perceptions of the physical distinctiveness of their town (implying comparison with other towns) as well as an evaluation of the quality of the community. More recently, Jorgensen and Stedman (2001), in their attempts to identify sense of place dimensions as attitudes, included a measure they labelled as place dependence, which they distinguished from identity and attachment.

In this study the availability, quality and comparative evaluation features of place dependence are each assessed.

Ways of associating sense of place dimensions

There is little in the literature to describe what unique affective, cognitive or behavioural features of sense of place dimensions discriminate each one from the other. However, there have been some attempts to suggest relationships between the concepts.

Some have suggested that each dimension of sense of place reflects a different level of intensity of feeling. Relph (1976) distinguishes between seven degrees of "outsidedness" and "insidedness", representing extremes from alienation to complete identity with a place. Shamai (1991) also describes sense of place as having levels of intensity of feeling and behaviour from belonging (affiliation) and attachment (special affinity) to commitment (ready to do something for the place). The present study similarly distinguishes between residents' perceptions of belonging (sense of community) and bonding and commitment (place attachment).

Bonnes and Secchiaroli (1995) propose that the distinguishing features of these concepts can be understood in terms of their different theoretical positions in relation to "place". Place attachment implies an individualistic perspective, concerned with an individual's emotional and behavioural commitment, or bonding, to place. Similarly place dependence describes an individual's internal representation of place in relation to his/her personal goal-oriented behaviours that are supported by the physical and social resources of the place, and his/her personal comparison of the quality of life in the community compared to other alternative communities. These two concepts contrast with the sense of community concept that is concerned with the meanings of place common amongst its inhabitants, including affective, cognitive and

behavioural components of shared experiences. Place identity, the dependent variable in this study, has an individualistic aspect, in terms of the development of the self-in-place identity, and a communal aspect, which encompasses the processes of social identity. These are related to the shared collective dimensions of place that become integrated within one's individual identity. This study considers the relative importance of individual, compared with collective, affective, cognitive and behavioural indicators of sense of place in discriminating between residents with different levels of community identity.

We hypothesize that while these sense of place dimensions are associated with each other, they may be distinctive in terms of their relative importance in predicting people's identity with place. We suggest that attachment (emotional and behavioural commitment) is related to having a sense of community (cognitions of affiliation and belonging within the community). Attachment and sense of community have implications for community dependence, in that the affective, cognitive and behavioural features of both can enter into a person's assessment of the quality of a town and the comparison of this quality with alternative communities. To date there has not been an attempt to consider the specific features of these dimensions in relation to a resident's place identity. We are asking what unique features of each dimension determine whether "this is the place for me."

Community identity and developmental stages

Much of what we know about community sentiments of attachment and identity in rural towns concerns adults (Goudy, 1990a; Rowles, 1990; Stinner, Van Loon, Chung & Byun, 1990; O'Brien, et al, 1994). A general finding is that people who have resided in the community the longest tend to have the highest indicators of attachment and identity (Kasarda & Janowitz, 1974; Rowles, 1990; Goudy, 1990a; Sampson, 1988). This may be

related to the extent of residents' current involvement as well as to past memories of their life course, all of which can serve to maintain the continuity of one's identity (Rubinstein & Parmelee, 1992).

The importance of having a lifespan perspective in this research area has been suggested by Hummon (1992) and other theorists who propose the significance of sense of place in self identity maturation processes (Proshansky, et al, 1983; Sarbin, 1983; Proshansky & Fabian, 1987; Giuliani & Feldman, 1993). While we have some appreciation of the differences in orientation toward and evaluation of places throughout childhood and adolescent stages (Hart, 1979; Chawla, 1992; Korpela, 1989; Malinowski & Thurber, 1996; Hay, 1998; Fried, 2000) little of this research has considered the sentiment of adolescents toward their residential community. However, there is evidence that sense of community, for example, is implicated in the well-being of young people (Pretty, Andrewes & Collett, 1994; Pretty, Conroy, Dugay, Fowler & Williams, 1996; Chipuer et al, 1999). Of particular relevance to this study, are the findings of Elder, King and Conger (1996) regarding young people in rural communities threatened by economic decline who were making decisions on future careers. Elder et al describe the influence of young people's place identity and attachment in terms of their preferences for remaining in their community of origin.

Except for recent research by Chipuer (2001), no study has compared the community sentiments of adolescents and adults within the same setting, so we have little indication how patterns of association compare between age groups. This question is of interest both from a theoretical lifespan perspective as well as from a practical perspective as community developers endeavour to create places that meet the psychological needs of all its residents.

<u>Purpose and hypotheses</u>

The primary purposes of this study encompass conceptual as well as practical questions regarding the relationship between dimensions of sense of place; whether those residents who identify with the community can be discriminated from those who do not identify on the basis of these dimensions; and how the patterns of associations amongst these dimensions compare for adolescent and adult residents. No hypotheses are made regarding the ordering of sense of place dimensions in the discriminant function analyses as there are no theoretical or empirical precedents on which to base them.

Method

<u>The setting</u>

In this study place refers to two rural communities which are located in southeast Queensland, Australia. Residents have a common perception of each town's boundaries and familiarity with all aspects of its natural and built environments due to: the small size of the towns (less than 3,000 inhabitants); the separation of these rural towns from other communities by hundreds of kilometres of uninhabited "outback"; and all residents are dependent on their own community facilities and resources for their daily needs (at least six hours drive from a major city). Hence many of the boundary definition and familiarity issues inherent in studies of larger urban centers (Coulton, Korbin, Chan and Su, 2001) are not evident here. Each town has only one central commercial location surrounded by a grid of four or five residential streets without district markers.

These towns were chosen from a list of rural towns in the southeast region identified as experiencing significant economic decline based on information from Statistics Australia. They were matched on the following criteria: population size less

than 5,000; relative percentage of adolescents, adults and seniors; history of settlement (year established, origin of inhabitants and growth rates); economic base in agriculture; average yearly income of residents; size of schools at primary and secondary level; availability of local health and social services; accommodation for the elderly; and shopping, dining and recreation facilities. Town A has 1750 residents and Town B has 2500 residents. They are located approximately 8 hours driving time from each other.

Participants

Participants consisted of adolescent and adult residents. Participants' responses were analysed to determine whether further analyses should be conducted for each town separately or whether the data could be collapsed across towns to provide more power for statistical analyses. The results of these analyses indicated no significant differences in the distributions of the two samples across the demographic data and the predictor variables for each town. All further analyses are presented for adults and young people in Town A and Town B combined.

Adolescents. The sample consisted of 365 young people between the ages of 12 and 18 years (M = 14.16, SD = 1.63). Fifty-three percent were male. Seventy-three percent lived with both parents and 75% had lived all of their lives at their current residence. Sixty-three percent indicated that they knew almost everybody in their town by name.

Adults. 246 participants ranged from 19 to 90 years of age with 50% being over the age of 43 years (M = 45.81, SD = 19.56). This proportion of middle to old age adults was representative of the population profile of the towns. Women comprised 79% of the sample. The average length of time they had lived in their town was 18.23 years. Seventy-six percent of adults indicated they could name almost everybody in the town. Twenty percent of adults were living alone. Fifty-eight percent

were living in their own homes, 33% were renting and the remainder were living in

retirement or aged care residences. Thirteen percent had completed primary school

only, 48% high school and the remainder tertiary (mostly trade) programs. The most

common occupations reported were teacher, administrative assistant, retail

salesperson and homemaker, reflecting the large proportion of women in the sample,

and the proportion of occupations that were most available in the town. A number of

participants were farmers, medical personnel and other professionals that was

proportionately representative of each of these jobs in the town's population.

However, there were few adult participants from the unskilled and unemployed labour

sectors. Hence this study is not considered to be representative of all adult residents in

this these towns.

Indigenous people comprise fewer than 1% of residents in these two towns,

and this was reflected in our sample in that no participants identified as such.

Measures.

This study is part of a larger project that used an extensive survey

questionnaire. Participants' responses on the following measures and questions were

analysed to address the research questions in this study.

Background information. All participants were asked to indicate their gender,

date of birth, education, length of residence in the town and at their current address,

with whom they lived, and how many neighbours they knew by name. Adult

participants were asked to indicate their occupation, and whether they owned or

rented their place of residence.

Sense of place measures. The following measures were chosen on the basis of

each having face validity for a unique feature of the sense of place concept we were

investigating, and on not having similar items in their content. The indicators of all

three concepts were drawn from subscales of the Neighbourhood Cohesion Instrument (NCI; Buckner, 1988) and the Neighbourhood Youth Inventory (NYI; Chipuer et al 1999).

Place identity. Participants were classified on this dependent variable based on their response to the item "I would rather live in a different town. This is not the place for me". This item is constructed with content similar to the social identity measure, the Strength of Group Identification Scale (SGIS, Brown, Condor, Mathews, Wade & Williams, 1986) that has been used to assess residents' identity with their geographical community (Obst, Smith & Zinkiewicz, 2002). This adaptation was considered appropriate as it is consistent with the theoretical perspective of the study that place identity is an aspect of self categorisation and social identity. The item contains personal positioning in reference to place, and reflects the practical aspect of the research question (preference for staying versus leaving) in relation to the theoretical aspect (situating self identity within the physical setting). While two items on the survey were similar in this content, this negatively worded item was the only one that discriminated groups of residents across adolescents and adults. Upon inspection of these two items in comparison to other positively and negatively worded items, there was no pattern of response to suggest acquiescence, affirmation or agreement bias across the survey (DeVellis, 1991). Hence the discriminating nature of this item was taken to be a valid indicator of differences in the sample. The item is rated on a response scale: 1 (very true), 2 (true), 3 (undecided), 4 (untrue) and 5 (definitely untrue). For the purposes of the discriminant function analysis, participants were categorised into one of three groups based on their response as follows: low community identity (responding 1 or 2), undecided (responding 3), high community identity (responding 4 or 5).

Place attachment. The behavioural commitment dimension of community attachment was assessed using the Neighbouring subscale of the Neighbourhood Cohesion Instrument (NCI; Buckner, 1988). The NCI is an 18-item multidimensional scale tapping residents' perceptions of three aspects of neighbourhood experience; sense of community, attraction to neighbhourhood, and neighbouring. The items are rated on a scale from 1 (strongly disagree) to 5 (strongly agree). Negatively worded items are reversed scored. The Neighbouring subscale (NBeh) consists of 5 items describing behaviour such as "If I needed advice about something I could go to someone in my neighbourhood". Scores range from 5 to 25 with higher scores indicating more behavioural commitment. The Cronbach alpha for this subscale in the current study compares favourably to the alpha reported by Buckner for the NCI (1988), .80 and .76 for adults and adolescents respectively.

The emotional bonding dimension of attachment was assessed using the Friends subscale of the Neighbourhood Adolescents Inventory (NYI; Chipuer et al, 1999). The NYI was developed from interviews with young people, specifically to assess adolescents' perceptions of their neighbourhood and has been found to have similar psychometric properties for adults. The participant is required to respond from 1 (not at all true) to 5 (completely true). There are 22 items for which Chipuer et al report a consistent four factor structure identified as representing subscales of Activity, Support, Friends and Safety. The Friends subscale contains 4 items such as "I like being with other people in my neighbourhood". Scores range from 4 to 20 with high scores indicating more emotional bonding. The Cronbach alphas for this subscale for adolescents and adults respectively are .53 and .62.

Sense of community. The Sense of community subscale of the NCI (described above) was used to assess this dimension. The 10 items on this subscale (Nsoc) describe

feelings of belonging, "If the people in my neighbourhood were planning something, I'd think of it as something "we" were doing rather than "they" were doing." Scores range from 10 to 50, with higher scores indicating a higher sense of community. The Cronbach alphas for this subscale in the current study compare favourably to the alpha reported by Buckner (1988), .87 and .88 for adults and adolescents respectively.

Place dependence. The quality of the community as a resource for goal-directed behaviour was assessed by the Activity subscale of the NYI (as described above). The 4 items include, for example, "There are things for people my age to do in my neighbourhood". The Cronbach alphas for this subscale for adolescents and adults respectively are .61 and .81. Scores range from 4 to 20 indicating low to high quality of resources. Quality of activity in the community was assessed using a single item "Life in this commmunity is dull". The quality of the community compared to alternative communities was assessed by the statement "All in all, life in this community will continue to improve more rapidly than in other communities in this country". Both items were rated on a response scale: 1(very true), 2 (true), 3 (undecided), 4 (untrue) and 5 (definitely untrue).

Procedure

Letters of introduction were sent to members of the Town Council, schools, community agencies and the local newspaper. We held meetings with community leaders and agencies to describe the project, to invite them to add any additional questions, and to get their advice regarding the most appropriate survey and focus group methods. On the basis of these consultations we developed procedures attempting to maintain the integrity of comparability of methodologies across the two towns while at the same time considering the unique concerns of each community.

The Survey

Adolescents. Principals granted permission to contact young people in the schools. Letters explaining the study and consent forms were sent home with interested students. All participants were assured that their responses would be anonymous and confidential and that they could withdraw from completing the questionnaire at any time without penalty. Data collection was conducted during school time in group settings. One hundred and ninety-one and 174 young people participated from Town A and B respectively, resulting in a total of 365 participants in the adolescent group.

Adults. On advice from both communities where other surveys had been distributed recently, we used personal contact to distribute surveys rather than mail-out or letterbox drops. We devised a sampling process that attempted to randomly select participants from all identified formal and informal organisations and groups in the town. We consulted with administrators of all government, health, volunteer, religious and self-help agencies, and business people, and secured their agreement to distribute questionnaires to staff and clients as appropriate. Within the schools, surveys were distributed to all teachers and support staff, and a random sample of students was given a questionnaire to take home to a parent or other adult family member. The snowball technique was also used whereby enthusiastic participants were asked to distribute surveys to five other people who were not likely to have been selected by other methods (such as those who did not have children, were not employed and not active in any community activity). Where necessary, the researcher read questions aloud to some elderly participants who had eyesight problems, and to participants who had literacy problems. Participants were given the choice of having the researcher return the next day to collect the survey, or returning it in a post-paid envelope. Return rates were 35% in Town A and 47% in Town B.

We returned to the towns about two months after the survey to present the findings of preliminary analyses to focus groups in order to solicit the community interpretation of the findings. A focus group of six to eight participants was held for each age group of adolescents. Students were asked to comment on whether the findings reflected their experiences and how they would explain the findings. In Town A, three groups were held consisting of adults who volunteered from across the community sites. In Town B, at the request of the mayor, the primary focus group consisted of a town meeting to which invitations were distributed throughout community bulletin boards and in the local paper. Two other groups were held consisting of interested teachers and elderly residents unable to attend the town meeting. All focus groups were audio-taped with the permission of participants.

<div align="center">Results</div>

Data were analysed for missing values and outliers. This resulted in 30 young people being dropped because they had not completed the last page of the survey on which the survey question for grouping participants was located, and another two because multivariate outliers with $p< .001$ were identified. There was no identifiable pattern to these outliers to suggest non-random occurrence. Therefore, for the adolescent sample, of the original 365 participants, 333 were entered into the analyses. In the adult sample, nine were deleted from the analyses because of missing data for one of the variables. This missing data appeared to be randomly distributed throughout groups and variables. No outliers were identified in the adult sample. Therefore, for the original adult sample of 246, 237 were retained for the analyses.

Comparing perceptions of adolescents and adults

Descriptive statistics for all variables for adolescents and adults are presented in Table 1. A one-way multivariate analysis of variance indicated a statistically

significant difference between adolescents and adults on the combined dependent

variables F(7,539) = 24.18, p<.0005; Wilks' Lambda = .76; partial eta squared = .24.

Using a Bonferoni adjusted alpha level of .007, univariate analyses confirmed

significant differences between adolescents and adults on six of the seven dimensions

(see Table 1). Adults reported significantly higher levels of sense of community,

friends, activity, quality and quality comparison than young people. There was no

difference between adolescents and adults on perceptions of neighbouring behaviour.

Discriminant analysis of community identity.

To determine whether indicators of sense of community, place attachment and

place dependence could discriminate those residents with high place identity,

undecided, or low place identity, and to determine the pattern of associations amongst

these dimensions for adolescents and adults, a direct discriminant function analysis

was performed. As there was no theoretical model or previous research to suggest

particular order or preference for entry, all dimensions were entered in one step.

Discriminating variables were sense of community (Bnsoc), attachment; behavioural

commitment (Bnb), and emotional bonding (Friends), and place dependence;

Activity, Quality and Comparative quality. The sample was analysed for adolescents

and adults separately with three groups within each; residents with high identity,

undecided and low identity.

The data for adolescents and adults were each evaluated with respect to the

limitations and assumptions of discriminant function analysis. Inspection of

multivariate normality and linearity was satisfactory. A Box's test of equality of

variance-covariance matrices was not significant indicating homogeneity. Checks of

tolerance within the discriminant function analyses indicated no concerns related to

multicollinearity and singularity. Group sizes were very unequal for the adult sample,

however the effectiveness of the discriminant function analysis was not reduced by

this as the sample size of the smallest group exceeded the number of discriminating

variables. However, in light this, the *a priori* probabilities of assignment to groups

were adjusted to reflect the unequal sample sizes (Tabachnick & Fidell, 1996).

Adolescents. The results of the analyses are presented in Table 2a. For the

adolescent sample, two discriminant functions were calculated. The combined $X^2(12)$

was 167.64, $\underline{p}$<.001. After removal of the first function there was a nominal, though

significant, association between the groups and predictors and the second function,

$X^2(5) = 13.23$, $\underline{p}$<.02. These two discriminant functions accounted for 93.6 and 6.4 %

of the between group variance. The first function maximally divides those young

residents who identify with their town and are preferring to stay from those who are

either undecided or do not identify and prefer to leave. The second function indicates

some discrimination between those undecided from those not preferring to stay but it

does not account for a meaningful portion of the variance to warrant interpretation.

Table 2a shows that 206 adolescents (61.9 %) could be correctly classified as

high identity (preferring to stay), undecided, or low identity (not preferring to stay) on

the basis of the sense of community and place dependence dimensions. The analysis

was repeated suppressing the second function for classification, but this did not

improve the classification rate. The residents in the high identity and low identity

categories were most accurately predicted (77.8% and 73% respectively), but the

predictor dimensions were not as useful in discriminating those who were undecided

from the other two groups (only 20.5% correctly classified). A jackknifed

classification method was also used as it eliminates bias when all predictor variables

are forced into the equation, as in this analysis (Tabachnick & Fidell, 1996). The case

that is being classified is left out of the calculation of the function, resulting in the

observed misclassification rate being a less biased estimate of the true one. Results

shown in Table 2a indicate no substantial change in any of the individual categories

(%jk) or in the overall classification rate (59.5%). It is therefore concluded that the

predictor variables were successful in discriminating those with high identity -

preferring to stay and low identity - preferring to leave at a rate significantly different

from that occurring by chance.

The loading matrix of correlations between predictors and discriminant

functions is presented in Table 2a. Only dimensions with loadings over .45, which are

considered a fair measure of the factor represented by the discriminant function, were

interpreted (Comrey & Lee, 1992). This value, which is higher than the conventional

.33 correlation, was chosen because of the high correlations between predictors and

that this analysis is based on full, not partial correlations (Tabachnick & Fidell, 1996).

The best predictors for distinguishing those preferring to stay and those wanting to

leave are, firstly the quality aspect of place dependence, secondly the sense of

community and thirdly the comparative quality aspect of place dependence. More

adolescents who perceive their community not to offer the physical and social

resources to satisfy their behavioural goals are wanting to leave (M= 4.13) compared

to those preferring to stay (M = 2.44) or undecided (M= 3.25). Those who have a

higher sense of community wanted to stay (M=36.24) compared to those wanting to

leave (M = 29.75) or undecided (M= 32.85). Those who perceive their community as

providing a better quality of resources compared to other alternative communities also

wanted to stay (M = 2.43) compared to those wanting to leave (M = 3.24) or

undecided (M= 3.04). These findings suggest that for the adolescents from these rural

communities the overall quality of resources for living in the community, and their

sense of belonging to the community have greater potential to predict identity and

willingness to stay than indicators of attachment, that is emotional bonding and behavioural commitment, and activity.

Pooled within-group correlations amongst subscale scores are shown in Table 3a. As discussed earlier in this paper there were significant correlations between the indicators of sense of community and place attachment. However the dimensions indicative of place dependence were not inter-related with each other, or as strongly related to sense of community and attachment.

Adults. The results of the analyses are presented in Table 2b. For the adult sample, two discriminant functions were calculated. The combined $X^2(12)$ was 82.40, $\underline{p}<.0005$. After removal of the first function there was no significant association between the groups and predictors remaining for the second function, $X^2(5) = 7.64$, $\underline{p}>.05$. The first discriminant function accounted for 92 % of the between group variance. It maximally divides those adult residents with high identity who prefer to stay from those who are either undecided or have low identity and do not prefer to stay.

Analysis showed that of the original 237 adults, 181 (76.4 %) could be correctly classified as preferring to stay, undecided, or not preferring to stay. As with the adolescents sample, a jack-knifed classification method was also used to improve the estimate of the misclassification rate. The results did not indicate a substantial change in the overall classification rate (72.6%) or in the individual groups, as shown in Table 2b. It should be noted that because two of the groups (those undecided and those preferring to leave) are much smaller than the group of residents with high identity preferring to stay, a highly correct classification rate for the largest group is expected. In fact, for the adults, the ability of these variables to predict the undecided group was not much more than chance using the unequal N calculation of the a priori

probabilities (17.1% vs 15% respectively). For the group of residents with low

identity and preferring to leave, the actual classification rate (43.8 %) did exceed the

a priori probability rate (13.3%).

The loading matrix of correlations between predictor dimensions and

discriminant functions is presented in Table 2b. As with the adolescents, the quality of

resources in the town has the highest loading, and sense of community the next

strongest. Unlike the younger residents, adults' perceptions of attachment dimensions,

neighbouring behaviour and emotional bonding, also loaded. However the two aspects

of community dependence (Activities and Comparative quality) did not. Compared to

residents with high identity and preferring to stay, those undecided and wanting to

leave had higher scores on the item indicating low quality of resources (M = 2.07,

2.76 and 3.23 respectively) and lower scores on the indicators of sense of community

(M = 37.10, 32.41 and 31.37 respectively), neighbouring (M = 17.21, 15.24 and 13.40

respectively), and friends (M = 13.94, 11.68 and 11.60 respectively).

Pooled within-group correlations amongst subscale scores are shown in Table

3b and indicate patterns similar to the adolescent data. There are high correlations

amongst the sense of community and attachment dimensions and lower insignificant

relationships amongst the community dependence indicators.

Focus group transcript analysis. A thorough report of qualitative analysis of

the content of twelve hours of focus group transcripts is beyond the scope of this

paper. Rather, primary theme content with respect to each of the discriminating

variables was identified and compared between adult and adolescent groups as to its

content and frequency. This will be used here as points of reference to residents'

contribution to our interpretation of findings.

Discussion

This study investigated residential community as "place" and addressed theoretical and practical questions regarding the relative importance of sense of place dimensions in discriminating residents with high levels of community identity (preferring to stay) from those with less community identity (preferring to leave or are undecided). Notwithstanding several methodological problems posed by research in this area, and as we did not hope to provide a parsimonious description of complex sense of place phenomena, we feel our findings contribute to the ongoing discussion surrounding the uniqueness and commonality of its dimensions.

As expected several sense of place indicators were significantly related to each other, especially sense of community and the behavioural commitment measure (neighbouring) of place attachment. However, less variance was shared between the sense of community and the bonding measure (friends) of place attachment. Also, aspects of place dependence, the quality and comparable quality of goal-directed activity, was distinctive from sense of community and place dependence, with the exception of bonding (friends) which was related to activity. Therefore despite our attempts to use distinctive measures of these concepts, we continue to face the statistical (and phenomenological) reality of the inseparable nature of sense of place dimensions. These findings are comparable to those of Jorgenson and Stedman (2001), despite the differences in our procedural and statistical methodologies.

The individual dimensions of sense of place show differences in ability to discriminate residents' identity with the community, even though there is overlap in conceptual representations and empirical indicators of the dimensions. However this ability to discriminate was limited to separating those with high from those with low community identity, but not those who were still undecided.

The age of the resident seems to be an important factor, both in the amount of sentiment held toward the community and in the relative importance of the different dimensions in discriminating those who situate their sense of self within their community and those who do not. The dimensions of sense of community, place attachment and place dependence were able to account for more of the variance in place identity for adults than for adolescents. This implies that there are other aspects of community sentiment not included here which are important to an adolescent's feeling that "this town is the place for me". Alternatively this finding may indicate that other objective dimensions of a community, such as its economic opportunities, may be more instrumental to identity during the adolescent life-stage. The inclusion of more objective characteristics of a town, in addition to residents' psychological perceptions, is an obvious next step in this research.

For the rural towns in this study, preference to stay was determined most strongly by place dependence dimensions, particularly the quality of goal directed activity available to residents. Whether life in the town was experienced as dull was highly discriminating for adolescent and adult's place identity. We interpret these findings in light of comments made by participants in our focus groups. Those who found life in rural areas interesting and diverse enough to meet their behavioural goals had the strongest identity. Focus group participants who expressed this sentiment seemed to be oriented to the natural environment. These residents, young and old, described the best places to fish, hunt, walk and ride. We noted most of these comments came from the male participants, and we wondered whether more representation from this group in our adult survey sample would have resulted in higher responses on the Quality scale. Those less satisfied with the community in our focus groups, were mostly adolescent girls and female adults. They indicated their

frustration with the diminishing number of sites for diversity in recreation and entertainment. In one town the movie theatre had closed and in the other the local swimming pool had closed, and in both towns a number of shops had closed, due to lack of financial resources to maintain the businesses. Our participants described general community sites where they enjoyed informal and formally organised gatherings (parks, sports grounds and public meeting halls), with many indicating the ability of rural people to "make their own entertainment". However, younger adults and adolescents indicated that these were less important to them than opportunities for variety, rather than the mundane. These comments are reflected in the finding that the Activities indicator of place dependence did not load on the discriminant function for adolescents or adults.

The other aspect of community dependence, Quality comparison, was a significant discriminating variable only for adolescents. This may reflect the future orientation of the question, which would be of more salience to the younger participants, given the majority of our adult sample was middle-aged. It would seem that the younger adults have already "voted with their feet" (as one participant suggested) and had left these rural towns after completing high school. Few adult participants offered comments about their intentions to leave, while many referred to the need for young people to leave to secure future careers and jobs. They did not see this issue as being particular to their towns, but a consequence of living anywhere in rural Australia. Many of the youth who expressed their determination to maintain a rural lifestyle in the future, indicated that they would probably have to develop agricultural opportunities other than the traditional sheep, dairy and beef industries, or start alternative industries, such as tourism, if they stayed. These young people considered their own towns to be as good as any others in rural Australia. From these

conversations we wondered if individual characteristics such as optimism might be a perceptual lens through which some rural residents view their community experiences and sustain a positive identity. This was noted for future study.

Sense of community, or feeling like one belonged, was a discriminating factor for both adolescents and adults. This suggests the importance of collective social identity to one's individual place identity. There were many comments from adults and adolescents that one could rely on others in the town for assistance, whether or not they were friends. Related to this were comments from adolescents and adults that they knew most residents by sight and could not imagine not helping anyone who was in need of assistance. We note however that this study did not consider the influence of residents' having a sense of community with relational communities outside of their own residential. Anecdotal evidence from some adolescent focus group participants suggested they felt less isolated with internet access to interest groups and regular email contact with friends and family in other regions. Whether having outside relational communities supplements a sense of belonging, or exacerbate feelings that a town is not meeting one's needs because of the physical absence of these people in daily life, is an interesting question for further research.

Attachment dimensions were important to place identity for adults only. Young people tended not to report as many instances of neighbours helping each other, as did the adults, who had experienced difficult times during prolonged droughts and economic hardship. While young people and adults perceived the same level of behavioural commitment to the community, this was of less importance to adolescents' identity with it.

In summary, the content of the focus groups mirrored the discriminant function analyses findings. Adult and adolescent preferences to leave or stay were

associated with the quality of activities that they found to be diverse and interesting, and their sense of belonging in the community. In addition, adults' preferences were discriminated on place attachment, both emotional bonding and behavioural commitment. Adolescents' preferences were discriminated on their perception that the opportunities offered in their community in the future were positive compared to those offered in alternative communities.

Limitations of the study and considerations for future research

Based on our outcomes in this study we are now addressing three particular issues in our research program: better methods to measure or capture the subtle distinctive elements of identity, attachment and sense of community; how gender influences people's relationships to place; and how positive community sentiments may be stressful.

Methodological concerns

Many methodological difficulties are incurred when investigating concepts subsumed under "sense of place". These have been described earlier in this paper, as have our attempts to address them. Still, this study would have been greatly improved if measures of place dependence with demonstrated construct validity had been available, and if measures of attachment with construct validity clearly distinctive from sense of community, had been accessible. With the exception of sense of community, which has had extensive attention in measurement development (Chipuer & Pretty, 1999), sense of place concepts require further delineation before we can advance a model of how they relate to each other in the totality of sense of place phenonena.

While making choices of measures that were available, we realised we had not captured all the features of the concepts we hoped to investigate. For example, our

place attachment items indicated only residents' perceptions of their community as a setting where neighbouring behaviour occurred or would be possible. Future research should include measures that reflect the resident's actual behavioural commitment in their community, or at least their intentions. Further to conceptual measurement issues, our work has begun to incorporate methods from social identity and self categorisation domains as suggested by Obst et al (2002). The integration of these theories and methods with community and environmental psychology will add depth to understanding the individual and social processes implicated in relationships with place.

The richness of the data from our focus groups suggests that discursive methodologies can enhance survey investigations of place. People's talk about place captures subtle distinctions in describing and reflecting on different dimensions in their relationships to place. Such subtle distinctions may not be represented in general questionnaire items as these items are proscribed by theoretical models and lack the particularity of how participants construct the contexts to which they are referring. As previously contended by Rapley and Pretty (1999) and Dixon & Durrheim (2000), a person is not "placed" in an environment, but rather actively constructs a position in that environment. Hence from a discourse perspective it is not assumed that every participant is in the "same place", even when issues of boundary identification and familiarity have been addressed. A response to survey items about place is related to how the respondent constitutes place in reading the survey. This may be different to how the researcher has constructed place in writing the survey items. For example, an item worded in terms of "my community" may receive a response different from an item referring to "the community". The former presumes a positioning of the respondent in terms of the community (my), which may not reflect the respondent's

construction of their relation to the community. When using discursive methods, the participant's construction of place involves, amongst other things, using words, linguistic mechanisms and descriptions to develop a particular version of the place in an interactional context; in this case, one's residential place as constituted within a researcher-resident social interaction (Potter & Wetherell, 1987). The language used in this interaction shows the researcher, in the here and now, how the individual constructs self-in-place. Indeed analysis of our focus group data shows the consistent use of possessive phrases with positive emotive descriptors by some participants, while others make reference to their community without such discourse. While participants in both groups described volunteer activities to support the community, indicative of attachment, the discourses used in constructing these descriptions differed. Some participants constructed this participation with indicators of personal identity and emotive ties, while others did not. Such distinctions may not be captured on the measures of place attachment and identity currently in use.

Gender considerations. Our sample was seventy-nine percent women, mostly middle-aged and older, and either employed or retired. Despite our attempts to recruit participants representative of both genders, our sampling techniques were not successful in obtaining responses from a representative group of men. Focus group considerations of reasons for this suggested that men who received the survey had "handed it on to the women-folk" in the family, school or business to complete.

The relevance of gender as a factor in the social construction of, for example, place attachment has been suggested by other researchers (Ahrentzen, 1992), as has gender differences in degrees of attachment to place (Hidalgo & Hernandez, 2001). We found that women in our focus groups were more likely to construct quality of community in terms of sites for social engagement, whereas men were more likely to

construct quality of community in terms of doing specific activities. Hence the outcomes of this study for the adult sample, and in comparing the adult with the adolescent data, may reflect more the experiences of the older women in these towns than adults in general. For example, given there were significantly fewer adults in the undecided and preferring to leave categories of place identity, we can only speculate whether this reflects the absence of the male residents of these towns. Clearly there is a need for more investigation of how people of both genders experience sense of place, and indeed how they constitute "place".

The negative side of strong community sentiments

An underlying assumption of this study may be a presumption that strong community sentiment is necessarily a positive thing. However, from our focus group data the negative consequences of strong community identity is also evident. Several middle-aged residents made the comment that they wished they could leave to enjoy retirement by the sea and younger adult residents preferred to sell the farm and move to more promising jobs elsewhere, but because of elderly family and their own roots, both groups felt they had to stay. Similarly younger residents expressed distress at facing future choices in terms of remaining "where they belonged" or having a steady job. Fried (2000) has argued that the development of a sense of "spatial identity" in attachment processes can be dysfunctional for several reasons. A person may be unable to take advantage of other opportunities and life changes because of their commitment to a particular locale. Or a person may be unable to recognise that a place no longer provides the resources they require, because their needs have changed at that point in their lifespan, or because of the decline in the locale itself. Hence, while place attachment and identity can contribute to a sense of well-being it can also result in entrapment and drudgery (Brown & Perkins, 1992). In these instances

identity and attachment may result in behaviour that does not have positive consequences for residents or the community, which Brodsky (1996) called a "negative sense of community".

<u>Conclusion.</u>

This study provides initial indication of the utility of assessing sense of place dimensions as separate, but related, constructs when investigating community identity. Individual and shared community sentiments contributed to residents' intention to stay in their town, that it was an acceptable place in which to situate their sense of self. We also see the importance of considering the life-stage of residents when contemplating the most significant community sentiments linking the resident with the community. As we ponder the influence of economic prospects on the viability of remote rural towns and on residents willingness to stay in these towns, further explorations of sense of place dimensions might tell us more about the lifestyle and identification processes that encourage people to stay against all odds.

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Table 1

Means, Standard Deviations and Multivariate Analysis of Variance comparing

Adolescent and Adult Residents across Sense of Place Dimensions

	Adolescents		Adults			
	$\underline{M}$	$\underline{SD}$	$\underline{M}$	$\underline{SD}$	$\underline{F}_{(1,547)}$	$\underline{Eta}^2$
Variables						
Place identity[a]	2.90	1.39	2.16	1.09	44.84*	.08
Sense of community	33.16	7.61	35.63	5.80	16.78*	.03
Place attachment						
Neighbouring	15.89	4.50	16.41	3.98	1.90	.003
Friends	11.85	3.51	13.28	3.45	22.40*	.04
Place dependence						
Activity	9.53	3.54	12.45	4.05	79.82*	.13
Quality[a]	3.22	1.31	2.33	.98	76.01*	.12
Comparative	2.88	1.00	3.20	.90	14.49*	.03

[a]Lower means indicate higher levels of the dimension.

*$\underline{p}$<.0005

Table 2a

Results of Discriminant Function Analyses of Sense of Place Dimensions for

Adolescents

_____

Correlations of

Discriminating Variables with

Discriminant Functions

_____

Discriminating variable	1	2	Wilks' Lambda	$F_{(2,319)}$
Sense of Community	-.50	.07	.95	7.89**
Neighbouring	-.28	.12	.86	25.30**
Friends	-.14	.84	.96	6.84*
Activity	-.36	.35	.92	13.66**
Quality	.86	-.25	.68	74.62**
Comparative quality	.45	.29	.88	20.91**
Canonical R	.62	.20		
Eigenvalue	.63	.04		

*p<.001   **p<.0005

Table 2a cont'd

Actual Group	No of cases	Predicted high identity			Predicted Undecided			Predicted low identity		
		n	%	%jk*	n	%	%jk	n	%	%jk
High identity	135	105	77.8	76.2	11	6.7	7.4	21	15.6	16.3
Undecided	83	33	39.8	39.8	17	20.5	18.1	33	39.8	42.2
Low identity	115	21	18.3	18.3	10	8.7	12.2	84	73.0	69.6

*Note jk = jack-knifed classification procedure result

Table 2b

Results of Discriminant Function Analyses of Sense of Place Dimensions for Adults

	Correlations of Discriminating Variables with Discriminant Functions			
Discriminating variable	1	2	Wilks' Lambda	$F_{(2,319)}$
Sense of Community	-.66	.04	.89	13.89***
Neighbouring	-.53	-.40	.85	20.22**
Friends	-.45	.10	.92	9.46***
Activity	-.38	-.25	.94	6.99*
Quality	.76	.42	.80	27.84***
Quality comparison	.37	-.16	.94	6.56***
Canonical R	.55	.20		
Eigenvalue	.41	.04		

*$p<.001$ **$p<.002$ ***$p<.0005$

Table 2b cont'd

Actual Group	No of cases	Predicted high identity			Predicted Undecided			Predicted low identity		
		n	%	%jk*	n	%	%jk	n	%	%jk
High identity	170	161	94.7	92.9	1	.6	1.8	8	4.7	5.3
Undecided	35	22	62.9	62.9	6	17.1	14.3	7	20.0	22.9
Low identity	32	17	53.1	59.4	1	3.1	12.5	14	43.8	28.1

*Note jk = jack-knifed classification procedure

Table 3a

Pooled With-in Group Correlations Amongst Discriminating Variables for

Adolescents

Variables	2	3	4	5	6
1. Sense of Community	.73**	.43**	.35*	-.15	-.11
2. Neighbouring		.53**	.38*	-.25*	.07
3. Friends			.57**	-.14	-.08
4. Activity				-.31*	.04
5. Quality					.14
6. Comparative quality					

**p<.01 *p<.05

Table 3b

Pooled With-in group Correlations Amongst Discriminating Variables for Adults

Variables	2	3	4	5	6
1. Sense of Community	.72**	.43**	.35**	-.19	.04
2. Neighbouring		.53**	.38**	-.15	.07
3. Friends			.57**	-.14	.04
4. Activity				-.32**	-.07
5. Quality					.13
6. Comparative quality					

**p<.01 *p<.05