

## **Planning for society and community: Are transport problems a barrier to participation in community activities?**

<sup>1</sup>Victoria Johnson, <sup>2</sup>Professor Graham Currie, <sup>3</sup>Dr Janet Stanley

<sup>1</sup>Monash University and Research and Policy Centre, Brotherhood of St Laurence

<sup>2</sup>Institute of Transport Studies, Monash University

<sup>3</sup>Monash Sustainability Institute, Monash University

Email for correspondence: [vjohnson@bsl.org.au](mailto:vjohnson@bsl.org.au)

### **Abstract**

Participation in community activities can confer social and health benefits and is considered an important aspect of social inclusion. This paper presents results of research that assessed whether factors identified in the literature as likely to influence travel and activity generally, are also associated with participation and non-participation in community activities. The data set (N=784) is from the *Investigating transport disadvantage, social exclusion and wellbeing in metropolitan, regional and rural Victoria* (TDSE) project. Logistic regression was used to identify which of these factors have a significant association with participation or non-participation.

The TDSE data was selected for this analysis because it differentiates between two groups. People who have not participated because they choose not to and those who have not participated because facilities are not available, or are insufficient for their needs. Analysis of this data provides the opportunity to consider different influences on participation and non-participation, either by choice or caused by constraints.

Results indicate that social exclusion and low wellbeing are both associated with constrained non-participation in community activity. People reporting social exclusion or low wellbeing were unable to participate in the activities they wanted to due to the activity being unavailable or inadequate to their needs. However, reported transport problems are associated with choice non-participation in community activities. These results raise questions about the role of constraint in choice and the influence of structural barriers to participation and agency. These questions are examined and implications for policy are discussed.

## 1 Introduction

This paper explores transport related barriers to participation in community activity; a key aspect of social inclusion. The notion of social exclusion as a way of describing disadvantage has gained significant traction in Government and social policy circles in Australia. This is due to recognition that income poverty alone is insufficient to adequately describe the multi-dimensional nature of disadvantage (Gordon et al., 2000, Saunders et al., 2007). While definitional and measurement debates continue, there is convergence around definitions such as that proposed by Burchardt of the London School of Economics, that:

‘An individual is socially excluded if he or she does not participate in key activities of the society in which he or she lives’ (Burchardt et al., 2002)

In 2008, the Australian Government indicated its focus on addressing social exclusion by appointing a Social Inclusion Board to advise government on ‘ways to achieve better outcomes for the most disadvantaged in our community and to improve the social inclusion of society as a whole’ (Australian Government, 2009). The Government’s vision for a socially inclusive society is:

‘...one in which all Australians feel valued and have the opportunity to participate fully in the life of our society. Achieving this vision means that all Australians will have the resources, opportunities and capability to:

- Learn, by participating in education and training
- Work, by participating in employment or voluntary work, including family and carer responsibilities
- Engage, by connecting with people, using local services and participating in local civic, cultural and recreational activities and
- Have a voice, in influencing decisions that affect them’ (Australian Government, 2009).

There is strong evidence of the role of transport in facilitating access to education and training (Shucksmith et al., 2006, LGCTWG, 2007, Titheridge, 2005), and employment (Australian Bureau of Statistics, 2005, European Commission, 2007), but less is known about transport impacts on the activities thought to ‘connect people’, such as local civic, cultural and recreational participation.

This paper presents findings from a PhD study exploring links between transport disadvantage and social exclusion in Melbourne, Australia.

There are two key questions explored in this paper:

1. How do people view their participation in community activity?
2. Are there transport related barriers to this participation?

The paper starts by discussing definitions of ‘community participation’ followed by presentation of qualitative data describing the reasons people participate in such activities. Next, a description of the methodology employed in exploring travel behaviour evidence is presented, followed by discussion of the results of the study analysis. This includes discussion of factors influencing participation in community activities. The paper concludes by outlining the key findings and discussing what they suggest in relation to the role of transport in community participation as an aspect of social inclusion.

## 2 Community participation

The World Health Organisation collects a number of activities under the banner 'Community Social and Civic Life'. This refers to recreation and leisure activities including sports and hobbies, participation in and enjoyment of the arts, organised religion and spirituality, informal and formal associations and participation in ceremonies, enjoying nationally and internationally recognised human rights and participation in the social political and governmental life of a citizen (WHO 2001).

In the Australian context, the Australian Bureau of Statistics include cultural, sporting and volunteer participation in a definition of social and community activity, that excluded aspects of workforce participation (ABS, 2004).

This paper draws on two data sets for analysis. Each of these data sets has used different variables to capture activity fitting in to a broadly defined notion of community participation.

The first is qualitative data collected in 50 in-depth interviews undertaken in two areas of metropolitan Melbourne that contrast in relation to their public transport supply and walk accessibility of activities. The people interviewed reported participation in non-work activities including:

- Arts and cultural participation; as an audience member (such as concerts, galleries, cinema, libraries), through creative participation (arts and crafts, music and writing) and as a volunteer (management committees, guiding)
- Sports; as a participant, spectator or volunteer (for example coaching)
- Volunteering; in environmental and social projects
- Social activity with family and/or friends
- Games and hobbies
- Outdoor recreation; for example going to the beach
- Religious; going to church and bible study

In the second data set, *Investigating transport disadvantage, social exclusion and wellbeing in metropolitan, regional and rural Victoria* (TDSE), data was collected about participation in the following community participation activities:

- Arts and cultural activity
- Library services
- Spectator sports activity
- Sports participation activity
- Hobby, leisure and or interest class or associated group.

Research evidence suggests participation in community activities such as arts and cultural, sports and volunteering can promote positive social benefits. Table 2.1 below summarises key participation outcomes identified in the literature for these activities.

**Table 2.1 Summary of positive social benefits of participation identified in the literature**

<b>Outcomes identified in the literature</b>	<b>Arts and culture</b>	<b>Sport</b>	<b>Volunteering</b>
Aspects of health and wellbeing, for example self confidence, self determination and control, mental health and happiness	Kelagher et al., 2009, Matarasso, 1997, White, 2006	Collins & Kay, 2003, Jackson et al. 2005, Driver et al. 1991, Cerin et al., 2010, Ussher et al, 2007	O'Brien et al., 2011, Haski-Leventhal, 2009,
Social support	Kelagher et al., 2009, Jermyn, 2001, Matarasso, 1997	Collins & Kay, 2003, Jackson et al. 2005, Driver et al. 1991	O'Brien et al., 2011, Haski-Leventhal, 2009
Learning new skills	Matarasso, 1997, White, 2006	DCMS, 1999 Driver et al. 1991	O'Brien et al., 2011
Links to education and training	Matarasso, 1997, White, 2006	DCMS, 1999	
Links to employment	VicHealth, 2003, White, 2006	DCMS, 1999	Haski-Leventhal, 2009
Social cohesion	Matarasso, 1997, VicHealth, 2003	Collins & Kay, 2003, Jackson et al. 2005	O'Brien et al., 2011, Putnam, 2000
Strengthen community identity	Matarasso, 1997, VicHealth, 2003, Kay, 2000, Sharp et al., 2005, Williams, 1997, Kelagher et al., 2009		Haski-Leventhal, 2009
Knowledge of and engagement with social and cultural issues	Kelagher et al., 2009, Matarasso, 1997, Kay, 2000, Sharp et al., 2005, Williams, 1997,		O'Brien et al., 2011
Political participation / active citizenship	Kay, 2000, Sharp et al., 2005, Williams, 1997, Kelagher et al., 2009		
Meaningful activity			O'Brien et al., 2011

Much policy promotion of community participation in Australia has developed through the lens of social inclusion; promoting participation as a way to ameliorate exclusion. For

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example the Australian Government National Volunteering strategy will 'emphasise the value of volunteering... contributing to the Australian Government's vision of a socially inclusive society' (Australian Government, 2011). However, a number of authors critique this approach. For example there is a risk in this that in the rush to promote the inclusionary 'possibilities' of community activities, inequities may be perpetuated. The literature suggests this can happen in two main ways. First, by continuing to perpetuate dominant cultural norms that exclude certain groups and second by failing to acknowledge the myriad structural barriers to participation that exist.

For example, Belfiore (2002) argues that major cultural institutions such as museums and galleries serve to maintain and advance social exclusion by their role in the promotion of dominant cultures and the exclusion of the stories and artefacts of other cultures within communities. She therefore suggests that UK policies to promote museums and galleries as centres for social change to address exclusion are unlikely to succeed. This proposition is supported by the finding that a program offering discounted tickets to try to increase participation by low-income households in ballet audiences failed to attract low-income audience members, but rather attracted greater numbers of wealthier people, from further away (Arts Council England, 2004, in Sanderson, 2008).

These concerns are echoed in the USA by the example that two-thirds of San Francisco's public arts funds go to nine large organisations that predominantly serve patrons not experiencing any disadvantage or exclusion (Martinez, 2007 p.8).

Cortis (2009) recognises that cultural and gendered patterns of sport participation 'reflect underlying inequalities' (p.92) and they therefore need to be challenged if truly equitable access is to be achieved. For example women's need to fit sporting activity around caring roles (ABS, 2006 in Cortis, 2009) and the 'macho' cultures that often form around sports to the exclusion of women and of men who do not identify with such cultural norms (Kelly, 2011).

In relation to volunteering Haski-Leventhal (2009) raises the issue that volunteering may:

emphasise social divides as volunteers are typically people with higher income, higher education and social resources providing support for those in need (p.7)

Similarly, Lynch and Allen (2007) question whether the provision of targeted community participation services for people with illness or disability serves to further marginalise them. Bates et al. (2006) claim such segregation is detrimental to inclusion and discuss the issue with reference to people with mental illness and intellectual disabilities, who they claim

...spend a lot of time in segregated places, when, in general, services should be helping them move more into places used by everyone and to get involved in activities open to everyone (p.16).

Other structural barriers also limit participation and a number of authors indicate lack of access to transport as a significant barrier (Cortis, 2009, Liu, 2009, Collins, 2003). However, their studies have not quantified this, nor examined the interaction of transport disadvantage with other aspects of social exclusion.

This paper seeks to address this fundamental gap.

### **3 People's experiences of community participation**

Data collected from 50 people in in-depth interviews about the reasons they participate in community activities indicates a range of motivations and benefits.

A number of people stated simply that they enjoy the activity, for example:

Because I like to watch the footy. I love sport generally and football is my favourite sport to watch because it's exciting and fun.

Just, I like doing new physical activities.

Opportunities for social contact and maintaining social networks were reported, for example:

I hope it's something we can share, that's family orientated, for the long term.

I like to follow my team and also it's a good opportunity to catch up with people.

To catch up with a friend; keep my social life on track.

Opportunities to meet people outside of one's network of family and friends were also reported as reasons for participation, including:

[I participate in the art class to]...meet new people.

Firstly it's for the social side, to get to know people and also to keep using my music skills as well...

The social support developed through regular, ongoing, shared activity was also mentioned indirectly as a reason one person participated in a tap dancing class:

It's with people I get along well with. New people come and go, but there's a core group, although we don't see each other outside of tap, but I got a text when I was in hospital.

These comments indicate that for some people, the opportunity to spend time with family and friends is a valued element of their activity participation. For others, their participation in group activity has been very important in addressing their social isolation. Two people describe this in the following quotes.

Originally [it was] something to do, also to mix with other people. There's nothing more lonely than sitting at home on the couch with nothing to do.

For me, coming from the country at the end of last year, it's been, it's provided great companionship and activity.

Opportunities to both develop and maintain social networks are demonstrated in the comments above. These examples suggest a relationship between community participation and social support.

The five people who reported using or developing skills as a reason for their participation in community activities were discussing creative participation in the arts. The following observations exemplify their reasons for participation:

To do something new, extend myself, gain satisfaction with a new craft...learn about art.

For one person, there was a vocational element to her participation; she had a specific goal she was working toward. As she explained it:

[I participate in the group ] ... to keep using my music skills as well and I also plan when I grow up , if I can, to start some kind of band, or something, so that's a kind of a step towards it, if that makes sense.

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People participating in volunteer work often commented that it was an opportunity to 'give something back'. They described this variously, including the following reports:

To preserve the natural area; wanting to put something back into the community.

I want to give something back. For all the years I was working, I just didn't have time. I didn't even have time to think about whether I should be. My number one priority was keeping home together.

These comments suggest that for some people the opportunity to feel they are contributing to their community is a valued part of their participation in social and community activity.

One person who organises dragon-boat racing competitions (including a team of women in Geelong with breast cancer) described the sense of fulfilment he gains from his community participation:

Without doubt there's a sense of fulfilment in it. I got a lovely letter from the girls at Geelong.

Another person also reported a sense of 'fulfilment' and 'belonging' from their participation in bible study and worship at church.

A number of people of working age, who weren't working due to illness or disability, described their social and community participation in relation to their inability to work. For example describing the flexibility, or understanding that people afforded them in a community setting. The following two examples demonstrate this:

About three years ago, I got chronic fatigue syndrome and was off sick for two years. While I was off sick, I was retrenched, so I went off sickness benefits and onto UB [unemployment benefits]. I was assessed as being able to work 8 hours a week and my best option was to do volunteer work. So I phoned up here. I came here because [name of volunteer coordinator] was aware of my situation and could be flexible.

I'm on the committee here. I think it's important for me, because I suffer from anxiety and depressions, to mix with people. I love people and I sort of um, I like to help out here as much as I can. But I can't go to work. I'd be unemployable my doctor told me because I've got to stop for six to eight meal breaks a day [due to diabetes]. But they're very good here. As a volunteer you can say 'I need a break'

The comments made in interviews demonstrate opportunities provided by participation in community activity for social engagement, skills development, opportunities to contribute to one's community and to address social isolation. This suggests the social inclusion aims identified by Government may well flow from encouraging participation. Furthermore, given the value placed by these interviewees on their participation, what presents barriers to such highly valued participation? As indicated above, one such barrier is access to transport. This is investigated further in the following sections.

## 4 Transport data analysis

### Explanatory factors - non-participation in arts and cultural activities

The data used in this analysis is from the TDSE study. In this study interview data has been collected on travel and transport and participation in activities associated with social inclusion, among other things. Data was collected from 535 people who had previously participated in the Victorian integrated survey of Travel and Activity (VISTA) (TUTI, 2008) and responded to a postal invitation to participate in the TDSE study. An additional sample (N=336) was recruited through government and non-government social support services. The people in this sample were experiencing factors associated with social exclusion such as, low income, disability, sole parenting and caring for someone with a disability (Delbosc & Currie, 2011).

The tested variables include participation in a range of community activities. Importantly, the data differentiates between people who have not participated because they choose not to or because they do not have facilities available, or the facilities are insufficient for their needs. Analysis of this data provides the opportunity to consider different influences on participation and non-participation, either by choice or caused by constraints.

Factors identified in the literature as likely to influence travel and activity in general have been assessed for their likelihood of predicting participation and non-participation in the group of community activities for which data has been collected in the TDSE study. These are arts and cultural activities, library, sports as spectator, sports as participant and hobby or interest class or group. Logistic regression has been used to identify which of factors have a significant association with participation or non-participation. The factors assessed are:

- Household income above \$500 per week (no/yes)
- Employed (no/yes)
- Difficulty accessing activities due to transport problems (no/yes)
- Self reported transport problems (no/yes)
- Children under 18 years in the home (no/yes)
- Female gender (no/yes)
- Home location in metropolitan Melbourne (inner, middle, outer)
- Social Exclusion; experiencing exclusion in two or more dimensions of income, unemployment, political engagement, participation or social support (no/yes)
- Number of trips (continuous)
- Age (continuous)
- Number of household vehicles (continuous)
- Personal Wellbeing Index score (continuous)

### 4.2 Arts and cultural participation

The factors identified as influencing travel and activity have been included in a logistic regression model to identify the influence multiple variables have on non-participation in arts and cultural activity and the extent to which each variable contributes to the predictive model. The final model, presented in Table 4.1 was statistically significant ( $\chi^2(8) = 47.946, P < .001$ ) but only accounted for a very small amount of explanatory power; Cox & Snell  $R^2 = .061$  and Nagelkerke  $R^2 = .073$ .

**Table 4.1 Significant factors associated with non-participation in arts and cultural activity**

Variable	B(SE) <sup>1</sup>	95% CI for odds ratio		
		Lower	Odds ratio	Upper
<b>Non-participation due to the activity being unavailable / inadequate</b>				
Intercept	1.094(.664)			
PWI	-.388*** (.092)	.566	.678	.813
<b>Non-participation due to activity not being needed (choice non-participation)</b>				
Intercept	1.659(.412)			
PWI	-.156** (.053)	.771	.856	.950
GENDER [male]	-.419**(.159)	1.114	1.521	2.077
GENDER [female]	0 <sup>b</sup>	.	.	.
SOCIAL EXCLUSION [not ex]	.398*(.163)	.488	.672	.925
SOCIAL EXCLUSION [ex]	0 <sup>b</sup>	.	.	.
NUMTRIPS	-.063*(.029)	.886	.939	.995

Note: a. R<sup>2</sup>=.061(Cox & Snell), .073(Nagelkerke) X<sup>2</sup>(8)=47.946, p<.001.

\*p<.05, \*\*p<.01, \*\*\*p<.001

b. this parameter is set to zero because it is redundant.

Of the 12 tested factors, only personal wellbeing had a significant association with the binary dependent variable of non-participation due to the activity being unavailable or inadequate, compared to participation. As wellbeing increased, the odds ratio of reporting non-participation due to the activity being unavailable or inadequate (compared to participating) was .678 compared to one. That is, the likelihood of reporting non-participation decreased almost one-and-a-half times (1/0.678=1.47) with each unit increase in the personal wellbeing Index score. This raises issues regarding self-reported data and the relationship between wellbeing and the availability, or adequacy of activities.

A significant association with the binary dependent variable of non-participation in arts and cultural activity due to the activity not being needed (choice non-participation) compared to participation was found for four variables. These were personal wellbeing, gender, social exclusion and the number of trips a person made on their travel day. As wellbeing increased, the likelihood of reporting choice non-participation (compared to participating) decreased by a factor of 1.19.

Women were two-thirds more likely than men to choose not to participate in arts and cultural activity. This result, coupled with the result above (higher participation in arts and cultural activities for women than men), suggests that many women have sufficient participation opportunities open to them, compared to men, who are more likely to not want to participate and also to report activities as unavailable or inadequate.

People who were socially excluded were one-and-a-half times (1.48) more likely than their non-excluded counterparts to report choice non-participation. This result suggests that either arts and cultural activities are not of interest to people who are experiencing social exclusion, or that social exclusion has a role in influencing people's stated choice.

As the number of trips made increased, the likelihood of reporting non-participation by choice increased fractionally (1.06). This result is consistent with other findings in this research project using VATS data suggesting an association between high rates of trip-making and decreased opportunities for 'discretionary' travel, such as travel to social and recreational activities.

<sup>1</sup> The Beta (B) value of .388 indicates the change in the outcome resulting from a unit change in the Personal Wellbeing Index and the standard error (SE) of B, of .092 indicates low variability of this figure across samples from this population.

This analysis has indicated that neither social exclusion or transport factors are associated with higher odds of non-participation in arts and cultural participation because of the activity being unavailable or inadequate. However, social exclusion and low overall trip making are associated with non-participation in the arts as a function of choice. It is not possible to identify the reasons for these associations using this data. However, there are three potentially influencing factors. First, people who are socially excluded and make low numbers of trips overall, may have no interest in arts and cultural participation, preferring other pursuits. Second, people who are socially excluded and make low numbers of trips overall, may be experiencing constraints to their travel such as cost, or limited physical mobility. Within their limited travel budget, they may prioritise other activities over arts and cultural participation. Finally, people may adapt their 'choices' according to the 'constraints' that they experience. For example deciding they don't want to participate in something, because even if they wanted to, they would still be unable to participate.

### 4.3 Library

A total of 419 people (54.8%) used library services in the month prior to the TDSE study. Some 19 people (2.5%) didn't participate because the activity was unavailable or inadequate. This is the lowest number across all the tested activities. A further 326 people (42.7%) didn't participate because the activity was not needed (i.e.: they chose not to participate). The final model ( $\chi^2(4) = 20.37, P < .001$ ) is significant but has very little explanatory power; Cox & Snell  $R^2 = .026$  and Nagelkerke  $R^2 = .033$ . Results are reported in Table 4.2 following.

**Table 4.2 Factors associated with library non-participation**

Variable	B(SE)	95% CI for odds ratio		
		Lower	Odds ratio	Upper
<b>Non-participation due to activity not being needed (choice non-participation)</b>				
Intercept	.185(.150)			
DIFF [yes]	-.429**(.149)	.486	.651	.873
DIFF [no]	0 <sup>b</sup>	.	.	.

Note: a.  $R^2 = .026$ (Cox & Snell),  $.033$  (Nagelkerke)  $\chi^2(4) = 20.37, p < .001$ .

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

b. this parameter is set to zero because it is redundant.

These results indicate that none of the tested variables have a significant association with non-participation due to the activity being unavailable or inadequate. However, difficulty accessing activities (in general), due to transport problems, has a significant association with non-participation in library services by choice. People who did not have difficulty accessing activities due to transport problems were more than one-and-a-half times (1.54) less likely than those reporting difficulties, to choose not to use library services. This is an unexpected result because it suggests that a 'constraint'; difficulty accessing activities, is associated with a 'choice'; not needing library services.

### 4.4 Sport as spectator

Some 363 people (47.5% of the sample) attended sports as a spectator. A total of 53 (6.9%) didn't participate because the activity was unavailable or inadequate and 348 (45.5%) didn't participate because they chose not to.

Table 4.3 following presents results of logistic regression used to identify the significant factors associated with reporting non-participation in sports as a spectator. The model is significant ( $\chi^2(8) = 64.93, P < .001$ ) but only accounted for a small amount of explanatory power; Cox & Snell  $R^2 = .081$  and Nagelkerke  $R^2 = .098$ .

**Table 4.3 Factors associated with non-participation in spectator-sports**

Variable	B(SE)	95% CI for odds ratio		
		Lower	Odds ratio	Upper
<b>Non-participation due to the activity being unavailable / inadequate</b>				
Intercept	-1.623(.371)			
CHILD [yes]	-1.006**(.327)	.192	.366	.694
CHILD [no]	0 <sup>b</sup>	.	.	.
<b>Non-participation due to the activity not being needed (choice non-participation)</b>				
Intercept	1.037(.186)			
CHILD [yes]	-.740***(.162)	.347	.477	.655
CHILD [no]	0 <sup>b</sup>	.	.	.
GENDER [male]	-.426**(.158)	.479	.653	.891
GENDER [female]	0 <sup>b</sup>	.	.	.
CARS	-.249***(.067)	.684	.779	.888

Note:  $R^2=.081$ (Cox & Snell),  $.098$ (Nagelkerke)  $\chi^2(8) = 64.93$ ,  $p < .001$ .

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

b. this parameter is set to zero because it is redundant.

The data indicates a change in the odds of 0.366 for the likelihood of households without children reporting non-participation due to spectator sports being unavailable or inadequate, compared to participating. They are two-and-three-quarter (2.73) times less likely to report non-participation because the activity is unavailable or inadequate as households with children. Similarly, they are also around two times (2.10) less likely to report non-participation because the activity is not needed, as households with children. This indicates an association between the presence of children in the home and non-participation in spectator sports due to both choice and constraint.

The odds of men reporting non-participation due to spectator sports not being needed (choice non-participation) compared to participating are .653; they are one-and-a-half (1.53) times less likely than women to report non-participation for this reason. This suggests that women may perceive less need for spectator sports than men.

As the number of cars in the household increases, the odds change by 0.779. For each additional car in the household, the likelihood of reporting non-participation due to not wanting to attend spectator sports decreases by almost one-and-a-third (1.28). This suggests that people in households without cars, or those with low numbers of cars have less perceived need for spectator sports, than those with higher numbers of household vehicles.

#### 4.5 Sport as participant

A total of 340 people (44.5%) participated in sports. Some 58 (7.6%) did not participate because the activity was unavailable or inadequate and 366 (47.9%) did not participate because they chose not to.

Table 4.4 following, presents the final model results of logistic regression used to identify significant factors associated with non-participation in sports. The model is significant ( $\chi^2(10) = 61.63$ ,  $P < .001$ ) and accounts for a small amount of explanatory power; Cox & Snell  $R^2 = .078$  and Nagelkerke  $R^2 = .093$ .

**4.4 Factors associated with non-participation in sport**

		95% CI for odds ratio		
Variable	B(SE)	Lower	Odds ratio	Upper
<b>Non-participation due to the activity being unavailable / inadequate</b>				
Intercept	-.573(.777)			
SOCEX [no]	-.818(.358)*	.219	.441	.891
SOCEX [yes]	0 <sup>b</sup>	.	.	.
<b>Non-participation due to the activity not being needed (choice non-participation)</b>				
Intercept	1.463 (.441)			
PWI	-.201(.053)***	.737	.818	.908
INC > \$500 [no]	-.655(.209)**	.345	.520	.783
INC > \$500 [yes]	0 <sup>b</sup>	.	.	.
SOCEX [no]	-.789(.195)***	.310	.455	.666
SOCEX [yes]	0 <sup>b</sup>	.	.	.
AGE	.015(.004)**	1.007	1.015	1.024

Note: R<sup>2</sup>=.078(Cox & Snell), .093(Nagelkerke) X<sup>2</sup>(10)=61.63, p < .001

\*p<.05, \*\*p<.01, \*\*\*p<.001.

b. this parameter is set to zero because it is redundant.

The data indicates a significant association between social exclusion and non-participation in sports, due to both constraint and choice. There is a change in the odds of 0.441 for the likelihood of socially excluded people reporting non-participation due to sports being unavailable or inadequate, compared to participating. They are two-and-a-third (2.26) times more likely to report non-participation because the activity is unavailable or inadequate (compared to participation) as people who are not excluded. They are also just over two times (2.19) as likely as people who are not excluded to report non-participation by choice.

These results indicate a strong association between non-participation in sports and social exclusion. This finding is consistent with other research identifying links between social exclusion and low physical activity (Gordon-Larsen, 2006). The importance of this finding is that it indicates that for many socially excluded people, non-participation in sports is due to the activity being unavailable or inadequate.

Similarly, the odds of people on incomes above \$500 per week reporting non-participation by choice change by 0.520 when compared to those with incomes of, or below \$500 per week. The higher income group are almost two times (1.92) less likely to choose not to participate in sports as those with lower household incomes. This is an interesting result reinforcing the association between income and social exclusion indicated in other social exclusion research (for example Burchardt et al., 2002, Saunders et al., 2007).

Personal wellbeing also has an inverse relationship to choice non-participation. As wellbeing increases, people become less likely to report choice non participation in sports (compared to participation). This suggests that either people with greater wellbeing participate in sports, or that playing sports influences wellbeing. Both of these explanations are supported in the literature (see for example Cerin, 2010, Ussher, 2007)

The result for age is as anticipated; as people age, they are more likely not to perceive a need for sporting activity. The change in the odds of .015 demonstrates a fractionally greater likelihood of reporting choice non-participation as one ages.

#### 4.6 Participation in hobby classes or groups

Participation in hobby activities was high, with 60.1 percent of the sample (459 people) reporting participation in hobby activities in the preceding month. Only 45 people (5.9%) did not participate because activities were unavailable or inadequate and 260 people (34%) didn't participate because they chose not to.

Results of the logistic regression used to identify significant factors in non-participation in hobby or interest classes or associated groups during the past month are presented in Table 4.5 following. The final model is significant ( $X^2(4) = 29.92, P < .001$ ) but only accounts for a very small amount of explanatory power; Cox & Snell  $R^2 = .038$  and Nagelkerke  $R^2 = .047$ .

#### 4.5 Factors associated with non-participation in hobbies

Variable	B(SE)	95% CI for odds ratio		
		Lower	Odds ratio	Upper
<b>Non-participation due to the activity being unavailable / inadequate</b>				
Intercept	.118(.657)			
PWI	-.314***(.087)	.616	.730	.866
<b>Non-participation due to the activity not being needed (choice non-participation)</b>				
Intercept	.391(.378)			
PWI	-.197***(.049)	.745	.821	.905
AGE	.010*(.004)	1.002	1.010	1.017

Note:  $R^2 = .038$  (Cox & Snell),  $.047$  (Nagelkerke)  $X^2(4) = 29.92, p < .001$ .

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

b. this parameter is set to zero because it is redundant.

The data in Table 4.5 indicates a significant association between personal wellbeing and participation in hobby activities. As personal wellbeing increases, the likelihood of reporting non-participation due to constraint decreases by one and one-fifth and due to choice by just over one and one-third (1.37). As with other activities, it is not possible to determine the causal relationship between these factors, however it is interesting to note that in the case of hobby activities, personal wellbeing appears to have a similar effect on choice as on the perception of constraint.

## 5 Summary assessment

The key findings of analysis of the TDSE data are summarised in Table 5.1. Following this, a summary assessment of the findings in relation to transport and social exclusion are outlined. Emergent findings are also discussed.

**5.1 Factors associated with participation / non-participation in activities**

<b>Activity</b>	<b>Factors associated with choice non-participation</b>	<b>Factors associated with constrained participation</b>
<b>Arts and cultural</b>	Low wellbeing	Low wellbeing
	Low overall trip making*	
	Male gender	
	Social exclusion	
<b>Library</b>	Difficulty accessing activities due to transport problems*	No factors significantly associated
<b>Spectator sports</b>	Children in the household	Children in the household
	Female gender	
	Low car ownership*	
<b>Participatory sports</b>	Social exclusion	Social exclusion
	Low wellbeing	
	Low income	
	Older age	
<b>Hobbies</b>	Low wellbeing	Low wellbeing
	Older age	

\*Transport related factors

**5.2 Transport and participation**

There were no significant associations identified between transport variables and constrained non-participation in any of the activities. However, choice non-participation in arts and cultural activities, library and spectator sports was significantly associated with transport factors.

Low overall trip making was associated with choice non-participation in arts and cultural activity, however it is not possible to identify the causes of low trip making using this data.

Low car ownership was associated with choice non-participation in spectator sports, however, again, there is no clear explanation for this association.

The result for library, indicating 'choice' non-participation being influenced by reporting of transport problems, suggests deeper insight into the relationship between constraints and choices is needed in order to fully understand this finding.

**5.3 Social exclusion and participation**

Social exclusion is associated with non-participation in sports, through both choice and constraint. As mentioned above, it is also associated with choice non-participation in arts and cultural activities. It is interesting to consider why this factor is important for these two activities, but not others. For sports, cost may be a factor, as low income is also indicated. However this is not the case for arts and cultural participation. Wellbeing is the other factor influencing participation for both activities and this therefore suggests a possible link between social exclusion and wellbeing. This has been reported elsewhere (Stanley and Stanley, under review) with a statistically significant association at one percent.

## **5.4 Emergent findings**

There are two further findings emerging from this analysis, in addition to those relating to transport and social exclusion.

First, the predominant factor associated with non-participation in the tested activities is wellbeing. Wellbeing had a significant association with constrained non-participation in arts and cultural and hobby activities. It also had a significant association with choice non-participation in these activities, as well as participatory sport. The activities tested were selected because they have been indicated in prior research as important indicators for the measurement of social exclusion (Saunders, 2007), however this result suggests important associations with wellbeing.

The second emergent finding is that social exclusion and wellbeing were significant factors for both constrained and choice non-participation in activities. This suggests the relationship between constraint and choice may be influential in these results.

## **6 Conclusion**

Returning to the debate about inclusionary or exclusionary aspects of community participation, the results of this research suggest that the relationship between this and the structural barrier to participation caused by transport problems is complex. Further it appears relationships exist between the structural barrier of transport and other factors that may hinder participation such as low wellbeing. This raises questions that go to the heart of the inclusion – exclusion debate described above. Does a focus in social policy on ‘participation’ and ‘non-participation’ without adequate investigation of the structural barriers to participation serve to exacerbate the social exclusion it seeks to ameliorate? Further work is needed to clarify the nature of these relationships and to examine the influences of transport disadvantage within this.

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## Bibliography

Arts Council England (2004) *New audiences*. <<http://www.newaudiences.org.uk/project>> Viewed 1 July, 2011.

Australian Bureau of Statistics (ABS) (2006) *Australia Basic Community Profile*, Australian Bureau of Statistics, Canberra.

Australian Bureau of Statistics (ABS) (2005) Use of urban public transport in Australia. *1301.0 - Year Book Australia, 2005*. Canberra, Australian Bureau of Statistics.

Australian Bureau of Statistics (ABS) (2004) *Older People New South Wales*, Australian Bureau of Statistics, Canberra.

Australian Government (2009a) *Overview of the social inclusion agenda*. Canberra, Australian Government. <http://www.socialinclusion.gov.au> Viewed, 1 July, 2010.

Australian Government (2009a) *Overview of the social inclusion agenda: Volunteering*. Canberra, Australian Government. <http://www.socialinclusion.gov.au/initiatives/Pages/Volunteering.aspx> Viewed, 15 May, 2011.

Belfiore, E. (2002) Art as a means of alleviating social exclusion: does it really work? A critique of instrumental cultural policies and social impact studies in the UK. *International Journal of Cultural Policy*, 8, 91-106.

Burchardt, T., Grand, J. L. & Pichaud, D. (2002) Introduction. IN Hills, J., Grand, J. L. & Pichaud, D. (Eds.) *Understanding Social Exclusion*. Oxford, Oxford University Press.

Cerin, E., Leskie, E., Sugiyama, T. & Owen, N. (2010) Perceived barriers to leisure-time physical activity in adults: an ecological perspective. *Journal of Physical Activity and Health*, 7, 451-459.

Cortis, N. (2009) Social inclusion and sport: Culturally diverse women's perspectives. *Australian Journal of Social Issues* Vol. 44 No.1 AUTUMN 2009, 91-106

Delbosc, A. & Currie, G.V. (2011) Exploring the relative influences of transport disadvantage and social exclusion on well-being. *Transport Policy*, 18, 555-562.

European Commission (2007) *National Reports on Strategies for Social Protection and Social Inclusion 2006-2008 and updates 2007*. European Commission.

Gordon, D., Levitas, R., Pantazis, C., Patsios, D., Payne, S., Townsend, P., Adelman L., Ashworth, K., Middleton, S., Bradshaw, J. & Williams, J. (2000) *Poverty and Social Exclusion in Britain*. York, Joseph Rowntree Foundation.

Gordon-Larsen, P., Nelson, M. C., Page, P. & Popkin, B. M. (2006) Inequalities in the built environment underlies key health disparities in physical activity and obesity. *Paediatrics*, 117, 417-424.

Kay, A. (2000) Art and community development: the role the arts have in regenerating communities. *Community Development Journal*, 35, 414-424.

Kelaher, M., Dunt, D., Curry, S., Berman, N., Joubert, L. & Johnson, V. (2009) Evaluation of the Community Arts Development Scheme. Carlton, VicHealth.

Kelly, L (2011) 'Social inclusion' through sports-based interventions? *Critical Social Policy*, Vol 31 No. 1 pp.126-150.

Planning for society and community:  
Are transport problems a barrier to participation in community activities?

Let's Get Connected Transport Working Group (LGCTWG) (2007) *The challenge of getting around: Rural, remote and isolated: Rural youth transport survey 2005–2006* Wellington and East Gippsland. Sale, Victoria, Wellington Shire Council.

Lynch, H. & Allen, J. (2007) Target Practice? Using the Arts for Social Inclusion. *International Journal of Education & the Arts*. Vol. 8 No. 12, pp.1-22

Martinez, M. X. (2007) The art of social justice. *Social Justice*, 34, 5-11.

Matarasso, F. (1997) *Use or ornament: The social impact of participation in the arts*. Stroud, Comedia.

O'Brien, L., Burls, A., Townsend, M., Ebdon, M. (2011) 'Volunteering in nature as a way of enabling people to reintegrate into society', *Perspectives in Health*, Vol. 131, 2, 71-81.

Sanderson, P. (2008) The arts, social inclusion and social class: the case of dance. *British Educational Research Journal*, 34, 467-490.

Saunders, P., Naidoo, Y. & Griffiths, M. (2007) *Towards new indicators of disadvantage: Deprivation and social exclusion in Australia*. Sydney, Social Policy Research Centre.

Sharp, J., Pollock, V. & Paddison, R. (2005) Just Art for a Just City: Public Art and Social Inclusion in Urban Regeneration. *Urban Studies*, 42, 1001-1023.

Shucksmith, M., Shucksmith, J. & Watt J. (2006) Rurality and Social Inclusion: A case of preschool education. *Social Policy and Administration*, 40, 678-691.

Stanley, J. & Stanley, J. (under review) The place, role and experience of mobility for people at high risk of social exclusion', *Journal of Social Policy*.

The Urban Transport Institute (TUTI) (2008) *Victorian Integrated Survey of Travel & Activity (VISTA) 2007–08: Survey procedures and documentation*, The Victorian Department of Transport.

Titheridge, H. (2005). Improving the accessibility of employment and training opportunities for rural young unemployed *Sustainable Development and Planning II*, Southampton: WIT Press, 881-890.

Ussher, M. H., Owen, C. G., Cook, D. G. & Whincup, P. H. (2007) The relationship between physical activity, sedentary behaviour and psychological wellbeing amongst adolescents. *Social psychiatry and psychiatric epidemiology*, 42, 851-856.

Williams, D. (1997) *The social impact of arts programs: How the arts measure up*. South Australia, COMEDIA.

World health organisation (WHO) (2001) *International Classification of Functioning list of domains of activity and participation* <<http://apps.who.int/classifications/icfbrowser/>>