SOcioeconomic Influences

Are social comparisons of homes and cars related to psychosocial health?

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Background
It has been suggested that perceiving oneself to be inferior to those around one is a psychosocial risk factor associated with ill health. The aim of this study was to examine whether negative social comparisons of the worth of two common assets (homes and cars) were related to psychosocial health (i.e. lower self-esteem and mastery, higher anxiety, and depression).

Methods
A postal questionnaire was sent to a random sample of adults in the West of Scotland (sampling from the 1997 electoral roll, response rate was 50%, achieved sample 2838).

Results
Having adjusted for socio-demographic variables, rating one’s house/flat as worth less than others was associated with lower self-esteem (P < 0.001) and mastery (P < 0.001) and higher depression (P < 0.007) and anxiety (P < 0.012). Rating one’s car as worth less than others was not significantly associated with these psychosocial variables.

Conclusions
Our findings lend some support, but only in relation to the home, to the hypothesis that perceiving oneself to be worse off in relation to those around is related to poorer psychosocial health.

Keywords
Social comparisons, psychosocial health, homes, cars

Recent debates on the determinants of health inequalities have included the idea that socio-economic differences affect health through perceptions of one’s place in the social hierarchy.1 It has been argued that perceiving oneself to be inferior in relation to others around us is a psychosocial risk factor2 associated with ill health.3 Although there has been much discussion of the extent to which social comparisons and health outcomes might be related,4–7 there have not been many empirical studies of associations between social comparisons and health. One study in Sweden explored the relationship between relative deprivation and self-rated health and found that effects were less pronounced on women and those at the lower end of the income distribution.8 This study used the mean income of reference groups (formed by combining indicators of social class, age, and living region, resulting in 40 reference groups) and defined relative deprivation as having an income below 70% of the mean income in the reference group. The formation of the reference groups was not based on any known actual contact by individuals with others in their same hypothetical reference group. A study in the US found that a more restricted range and skew of the income distribution in a community was associated with greater individual happiness, although the magnitude of the social comparison effect was smaller than the main effect of income.9 Another study (based on data from Hungary and Poland) found that markers of higher status and higher standing in the social hierarchy (ownership of luxury household items) was associated with improved self-rated health after controlling for individual socio-demographic characteristics.10

Research in experimental settings has shown that downward social contrasts produce positive affect and upward social comparisons produce negative affect.11,12 Psychological costs may be incurred when a comparison other is clearly superior to the self and hence poses a threat to self-esteem; conversely, self-esteem may be enhanced when a comparison other is inferior to the self.13 There is growing recognition of the association that assets such as houses and cars can have with health, even after taking other well-known indicators of socioeconomic status into account.14–18 Richard Wilkinson2 has noted Karl Marx’s comment on the role of housing in social comparisons:

A house may be large or small; as long as the surrounding houses are equally small it satisfies all social demands for a
dwellings. But if a palace arises beside the little house, the little
house shrinks to a hovel ... [and] ... the dwelling will feel more
and more uncomfortable, dissatisfied and cramped within its
four walls.¹⁹

Cars are seen to confer status,²⁰,²¹ and to display 'symbolic
capital',²² and the psychosocial benefits associated with private
transport have been shown to vary by socio-demographic
characteristics such as gender.²³

In this paper we examine whether social comparisons of the
worth of two common assets (homes and cars) are related to
four psychosocial health measures (anxiety, depression, self-
estem, and mastery). In particular, we wanted to know
whether individual perceptions of the value of these assets as
being lower in comparison to those in the vicinity were
associated with disadvantageous psychosocial health.

Methods

Study population

The study on which this paper is based, a postal survey of adults
in the West of Scotland, was specifically designed to examine
relationships between features of housing tenure and car access
on the one hand, and health on the other.⁹,¹⁷,¹⁸ In 1997 we
drew a random sample of 6500 adults from the electoral roll in
the eight local authority areas that make up the Glasgow and
Clyde Valley Structure Plan area, in the West of Scotland.
The estimated population in this area in 1998 was 1 918 380. It is a
socially heterogeneous area, containing within it marked
variations in social status and in health. The sample was stratified
by a classification of residential neighbourhood types (acronym
ACORN, we used the Scottish version²⁴). A postal question-
naire, with three follow-ups using Dillman's total design
method,²⁵ achieved a response rate of 50%, which is typical for
this type of general population survey.²⁶ Giving 2838 completed
questionnaires. The age range of respondents was 17–102 years.
We included in the postal questionnaire standard demographic,
socio-economic, psychological, and health variables, and also
more innovative measures about dwellings and cars, how they
were used, and the psychosocial benefits they might confer.

We included questions designed to elicit how people see
themselves in relation to others around them. All respondents
(both home owners and renters) were asked the following
question: 'Compared with other houses or flats in your street is
your home ‘worth more’, ‘worth about the same’ or ‘worth
less’? (99% of owner-occupiers and 97% of renters responded
to this question). Respondents who reported access to a car were
also asked: 'Compared with other cars/vans in your
neighbourhood is your car/van ‘worth more’, ‘worth about the
same’ or ‘worth less’? We varied the geographical scale for these
two questions as cars are mobile and social comparisons may be
made whilst driving around the local area rather than simply in
the street where one lives. We also asked respondents what type of
car they had access to, and we subsequently grouped this into
medium’, ‘Executive/Luxury’, using the 1998 Motor Vehicle
Registration Information System Market Segments, obtained
from the Society of Motor Manufacturers and Traders Ltd.

Psychosocial health measures included in the survey were the
Hospital Anxiety and Depression Scale (HADS),²⁷ self-esteem,
measured by the Rosenberg 10-item scale,²⁸ and mastery, using
the 7-item Pearlin Mastery scale.²⁹ Scores can range from 0 to
21 on anxiety and depression subscales of the HADS, 0–30 on
the Rosenberg scale, and 0–21 on the Pearlin Mastery scale.

The Hospital Anxiety and Depression Scale (HADS) was originally
developed for use in general hospital settings and was designed to
assess inpatients' anxiety and depression according to two sub-
scapes. The instrument has been validated in other non-hospital
settings and in a range of studies,³⁰–³⁴ and was selected for use in
our postal survey because of its brevity and capability of being self-
administered. The scale has 14 items and includes statements such
as: 'I still enjoy the things I used to', 'I get sudden feelings of panic',
'I can laugh and see the funny side of things'. Respondents are asked
to respond to each item in the scale (according to how they have
been feeling in the last 7 days) by circling their choice of four
answers: 'most of the time'; a lot of the time'; only occasionally' and
'never'. Responses were scored 0–3 so that higher scores always
indicate higher anxiety and depression, and then summed (among
our respondents the anxiety subscale score ranged from 0 to 21 with
a mean of 7.1 [SD = 4.0]; depression subscale scores ranged from 0
to 20 with a mean of 4.8 [SD = 3.6]).

Self-esteem has been shown to be related to health
outcomes.²⁸,³⁵,³⁶ Rosenberg’s self-esteem scale is of a
unidimensional nature which, it has been suggested, strengthens
its power²⁷ and it has been found to have reliability coefficients
(Cronbach’s alphas) of 0.86³³ and 0.91.³⁸ The 10-item measure
of self-esteem²⁸ which we used measures feelings about self
worth and includes items such as: 'I feel I am a person of worth,
at least equal to others', 'I feel I do not have much to be proud
of', ‘all in all I’m inclined to think I’m a failure’. The Pearlin
Mastery scale has frequently been used in North American and
European settings and has been shown to be related to health.³⁵,³⁹
The seven-item measure of mastery²⁹ was used. This
measures an individual’s self-perceived capacity to control events,
and includes items such as: ‘there is really no way I can solve
some of the problems I have’, ‘I often feel helpless in dealing with
the problems of my life’, ‘I can do just about anything I really set
my mind to do’. Respondents are asked to respond to each item
in both scales by ticking whether they strongly agree, agree,
disagree, or strongly disagree. Responses were scored 1–4 so that
higher scores always indicate higher mastery or self-esteem, and
then summed (among our respondents the mastery score ranged
from 7 to 28 with a mean of 19.7 [SD = 3.4]; self-esteem scores
ranged from 11 to 40 with a mean of 30.4 [SD = 5.2]).

Results

Social comparisons of home

Table 1 shows the distribution of respondents’ perceptions of the
value of their home compared with others in the street by
sociodemographic characteristics (sex, age, social class [using the
Registrar General’s classification of occupations⁴⁰], employment
status (‘working’, ‘retired’, ‘not working’) [‘not working’
comprised people who were unemployed or disabled, full time
carers, and those on government training schemes], housing
tenure, and ACORN group). Note that the total number of
responses was 1794 as we only included those cases who had no
missing data on any of the variables used in the present analysis.

The majority of respondents (75.5%) perceived their home to
be ‘worth about the same’ as others in the street, with 17.6%
rating it to be ‘worth more’ and 6.9% as ‘worth less’. There was little gender difference in perceptions although males were slightly more likely than females to perceive their homes as being worth more. Twenty-one per cent of respondents in the 38–50 years age group reported their home as being worth more than others in the street compared with 10% of the oldest age group. Lower social class groups, people living in the social rented sector, respondents who were ‘not working’, and those living in the poorest public housing schemes were more likely to report that their home was worth less than others in the street.

To examine whether the significant associations found between social comparisons of home and the four psychosocial health measures remained after controlling for respondents’ socio-demographic characteristics, we carried out multivariate analysis (using General Linear modelling within SPSS version 9.0).

The mean scores of the four psychosocial health measures in relation to comparisons of home after adjustment for sociodemographic variables (sex, age, social class, employment status, housing tenure, and ACORN group) are shown in the second section of Table 2.

Self-esteem and mastery scores were linearly patterned (P < 0.001 for both self-esteem and mastery on trend test)—those who reported that their home was worth more than others in the same street had the highest mean self-esteem and mastery scores and those who reported that their home was worth less had the lowest mean self-esteem and mastery scores. Respondents who thought their home was worth less than others around them had significantly higher HADS anxiety and depression scores.

### Table 1 Perception of own home compared with other houses/flats in the street

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<tr>
<th></th>
<th>Worth more %</th>
<th>About the same %</th>
<th>Worth less %</th>
<th>Total N</th>
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<td></td>
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<td>77.6</td>
<td>7.0</td>
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<td></td>
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<td>76.4</td>
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<td>242</td>
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<td>72.0</td>
<td>6.7</td>
<td>801</td>
</tr>
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<td>10.3</td>
<td>80.3</td>
<td>9.3</td>
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<td></td>
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<td>Retired</td>
<td>12.5</td>
<td>78.8</td>
<td>8.7</td>
<td>424</td>
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<td>77.0</td>
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<td>76.9</td>
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<td>Council estates, less well-off families</td>
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<td>74.5</td>
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<td>Council estates, older residents</td>
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<td>80.1</td>
<td>7.9</td>
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<tr>
<td>Poorest council estates</td>
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<td>79.1</td>
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<td><strong>All respondents</strong></td>
<td>17.6</td>
<td>75.5</td>
<td>6.9</td>
<td>1794</td>
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depression mean scores than those who thought their home was worth about the same or worth more. Those who thought their home was worth more than others around them had slightly higher anxiety and depression mean scores compared with those who thought their home was worth about the same; however, this difference was not statistically significant.

Social comparisons of car

Among those with car access (n = 1325 cases with no missing values), 59.9% of all respondents perceived their car/van to be ‘worth about the same’ as others in the neighbourhood, 12.3% perceived it to be ‘worth more’, and 27.8% ‘worth less’ (Table 3). Those in younger age groups were significantly more likely than older respondents to report their car as being worth more than others in the neighbourhood. Marked differences were observed by car type in perceptions of one’s car as being worth more, with a much higher proportion of respondents (28.3%) with expensive cars than respondents with cars at the bottom end of the market (7%) reporting this.

No significant differences were observed overall in mean scores of self-esteem by respondents’ perceptions of their cars compared with others (Table 4, Section 1). Those respondents who perceived their cars to be worth more had the highest mean mastery scores ($f = 3.4, P < 0.034$). Those who perceived their car to be worth less than others in the neighbourhood had the highest mean depression scores, followed by those who

### Table 3 Distribution of perceptions of worth of car by respondents’ sociodemographic characteristics

<table>
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<tr>
<th></th>
<th>Worth more %</th>
<th>About the same %</th>
<th>Worth less %</th>
<th>Total N</th>
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<td>26.3</td>
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<td>Executive/luxury</td>
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<td>All respondents</td>
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thought it was worth more, with those who thought it was worth about the same having the lowest scores; however, this was not statistically significant. The highest mean anxiety scores were observed among those who thought their car was worth more than others in the neighbourhood; however, this finding just missed being statistically significant ($f = 2.9, P < 0.053$). When we explored this further, we found that mean anxiety scores were significantly higher ($f = 4.0, P < 0.047$) among this group compared with those who thought their car was 'worth about the same'; but there was no significant difference between those with the most positive and the most negative assessment.

After adjustment for sociodemographic variables (sex, age, social class, employment status, car type), those who thought their car was worth less had the lowest mean self-esteem and mastery scores and the highest HADS depression scores, although these differences were not statistically significant. The higher mean score observed for HADS anxiety among those who thought their car was worth more persisted after adjustment for sociodemographic factors but did not reach statistical significance.

Discussion

Our finding that perceptions of the relative value of the home were more strongly related to psychosocial health than were perceptions of the value of one's car may reflect the fact that the home is more substantially a symbol of the self. Furthermore, in the UK some forms of housing provision have greater potential to promote disadvantage and prejudice than forms of transport provision. Social housing, as a tenure, for example, is highly stigmatized, with some commentators referring to 'the spoiled identity of council housing'. In this context, the perceived value of one's property (and its tenure) may have great significance in status terms. In contrast, in the UK, ownership and the value of one's private car may be less of a marker of social status than the home.

Our finding that perceiving one's car to be worth more rather than of similar value to others nearby was associated with slightly elevated levels of anxiety may be a reflection of the perceived vulnerability of one's car, and of the fact that most cars depreciate in value very quickly.

There are several caveats to our findings. Our data are cross-sectional and based on self-reports of psychosocial well-being and perceptions of relative values and it may be that respondents' perceptions are coloured by negative response set or that people with higher psychosocial resources rate their homes and cars more positively. However, given the slightly elevated anxiety and depression scores amongst those with the most positive view of the value of their homes and cars, this raises interesting questions about the direction of response sets. More research is required which is able to explore these issues using longitudinal data sets.

These results are from the West of Scotland and it may be that social comparisons are more important in other regions in the UK or in other parts of the world. For example, national identity in Scotland is the most important form of self-identity after parenthood, and the pursuit of a meritocratic society, as advanced by the Conservative and New Labour Governments, has less support in Scotland. In places where social

Table 4

<table>
<thead>
<tr>
<th>Section 1: Unadjusted means</th>
<th>Section 2: Adjusted means</th>
<th>$P &lt;$</th>
<th>$f$</th>
<th>$P &lt;$</th>
<th>$f$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worth more</td>
<td>Mean (SD)</td>
<td>Worth less</td>
<td>Mean (SD)</td>
<td>Worth more</td>
<td>Mean (SD)</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>0.219</td>
<td>1.5</td>
<td>21.7 (5.3)</td>
<td>21.0 (5.0)</td>
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<tr>
<td>Mastery</td>
<td>0.034</td>
<td>3.4</td>
<td>13.8 (4.7)</td>
<td>13.4 (4.2)</td>
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<td>HADSb Depression</td>
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<td>2.7</td>
<td>4.1 (2.7)</td>
<td>3.9 (3.2)</td>
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<td>HADS Anxiety</td>
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<td>2.9</td>
<td>7.4 (2.9)</td>
<td>7.4 (2.7)</td>
<td>0.129</td>
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</table>

* Adjusted for socio-demographic variables (sex, age, social class, employment status, and car type).

b Hospital Anxiety and Depression Scale.
comparisons are more important, there could be stronger associations with well-being given the context of a more class-conscious and/or meritocratic society. The study of psychosocial correlates of social comparisons therefore has to be sensitive to regional and national particularities.

In conclusion, our findings lend some support, but only in relation to the home, that perceiving oneself to be worse off in relation to others in one’s street is associated with poorer psychosocial health.

Acknowledgements
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KEY MESSAGES
- It has been suggested that perceiving oneself to be inferior to those around one is a psychosocial risk factor associated with ill health.
- Having adjusted for socio-demographic variables, rating one’s house/flat as worth less than others was associated with lower self-esteem and mastery and higher depression and anxiety.
- Rating one’s car as worth less than others was not significantly associated with psychosocial health measures.
- Our findings lend some support, but only in relation to the home, to the hypothesis that perceiving oneself to be worse off in relation to those around is related to poorer psychosocial health.

References
15. Ellaway A, Macintyre S. Does housing tenure predict health in the UK because it exposes people to different levels of housing related hazards in the home or its surroundings? Health Place 1998;4.