

## ORIGINAL RESEARCH

# Health status and participation in a range of activities in an Australian community

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## ABSTRACT

**Introduction:** The aim of the research was to determine the relationship between levels of participation in a community and self-assessed health status of people in a rural and regional setting.

**Method:** A cross-sectional design, using a mailed, self-administered questionnaire was used. Questionnaires were mailed to a random sample of people aged 18 years and over who were registered on the electoral roll of a regional city and rural area, the Barwon and Otway regions of Victoria, Australia. The sample consisted of 1752 participants: 990 females (57%), 739 males (42%) and 23 sex undisclosed (1%). The range of participants was 18-98 years, and the mean age was 50.53 years (SD = 17.19).

**Results:** Self-assessed physical and mental health were measured using the SF-12 scale. Participants with low incomes, and those with low self-assessed physical and mental health scores, were significantly more likely than other participants to agree with one or more of the social isolation items, indicating that they experienced some social isolation. Low levels of participation in social, sports, leisure or support activities were associated with low self-assessed physical and mental health. Disengagement with the local community was associated with low levels of self-assessed mental health. While younger people were more likely than older people to participate in social, sports, leisure or support activities, they were less involved as members of their community. Females were more likely than males to have been involved in five or more sports, leisure or support activities. Participation in civic activities was associated with high income. Levels of participation in the four different types of activities were combined (social activities, sport, leisure or support activities, community and group activities, and civic activities). Participants classified as low participators were more likely to be older participants, to have a low income and to have low scores for both physical and mental health.

**Conclusions:** An association was found between health and community participation in a range of activities, and between health and engagement with the community in this rural and regional population. These findings are consistent with those reported from similar research with a metropolitan population sample. The current research suggests that the groups of people of most concern in



terms of low participation rates, are people who have low incomes, people aged over 65 years, people who may be defined as possessing poor physical health and people who may be defined as possessing poor mental health. The relationship between age, community participation and health is complex and needs further exploration because it is not known whether poor health reduces community participation or whether reduced community participation results in poor health. However, current research suggests that developing and implementing strategies to promote people's engagement with and involvement in their local community is one important way of promoting the health of the community as a whole.

**Keywords:** health, participation, social capital.

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## Introduction and background

Social capital refers to the processes between people that establish networks, norms and trust, enabling coordination and cooperation for mutual benefit. The literature provides evidence of a relationship between social capital or community participation and health<sup>1-3</sup>. Social capital or social connectedness serves to empower the community and enhance the health of the people who form the community<sup>4</sup>. Social capital is created as a by-product of social relationships and maintains the property of non-excludability - meaning its benefits are available to all those living within the community and access is not restricted<sup>5</sup>. Engaging in community activities has been shown to result in a direct improvement in the health and wellbeing of many people by enabling them to overcome perceived isolation and powerlessness<sup>6</sup>. Research indicates that engaging in a high number of quality social contacts is correlated with a low level of morbidity and with increased life expectancy<sup>4</sup>.

An Australian study conducted by Onyx and Bullen in 1997 measured social capital in five communities, focusing primarily on identifying attitudes, behaviours and knowledge related to social capital.<sup>7</sup> Results revealed that the three strongest elements in defining social capital were: (i) participation in local community organisations and events; (ii) personal proactivity in a social context; and (iii) feelings of trust and safety. However that study did not make

correlations between self-perceptions of health or wellbeing and social connectedness.

In another Australian study by Baum et al, the connection between health and community participation was investigated<sup>8</sup>. The authors completed a randomised cross-sectional survey of the population of the western suburbs of Adelaide in South Australia. Findings from the study indicated that in a metropolitan area levels of participation are structured according to several demographic factors, and that social exclusion is likely to be prevalent for certain groups. People with low income and educational levels displayed a relative lack of involvement in social and civic activities. The gender and age of urban participants were also associated with different patterns and types of participation. For example, women were more likely to be involved in social activities than men, and older people were involved in different types of civic and community group activities than younger people<sup>8</sup>. The authors argued that knowledge of the pattern of participation, which is an important aspect of social capital and an indicator of a healthy community, should inform social and health policy making<sup>8</sup>. Given that there are health differentials between rural and metropolitan populations<sup>9</sup> but little published information about participation in rural locations, it is important that research in the area of health and participation is conducted in a range of geographic locations.

### *Study objective*



The present study examined the relationship between levels of community participation and health in a rural and regional setting by surveying people living in the Barwon and Otway regions of Victoria, Australia. In order to measure both the quality and structure of social relations or participation, a number of measures of participants' opinions about their community were included. These items reflect the norms of trust and reciprocity that have been characterised as particularly important in the measure of social capital<sup>10</sup>. The research questions were:

- In a rural and regional area setting, is there a relationship between levels of participation in a community, the quality of involvement in the community and self-assessed health status?
- In a rural and regional setting, what is the association between a number of demographic factors and the levels of participation and quality of involvement in a community?

## Method

This descriptive correlational survey was based on a mailed, written-response questionnaire instrument. Relationships between variables such as gender, age, income and self-perceived health and participation activities were examined. The questionnaire was originally developed by Baum et al....<sup>8</sup> using a combination of two pre-existing measures and further demographic questions. Health status was measured using the SF-12<sup>11</sup>, which provides a measure of physical and mental health status.

Types and levels of participation were ascertained and a number of categories of participation were identified: social activities; sport, leisure or support activities; community or group activities; and civic activities. Items on feelings of social isolation, assisting and receiving assistance from neighbours, and feelings about one's community were also included.

A sample of 6000 people aged 18 years and over was randomly selected from the electoral rolls of two electoral divisions in the Barwon sub-region. Consequently, the sample included people living in regional and rural

environments. A single mail-out was conducted. In order to assure participants that the survey was completely anonymous, there were no follow-up contacts with non-respondents. No identifying information was included on the survey forms. It was felt that anonymity was important to ensure that participants felt comfortable disclosing details about their health and involvement in a range of activities. Ethics approval was obtained from the Deakin University Human Ethics Committee and the Victorian Department of Human Services Ethics Committee.

### *Data analysis*

The data were analysed using SPSS 10 (SPSS Inc, Chicago, IL, USA). In the following results, some percentages will not sum to 100 due to rounding. Chi-squared tests were used to determine associations between key variables and demographic data. Differences between participants from different sex, age, income, and physical and mental health groups were examined for selected items. The gamma statistic was used for the ordinal variables (age and income). Due to the changing number of 'no response' to items, the number of participants included in each analysis varied and is not presented in the tables. A significance level of .008 was appropriate, with a Bonferroni correction of 6 due to multiple tests being conducted on each dependent variable. In the tables, an asterisk indicates that significance at the level of  $p < .008$  is reached.

### *Health status*

Health status was measured using the SF-12 scale, which provides a measure of self-assessed physical and mental health. The SF-12 is a shorter version of the SF-36. In calculating physical and mental health scores, items are weighted using US general population weights, and standardised to a mean of 50 and a standard deviation of 10<sup>12</sup>. Similar to previous Australian research, a cut-off score of 50 was used for physical health and a cut-off of 42 for mental health, with scores below these figures indicating low physical and mental health, respectively<sup>8</sup>. As recommended, where a response for any of the twelve SF-12 items was missing, no SF-12 score was calculated<sup>12</sup>.



## Results

### Response rate

Of the 6000 questionnaires mailed out, a total of 96 were returned-to-sender because the intended recipient was unknown at the given address. Of the remaining 5904 questionnaires, 11 were returned uncompleted, and 1837 were returned completed, giving an anticipated response rate of 31%. The exclusion of questionnaires from participants whose reported postcodes were outside the targeted region resulted in a final sample of 1752.

### Demographic characteristics of the sample

The sample of 1752 people consisted of 990 females (57%) and 739 males (42%); for 23 participants (1%) sex was undisclosed. The age of participants ranged from 18 to 98 years. The mean age was 50.53 years (SD = 17.19).

As shown in Table 1, 46% of participants had completed only secondary school education, 66% were married, 33% were employed full time and 42% reported their income in the last financial year to be \$15 599 or less. Fifty-one per cent of participants were outright or joint owner of their home. English was the main language spoken at home by 89% of participants.

### Health

Participants ( $n = 1752$ ) were asked how they would describe their own health in general. The majority rated their health as 'excellent' (16%) or 'very good' (39%), with a further 30% rating their health as 'good' and 15% rating it as 'fair' or poor

**Table 1:** Demographic characteristics of participants in the health status and rural community participation study

Demographic characteristic	Frequency (%)
Age (years)	
18 – 20	64 (4)
21 – 30	169 (10)
31 – 40	284 (16)
41 – 50	380 (22)
51 – 60	308 (18)
61 – 70	262 (15)
71 – 80	189 (11)
> 80	67 (4)
No answer	29
Education	
No formal schooling	7 (<1)
Primary school	146 (8)
Secondary school	808 (47)
TAFE	138 (8)
Trade / business qualification	205 (12)
Uni degree / tertiary diploma	356 (21)
Higher degree	66 (4)
No answer	25
Marital status	
Never married	248 (14)
Married	1159 (67)
De facto / partnered	85 (5)
Widowed	115 (7)
Divorced / separated	124 (7)
No answer	21
Employment	
Employed full-time	571 (33)
Employed part-time	280 (16)
Home duties	267 (15)
Retired	419 (24)
Other	192 (11)
No answer	23
Annual Income (AU\$)	
≤ 15 599	731 (48)
15 600 – 31 199	334 (22)
31 200 – 51 999	296 (19)
≥ 52 000	177 (11)
No answer	214

\*Sample  $n = 1752$ .



**SF-12 scores:** SF-12 scores were calculated for 1602 participants. Physical health scores on the SF-12 ranged from 16.67 to 66.88, with a median score of 52.09. Mental health scores ranged from 14.91 to 69.11, with a median score of 43.47. Over half of the participants (57%) obtained a physical health score above the cut-off of 50. Only 18% obtained a score below the mental health cut-off of 42. Symptoms of depression could be expected in those scoring less than 42.

**SF-12 scores and demographic variables:** Scores on the SF-12 physical health measure decreased significantly with increasing age (Chi square (2 degrees of freedom,  $n = 1579$ ) = 170.89,  $p = <.001$ ). The relationship between the SF-12 mental health measure and age was not statistically significant; however, there was a trend for mental health scores to increase with increasing age.

**Table 2:** Factors related to health status and social isolation

Characteristic	SF-12: Physical health low ( $\leq 50$ )	SF-12: Mental health low ( $\leq 42$ )	Social isolation: Agreed with one or more item
	Freq (%)	Freq (%)	Freq (%)
Gender			
Male	298 (43)	111 (16)	182 (25)
Female	378 (42)	194 (22)	281 (29)
$p$	.347	.006*	.046
Age (years)			
18 – 35	78 (23)	72 (21)	123 (36)
36 – 64	352 (39)	173 (19)	239 (25)
$\geq 65$	243 (71)	60 (18)	101 (25)
$p$	$<.001^*$	.208	.004*
Income (AU\$)			
$\leq 15\,599$	356 (54)	149 (23)	225 (31)
15 600 – 31 199	121 (39)	55 (18)	89 (27)
31 200 – 51 999	78 (28)	44 (16)	76 (26)
$\geq 52\,000$ or more	35 (21)	22 (13)	26 (15)
$p$	$<.001^*$	$<.001^*$	$<.001^*$
Physical health			
Low ( $\leq 50$ cut-off)			227 (34)
High ( $> 50$ cut-off)			202 (22)
$p$			$<.001^*$
Mental health			
Low ( $\leq 42$ cut-off)			187 (64)
High ( $> 42$ cut-off)			242 (19)
$p$			$<.001^*$

\*  $p < .008$



Table 2 indicates significant age and income differences in the proportion of participants who scored in the low range on the SF-12 physical health measure. Older participants and those with lower incomes were more likely to be in the lower

scoring group than younger participants or those with higher incomes, respectively. For the SF-12 mental health measure, females were significantly more likely to score in the low range than males, as were participants with low incomes.

**Table 3:** Factors related to thoughts about community

Characteristic	Agreed that "I am good friends with many in my community"	Agreed that "I have little to do with people in this community"	Agreed that "I seem to get involved with most local issues"	Agreed that "If I moved hardly anyone around here would notice"
	Freq (%)	Freq (%)	Freq (%)	Freq (%)
Gender				
Male	331 (47)	191 (28)	127 (19)	218 (31)
Female	442 (47)	225 (25)	159 (18)	247 (27)
<i>p</i>	.783	.220	.682	.040
Age (years)				
18 – 35	126 (36)	112 (32)	37 (11)	119 (34)
36 – 64	427 (45)	237 (25)	163 (18)	254 (27)
65 or over	216 (62)	64 (21)	82 (27)	91 (28)
<i>p</i>	<.001*	.002*	<.001*	.070
Income (AU\$)				
≤ 15 599	339 (49)	188 (26)	129 (20)	199 (29)
15 600 – 31 199	159 (49)	82 (25)	57 (18)	92 (28)
31 200 – 51 999	126 (43)	82 (29)	49 (17)	80 (28)
> 52 000	67 (39)	48 (27)	21 (12)	52 (30)
<i>p</i>	.010	.397	.029	.827
Physical health				
Low (≤ 50 cut-off)	303 (47)	169 (27)	123 (20)	190 (30)
High (> 50 cut-off)	416 (46)	221 (25)	142 (16)	241 (27)
<i>p</i>	.727	.284	.039	.200
Mental health				
Low (≤ 42 cut-off)	123 (43)	101 (35)	46 (16)	111 (38)
High (> 42 cut-off)	596 (48)	289 (24)	219 (18)	320 (26)
<i>p</i>	.142	<.001*	.451	<.001*

\* *p* < .008



## *Quality of involvement in the community*

**Social isolation:** Participants were asked how many people they could turn to for help and comfort if they had a serious personal crisis. Only 3% indicated there was no-one they could turn to, while 26% indicated one to two people, 31% indicated three to four people, and 39% indicated five or more people.

Responses to five statements presented in the survey relating to social isolation were summed. Seventy-two per cent of participants did not agree with any of these items. A greater proportion of younger participants agreed with one or more of the social isolation items than did older participants, suggesting they experienced some social isolation (Table 2). Participants with low incomes, and those with low physical and mental health scores as measured by the SF-12, were significantly more likely to agree with one or more of the social isolation items, indicating that they experienced some isolation.

**Knowing people and views about the community:** Almost half of the participants (48%) indicated that they 'know a few people in my neighbourhood, but most are strangers', while 34% indicated that they 'know many of the people living in my neighbourhood'. Both age and mental health were significant in the questions relating to participants' views on their community (Table 3).

## *Activities involvement*

**Social activities:** A series of items asked participants to indicate how often they had performed each of 14 social activities. The most common social activities participated in at least once per month over the past 12 months were: talking to friends or family on the phone (95%); visiting

family or family visiting them (81%); and visiting friends or friends visiting them (80%).

**Sport, leisure or support activities:** Participants were asked to indicate how often they had performed each of 14 sport, leisure or support activities. The most common sport, leisure or support activities participated in at least once per month over the past 12 months were: walking (97%); reading (86%); and gardening (75%).

**Community or group activities:** A number of items asked participants about involvement in 13 community or group activities in the past 12 months. The most frequent response was making a donation (78%), followed by fundraising activity (28%) and involvement in a volunteer organisation (25%).

For involvement in social activities and involvement in sports, leisure or support activities, the youngest age group, participants with a high income and those with high physical and mental health scores were all likely to have been involved in five or more activities in the past 12 months (Table 4). Females were more likely than males to have been involved in five or more sports, leisure or support activities.

## *Civic participation*

**Civic activities:** Participants were asked about seven types of civic activities (eg writing a letter to the council or contacting the local member of parliament). Rates of civic participation in the past year were quite low, ranging from 5% to 15%, with the exception of signing a petition, an activity reported by 47% of participants. The only demographic variable found to be associated with civic activity was income: participation in one or more civic activities increased with income (Table 4).





**Table 4.** Factors related to participation in social, sports, leisure and support, community or group activities and civic activities

Characteristic	Involved in five or more social activities in past 12 months	Involved in five or more sports, leisure or support activities in past 12 months	Participated in two or more community or group activities in past 12 months	Performed one or more civic participation activity
	Freq (%)	Freq (%)	Freq (%)	Freq (%)
Gender				
Male	487 (66)	362 (49)	394 (53)	393 (53)
Female	631 (64)	565 (57)	577 (58)	571 (58)
<i>p</i>	.352	<.001*	.039	.063
Age (years)				
18 – 35	286 (80)	238 (67)	159 (45)	190 (53)
36 – 64	619 (64)	554 (57)	596 (62)	592 (61)
≥ 65	207 (52)	132 (33)	211 (53)	179 (45)
<i>p</i>	<.001*	<.001*	.047	.011
Income (AU\$)				
≤ 15 599	418 (57)	361 (49)	402 (55)	384 (53)
15 600 – 31 199	228 (68)	194 (58)	179 (54)	189 (57)
31 200 – 51 999	217 (73)	171 (58)	161 (54)	174 (59)
≥ 52 000	143 (81)	118 (67)	127 (72)	115 (65)
<i>p</i>	<.001*	<.001*	.019	.002*
Physical health				
Low (≤ 50 cut-off)	398 (58)	291 (43)	365 (53)	373 (55)
High (> 50 cut-off)	650 (71)	571 (62)	536 (59)	524 (57)
<i>p</i>	<.001*	<.001*	.039	.283
Mental health				
Low (≤ 42 cut-off)	153 (50)	145 (47)	165 (54)	190 (62)
High (> 42 cut-off)	895 (69)	717 (55)	736 (57)	707 (55)
<i>p</i>	<.001*	.008*	.293	.025

\* *p* < .008

### Low participators

Levels of participation in the four different types of activities were combined. Eleven per cent of participants (*n* = 188) were classified as low participators in all four types of activities. These participants were low participators in: social

activities (participated in four or less activities once a month in the past 12 months); sport, leisure or support activities (participated in four or less activities once a month in the past 12 months); community and group activities (participated in none or only one in the past 12 months); and civic activities (participated in none in the past 12 months).





Low participators were more likely to be older participants, physical and mental health (data not shown).  
to have a low income and to have low scores for both

**Table 5:** Comparison of survey respondents with ABS data for the area.

Characteristic	Respondents to the present survey (%)	ABS data for the area covered by the survey (%)
Area ( $p = .790$ )		
Geelong	48	47
Northern suburbs	20	24
Bellarine	15	14
Surfcoast	7	7
Colac	9	9
Not known	2	-
Gender ( $p = .259$ )		
Male	42	48
Female	57	52
Not known	1	-
Age in years ( $p = .031^*$ )		
18 – 20	4	6
21 – 30	10	18
31 – 40	16	21
41 – 50	22	19
51 – 60	18	13
61 – 70	15	11
71 – 80	11	8
80 +	4	5
Marital status ( $p = .074$ )		
Married	66	55
Income in AU\$ ( $p = .059$ )		
<15,599	42	44
15 600 – 31 148	19	34
31 200 – 51 948	17	17
>52 000	10	5
Not known	12	-
Language ( $p = .500$ )		
Other than English	9	10

ABS, Australian Bureau of Statistics.

\* Significant at  $p < .05$  level.

## Discussion

### *Relationship between participation, quality of involvement in the community, and health*

The level of involvement of participants in this study in community, group or civic activities was generally quite low, which is consistent with previous Australian data<sup>8</sup>. A comparison of the demographic characteristics of the sample with the ABS data for the area covered by the survey indicates that there are several differences between the two



groups, although only one of these (age) was statistically significant (Table 5). Response rates improved with increasing age. A greater proportion of females returned the survey than males. The trend for women, and for older persons, to have higher response rates has been noted in other research conducted in the area<sup>13</sup>.

The present research found an association between several types of participation and self-assessed physical and mental health. Participants who indicated disengagement with their local community were more likely to score in the low range for the mental health measure than participants who indicated greater community involvement. This finding is consistent with the literature<sup>6</sup>, and is important because it demonstrates that this relationship is found in a rural and regional setting. The items measuring social isolation indicate that there is a small group of participants who feel isolated in their community. These participants were more likely to be young, to have a low income, and to have low physical- and mental health scores.

While there was an association between poorer physical and mental health and both lower participation in a range of activities and social isolation, it is not possible to infer the direction of this relationship from these data. There is, however, evidence in the literature of the link between social connectedness and health<sup>6</sup>. For example, this link is clearly present in people's subjective experiences of health. Having good social relationships and experiencing a connectedness to one's community have been listed as two of the six categories that summarise people's experiences of health in cross-cultural studies<sup>6</sup>.

### ***Relationship between demographic variables and participation and quality of involvement in the community***

Of some concern is the association between participation in social, sports, leisure, support and civic activities and income. Participation in all of these areas was found to increase with income. A negative relationship between high and low incomes and the level of investment in social capital has been reported in the literature<sup>5,8</sup>. Both physical and

mental health were also associated with income, with higher numbers of participants with lower incomes scoring in the lower range for self-assessed physical and mental health. This reflects the acknowledged association between socioeconomic status and health that has been reported in Australia and other countries<sup>14</sup>. The present study indicates that the same relationship between health, income and community participation found in a metropolitan population<sup>8</sup> exists in a rural and regional population. It is important to understand the implications of socioeconomic status in relation to health and social connectedness within a community. It is clear that the Barwon region is not immune from the social costs of economic inequality<sup>15</sup>. The repercussions of the relationship of health with income and community participation may be extremely important in the context of regional and rural populations, given that they may be more disadvantaged than metropolitan populations.

A similar finding in relation to low rates of civic participation and the association between involvement in civic activities and high income was also reported by Baum et al<sup>8</sup> and has negative implications for the empowerment of the community and the health benefits that follow<sup>6</sup>. Being involved in civic activities tends to empower individuals: such involvement may contribute to an individual's sense of control over aspects of his or her environment and sense of inclusion in important decision-making processes. The link between empowerment and health has been demonstrated previously<sup>16</sup>. Thus, the low levels of civic participation found in the present research are problematic for the health of the community in general.

These data indicate that older people in the region were less likely than those in the younger age group to be involved in social activities or in sports, leisure or support activities. A higher percentage of the older age group than the younger also obtained low scores on the SF-12 for physical health. Thus, the relationship between age and some types of participation may be confounded by health. At the same time, the data provide some indication that young people are less involved in their community. For example, a smaller percentage reported being good friends with many in their



community, or that they get involved with most local issues. In addition, a higher percentage of the youngest age group indicated that they have little to do with people in their community. The youngest age group also showed a greater trend towards social isolation than did older people. Thus, there is a tendency for the younger age group to actively participate in some types of activities, but to be less involved members of their community than are older people. It is not possible from the present data to establish whether this behaviour is typical of younger age groups, or whether involvement with the community will occur as these people age. Further, it is unclear whether this is a new trend, and involvement in social and sport activities will continue to be more important than involvement in the community for this group. This finding raises the question of whether these young people will ever become more involved in their community.

## **Limitations**

This research provided valuable information on the participation and community involvement of a large sample of residents of a rural and regional area in Australia. Some limitations of this research should be noted, however. The response rate in this study of 31% was quite low, but expected, because only a single mail-out was conducted. A higher response rate of 64% was achieved by Baum et al<sup>8</sup> who sent three reminders to people who were late returning their survey form.

The proportion of participants in the sample who speak a language other than English at home was similar to that of the population of the area, suggesting that people from a non-English-speaking background were well represented in this research. However, the questionnaire was a lengthy document written in English only, thus individuals who were not fluent in English were disadvantaged. Another limitation is that individuals who were not sufficiently literate to complete the questionnaire could have been under-represented in the sample.

## **Conclusion**

This research extends our knowledge of the importance of social connectedness as applied in a rural and regional setting. The association found between health status and various types of participation and involvement in the community suggests there is a need to increase participation within the community in general as a means of enhancing health in rural and regional settings. The relationship between age, participation and health is complex and needs further exploration. Specifically, it is not known whether poor health reduces community participation or whether reduced community participation results in a poor level of health. Qualitative research investigating the factors that promote or inhibit the participation of individuals across a range of activities would be informative.

In particular, this research suggests that the groups of people of most concern are those who have low incomes, those aged over 65 years, those who may be defined as being in poor physical health and those who may be defined as being in poor mental health. Further work is required to determine whether increasing such individuals' contact with others in their community would increase their levels of self-reported physical and mental health.

Current research suggests that developing and implementing strategies to promote people's engagement with and involvement in their local community is one important way of promoting the health of the community as a whole. All levels of government as well as non-government agencies potentially have a role to play in this process.

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