

UNIVERSITY OF YORK
Social Policy Research Unit

The Relationship Between Low Income And Other Indicators Of Poverty And Social Exclusion

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BACKGROUND

In order to inform the Joseph Rowntree Foundation 2022 Report we were asked to undertake some secondary analysis of the Poverty and Social Exclusion Survey. The objective of this analysis was to explore the relationship between income poverty and other indicators of poverty and social exclusion. The hypothesis was rather similar to that that caused such a lot of controversy when in Townsend's *Poverty in the United Kingdom* was published in 1979. He claimed to have found a point on the distribution of income at which the proportion of families lacking social necessities increased sharply. He claimed to have discovered an income threshold at which deprivation became much worse. This finding was challenged by Piachaud (1981) and then confirmed by Desai (1986) using sophisticated statistical analysis.

The objective of this analysis was to exploit the opportunity of the Poverty and Social Exclusion in Britain Survey (Gordon et al 2000) which had collected data on household income and a wide range of other direct and indirect indicators of poverty and social exclusion and review the relationship between income and each of these.

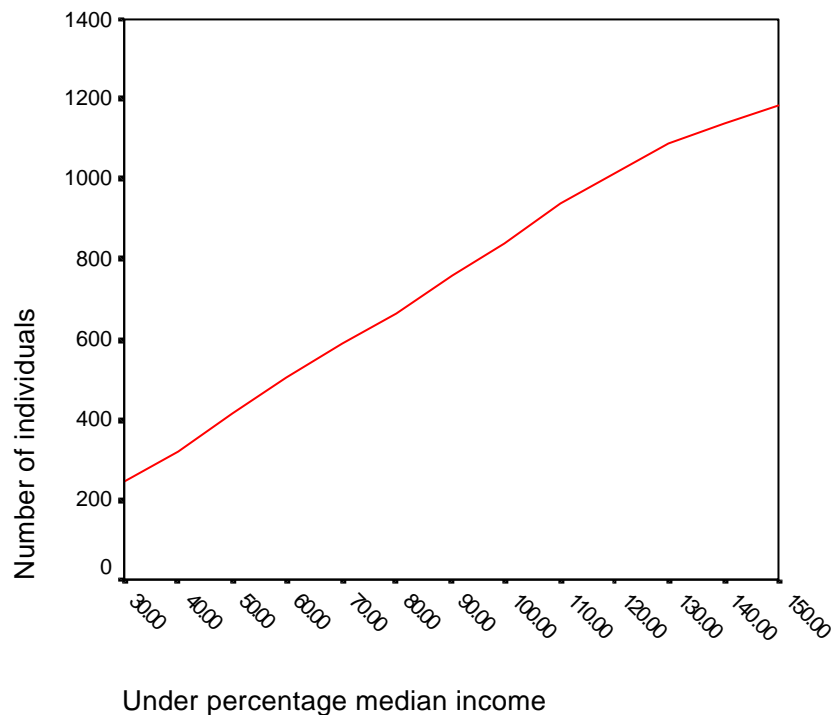
THE DATA

The income data in the PSE survey has two defects for the purposes of this analysis

1. It is income before housing costs and one would expect that income after housing costs would have a closer association with other indicators of poverty and social exclusion.
2. The PSE survey was a follow-up interview with respondents to the 1999/2000 General Household Survey and the income data in the PSE survey was GHS data which could have been collected up to 18 months before the PSE interview and therefore could have changed. While we made efforts to take account of major changes, some of any difference between income poverty and deprivation could be the result of transitions – people becoming income poor but not yet deprived and some people with increased income but still deprived.

The income data in this analysis was adjusted using the PSE equivalence scale (a scale which is based on budget standards and is more generous to families with children than the other scales. Income is net household income. The sample is divided into bands from households with equivalent income less than 30 per cent of the median to households with income less than 150 per cent of the median. The former group includes 243 households and the latter group includes 1186 households, all but 348 of the total households in the PSE sample. There are 503 households 32.8 per cent of the total living on equivalent income less than 60 per cent of the median. This is the threshold most commonly used by the government to identify the poor in such

publications as Households Below Average Income and the Opportunity for All series.



After preliminary analysis we discovered another problem. The income reported by students and the self employed at the bottom end of the distribution did not appear to be associated with their living standards on other measures. This is a problem that has been reported in other poverty analysis (Atkinson et al 2002). We decided to deal with it by simply dropping the 60 self employed and 14 student cases with income below 50 per cent of the median.

The non income indicators were chosen to cover a range of indicators of poverty and social exclusion. They include

- Lack of socially perceived necessities using a variety of thresholds;
- A measure of subjective poverty – whether respondents think that they are living below a poverty threshold defined by themselves;
- A set of social exclusion indicators derived from the PSE survey and covering labour market exclusion, exclusion from services, social relationships, social activities and civic participation;
- A set of questions covering beliefs and attitudes to poverty.

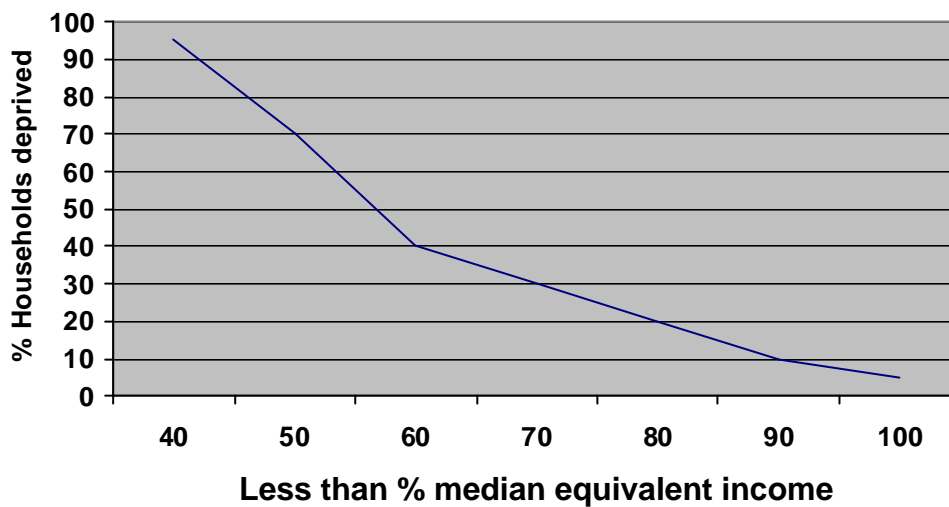
All these have been defined in the PSE report (Gordon et al 2000) and will not be repeated here.

ANALYSIS

We begin with an analysis of the relationship between income poverty and other dimensions for the sample as a whole with income between less than 40 per cent of the median and 100 per cent of the median. The reason for choosing less than 40 per

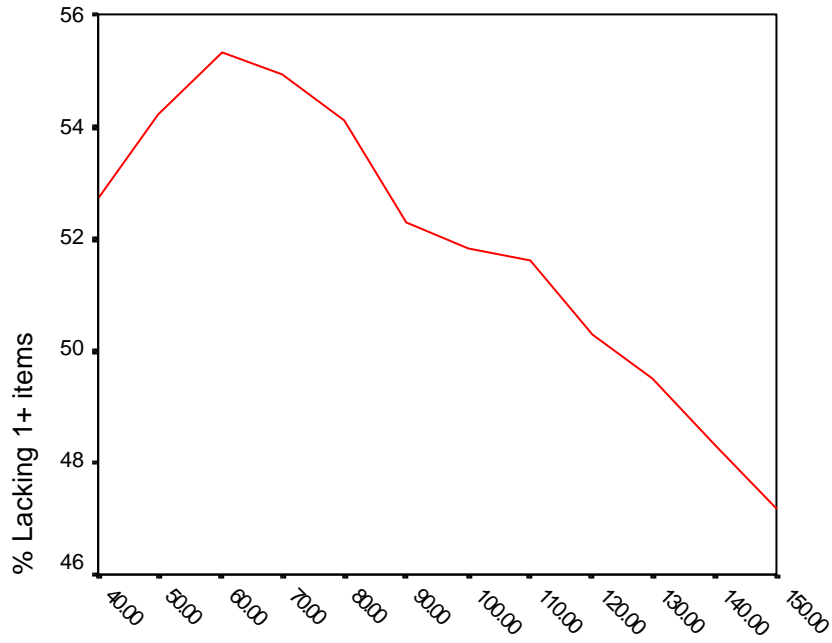
cent rather than 30 per cent is to do with the sample size at the lower threshold and the accompanying volatility of the data. The results are presented in charts. On the horizontal axis is the proportion of the median. On the vertical axis is the proportion of households suffering the other poverty or social exclusion dimension. If our hypothesis was correct and there was a threshold you would expect the charts to take the shape shown in the chart below. As incomes fall below the 60 per cent of median equivalent income threshold there is a step change in the proportion of households deprived or socially excluded by other measures.

Income poverty and deprivation

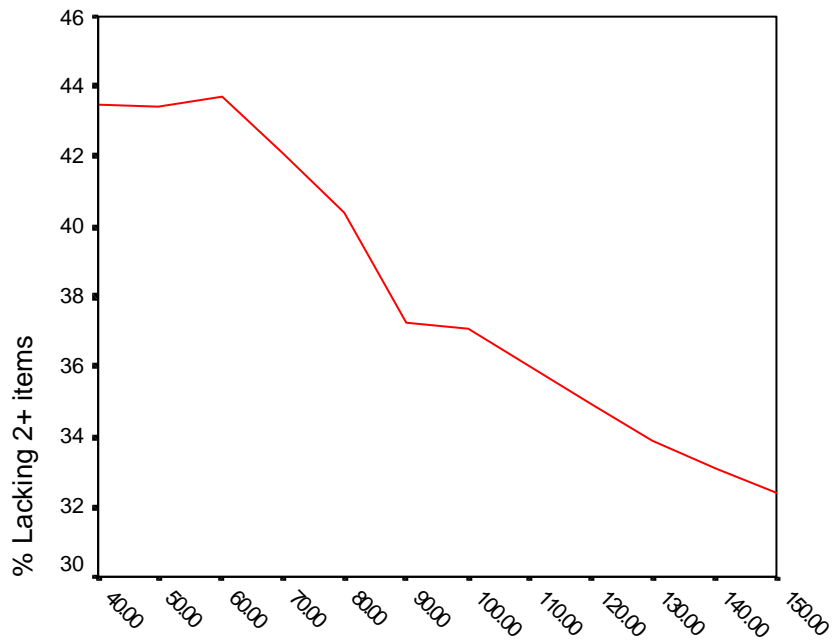


Socially perceived necessities

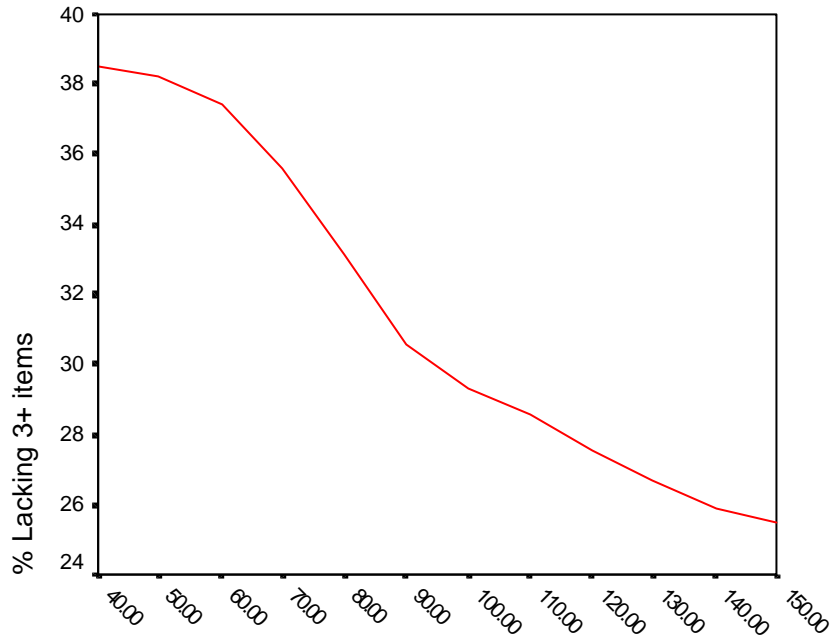
It can be seen from the next set of charts that there appears to be a threshold where the proportion lacking necessities increases sharply but it is not at 60 per cent of the median but on incomes below 90 per cent of the median. The picture is also complicated by the fact that in some charts those on less than 50 or 60 per cent of the median are less likely to lack socially perceived necessities than those with incomes higher than themselves. The chart showing lacking three or more necessities is most alike the Townsend threshold shape.



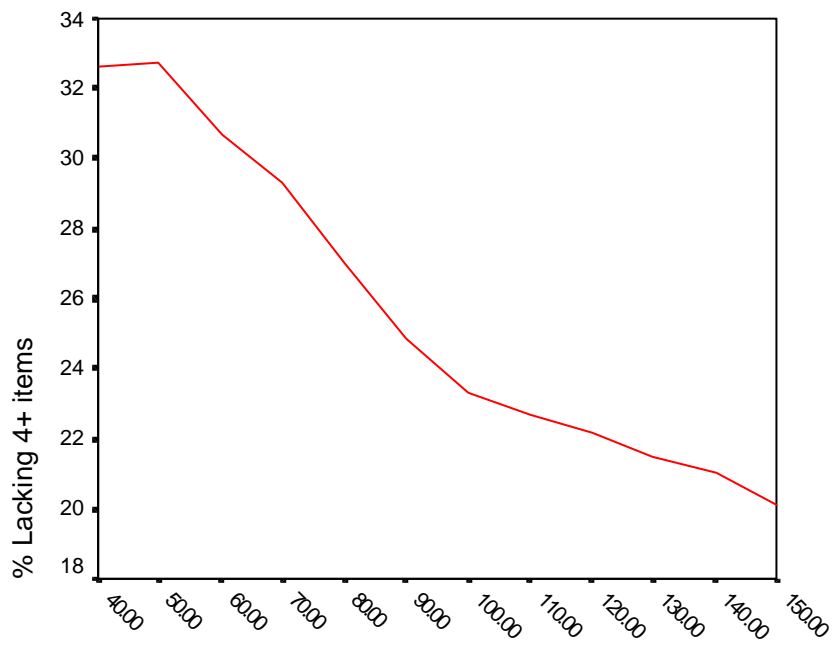
Under percentage median income



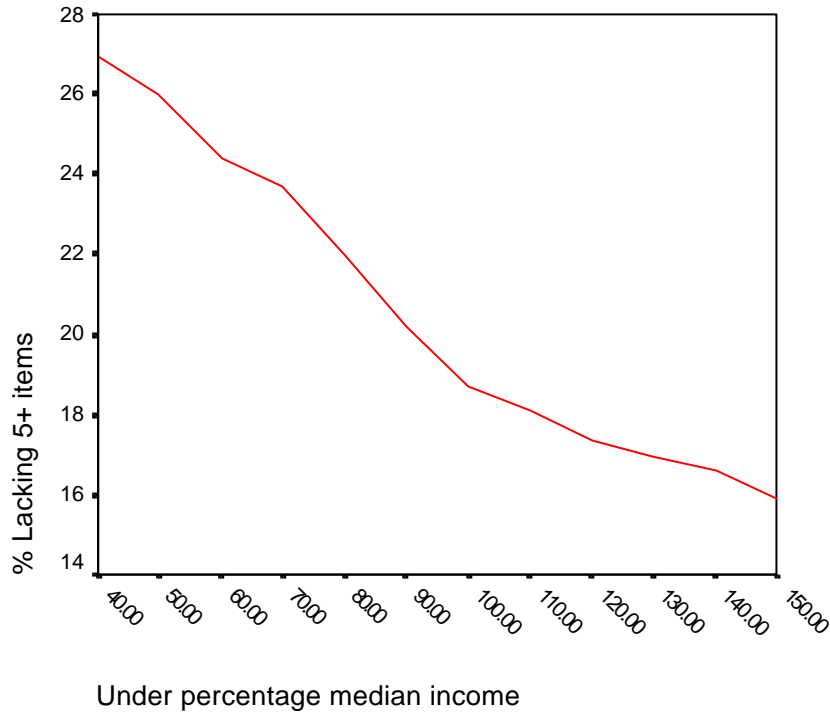
Under percentage median income



Under percentage median income

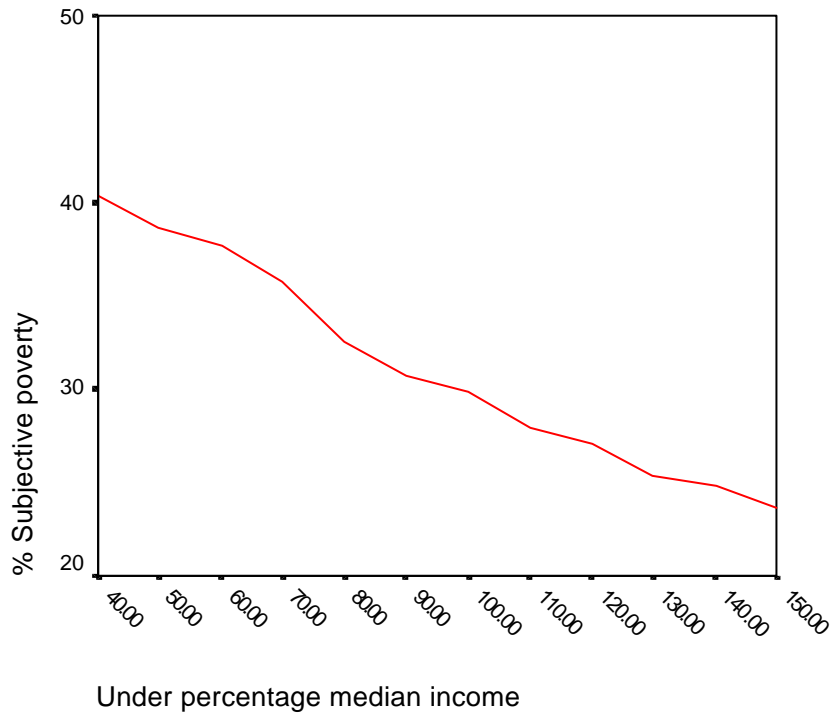


Under percentage median income



Subjective poverty

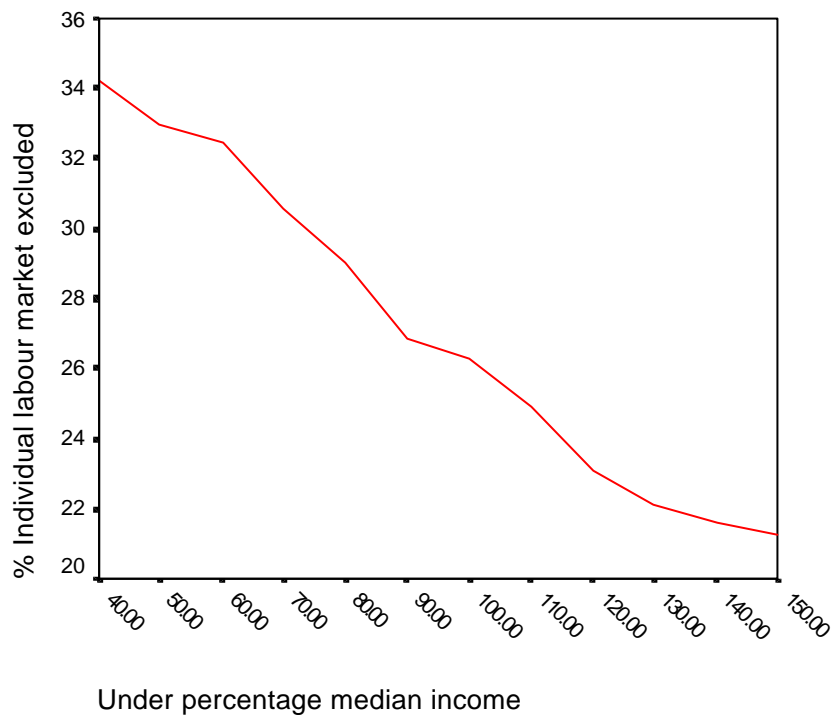
The proportion of households who believe they are poor also increases fairly sharply below 80 per cent of the median and continues to increase below 60 per cent of the median though not as sharply.

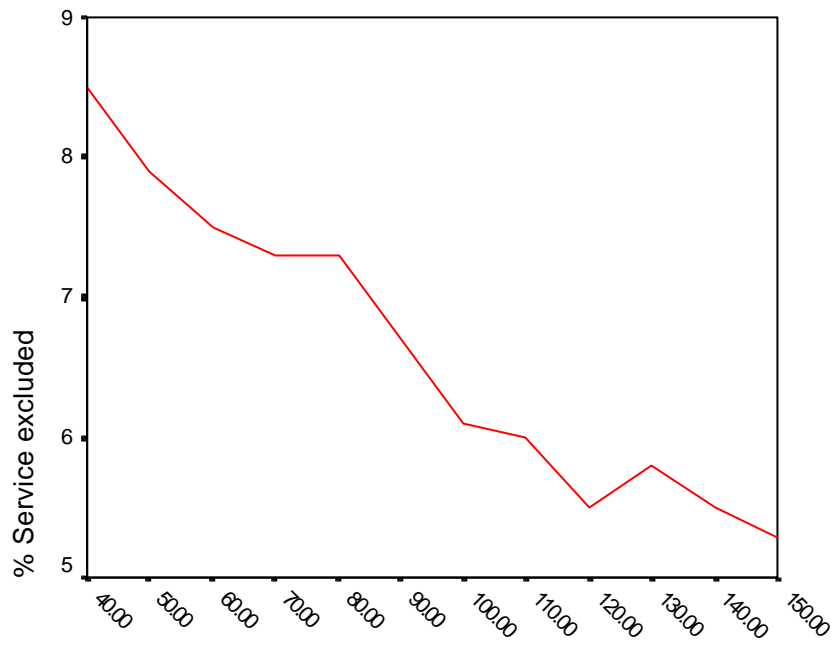


Social exclusion

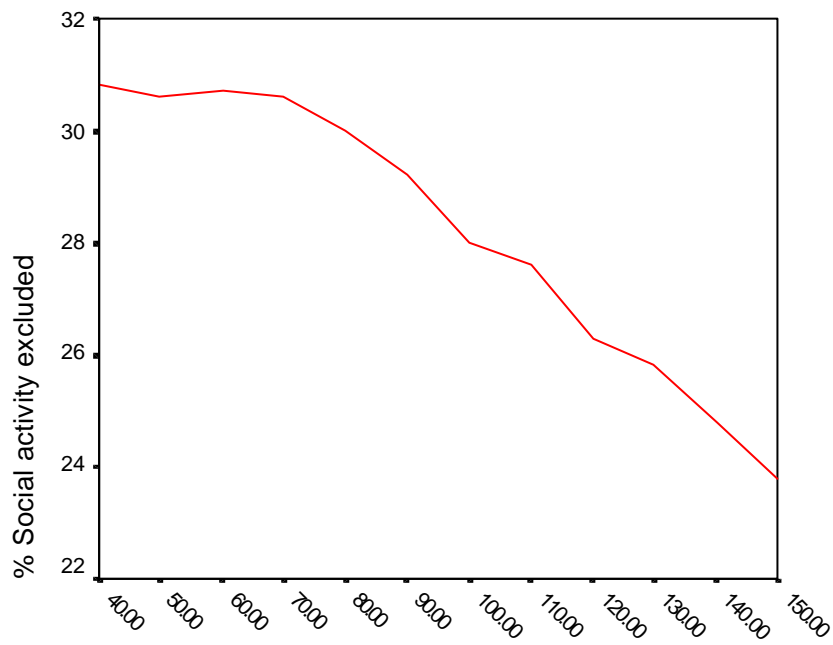
The indicators of social exclusion differ.

- There is a sharp increase in exclusion from the labour market under 90 per cent of the median.
- Exclusion from basic services has an uneven pattern but it is similar with a sharp increase below the median and a slower increase below 80 per cent of the median.
- Exclusion from social activities also increases more rapidly below the median and the rate of increase tails off below 70 per cent of the median.
- Exclusion from daily social contact shows a very sharp threshold below 70 per cent of the median but no increase below 50 per cent of the median.
- Not receiving social support seems to have a threshold around the median.
- Disengagement increases sharply between below 80 and 70 per cent of the median but this pattern is not sustained.

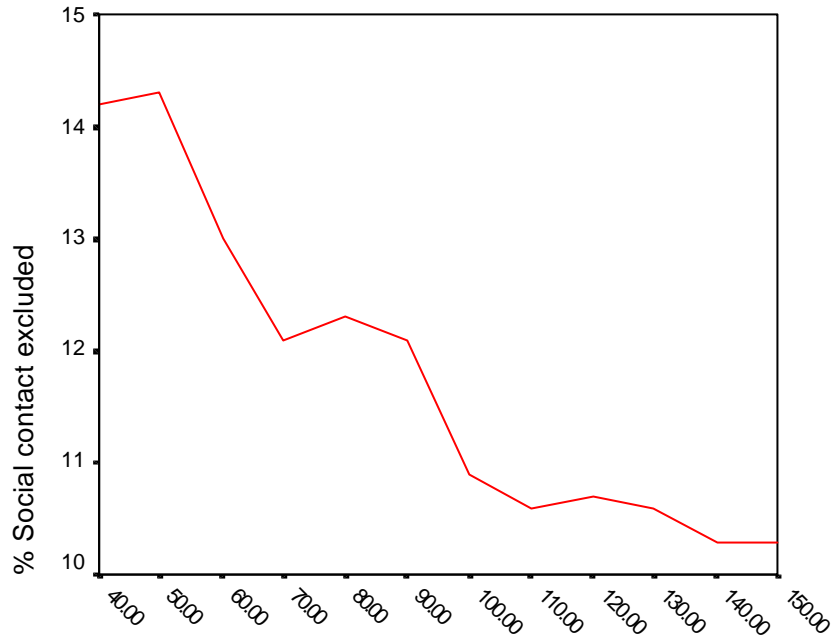




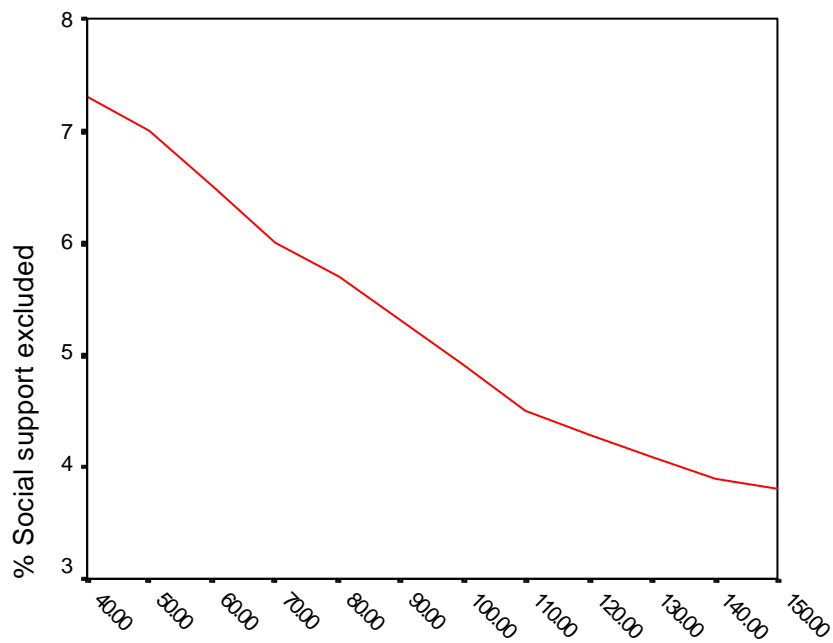
Under percentage median income



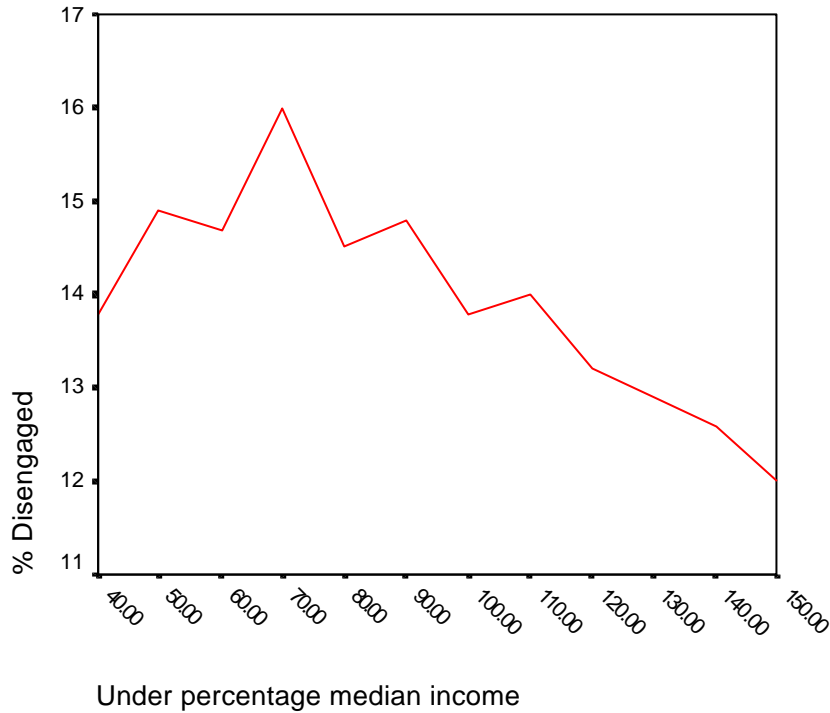
Under percentage median income



Under percentage median income

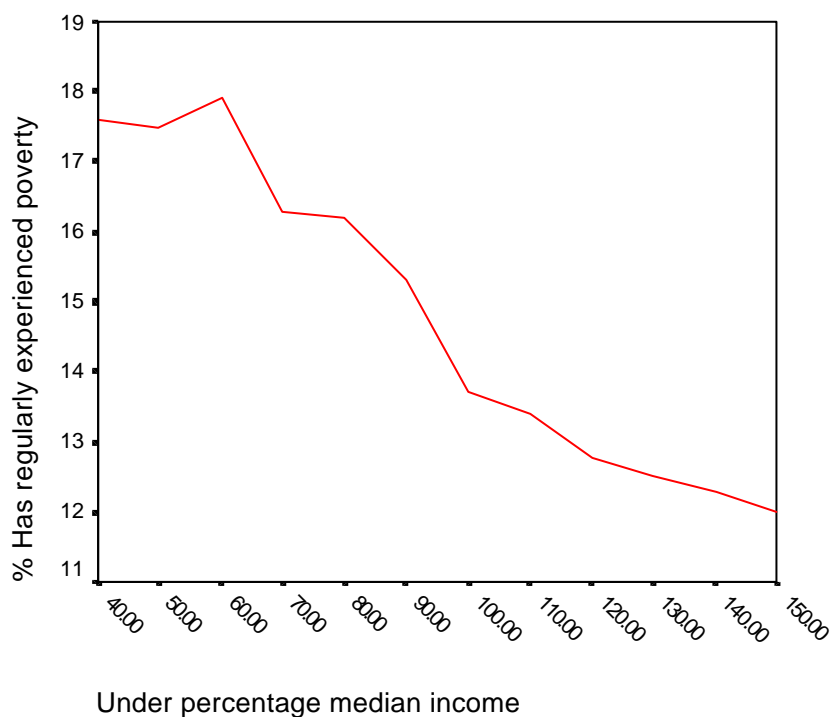


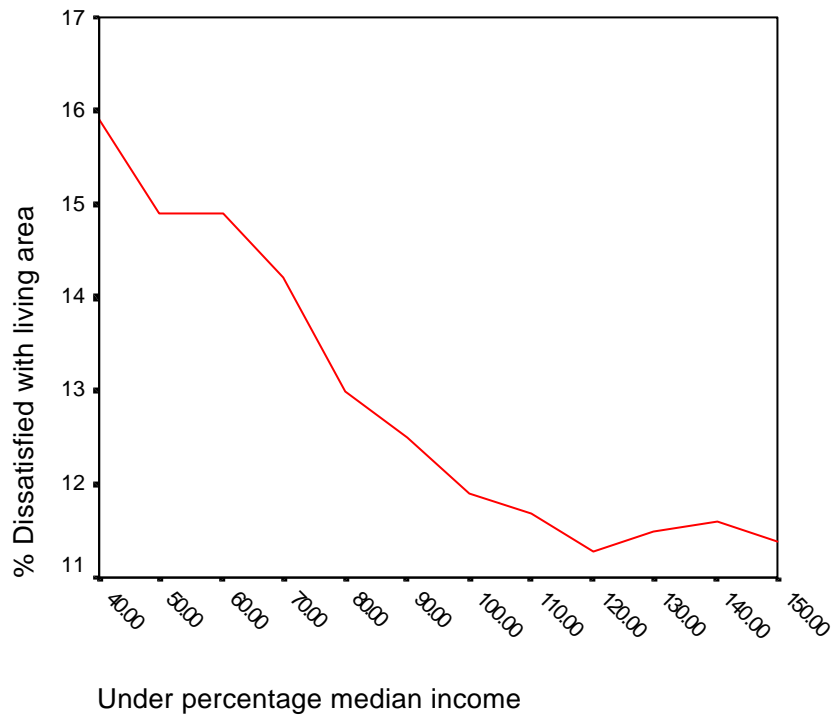
Under percentage median income

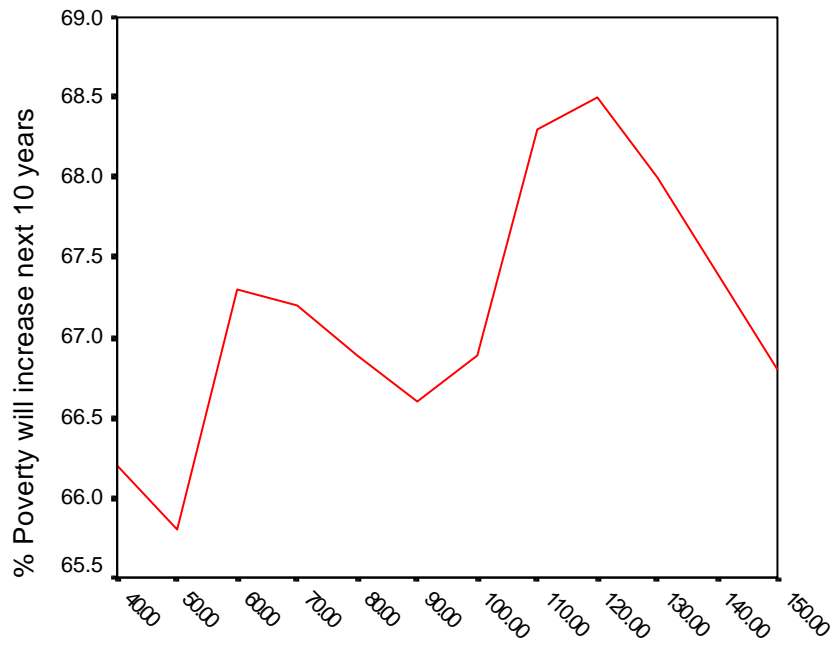


Perceptions of poverty

- The proportion regularly experiencing poverty has a threshold around the median and tails off below 60 per cent of the median.
- Dissatisfaction with living area increases sharply below 120 per cent of the median with another threshold at below 50 per cent of the median.
- The better off tend to be more likely to think that poverty has been increasing and will increase further
- There is no pattern in the relationship between income and beliefs that poverty is the result of injustice.







Under percentage median income



Under percentage median income

Reviewing the evidence so far indicates that on almost all indicators of deprivation and social exclusion the proportion deprived increases as income falls. There are a number of indicators where there is a threshold where the proportion deprived increases more rapidly at a point in the income distribution. However this point is somewhat above the conventional poverty thresholds – below 80, 90 or 100 per cent of the median, rather than below 60 per cent. Further in some of the examples the increase in the proportions deprived is not sustained and below 40 and 50 per cent of the median the proportion deprived actually falls. What is the explanation of the latter pattern? It could be the fault of our income variable. As discussed above it is before housing costs. These households with very low incomes could have low or nil housing costs (because they are on Income Support) whereas those with higher income have after housing costs income lower than their position in the distribution suggests. Or it may be better off individuals living in poor households responding to the deprivation questions. Or it may be the transition people discussed above.

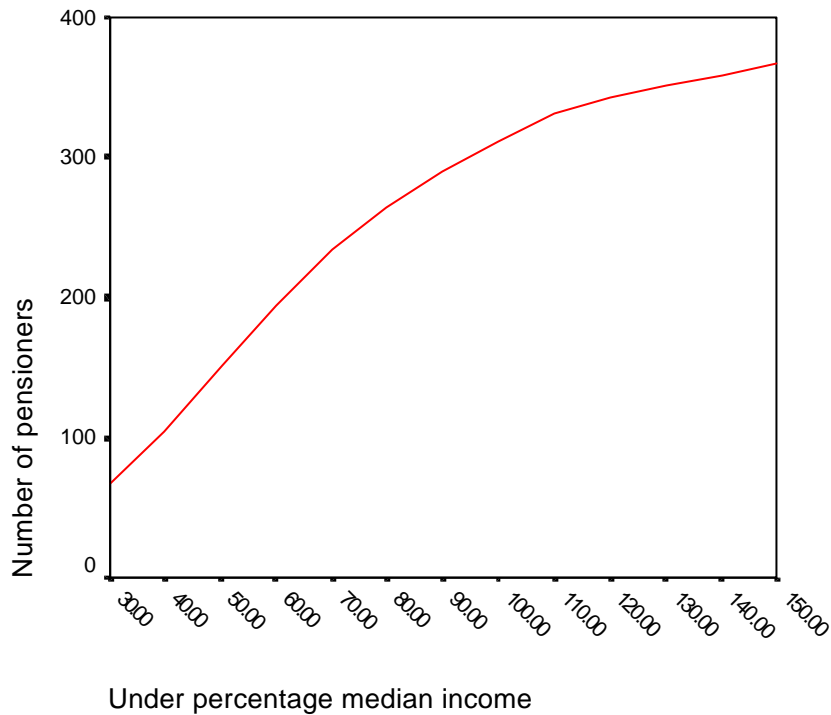
One further way to check this out is to explore whether the pattern holds for different types of household. We therefore repeated the analysis (excluding the perception indicators) for the following subgroups:

- Pensioner households
- Single and childless couples
- Families with children

In these runs we did not exclude the self employed and students.

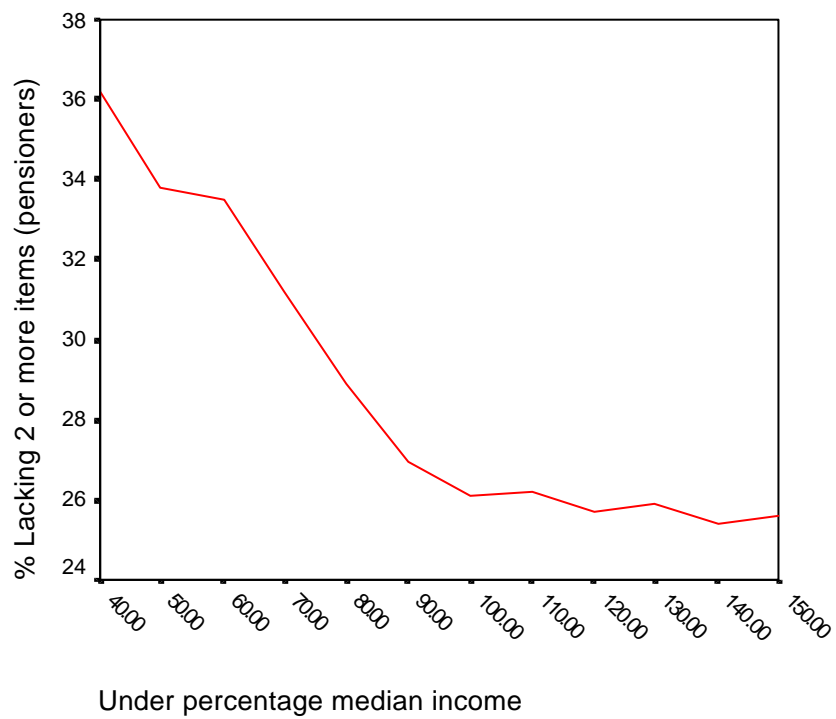
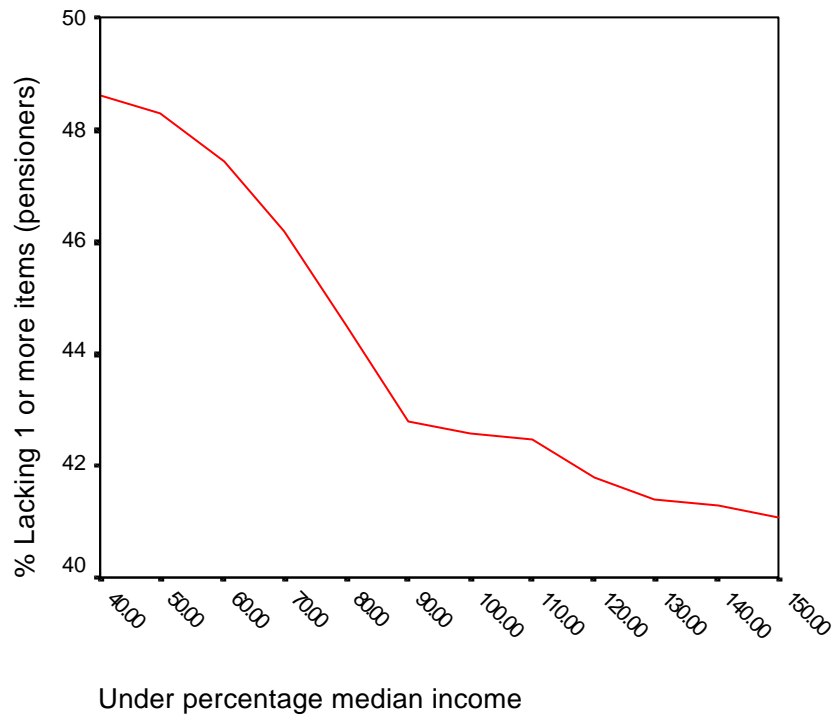
Pensioner households

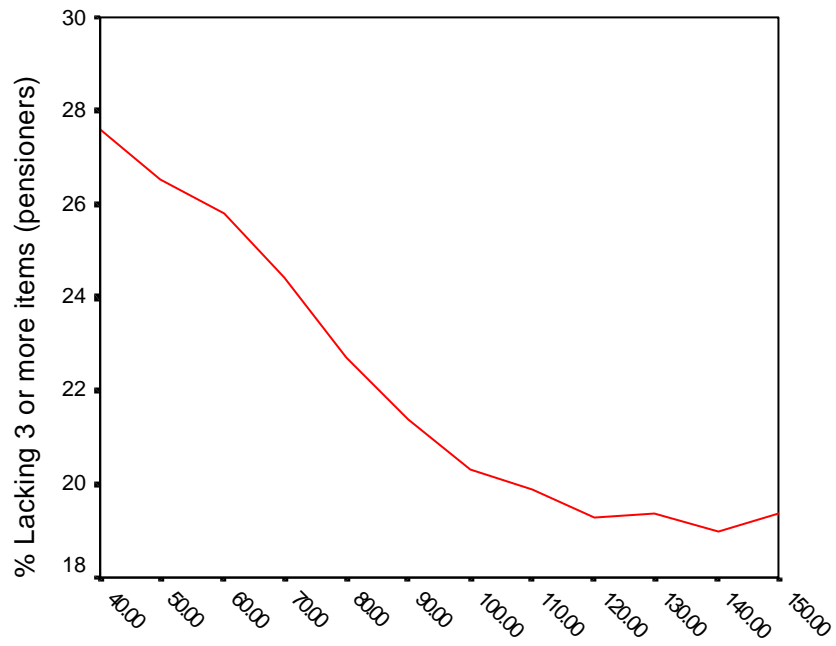
The first chart gives the overall distribution of pensioners across the income thresholds. As there are only 67 pensioner households with equivalent income below 30 per cent of the median we undertake the rest of the analysis with the lowest threshold at 40 per cent of the median.



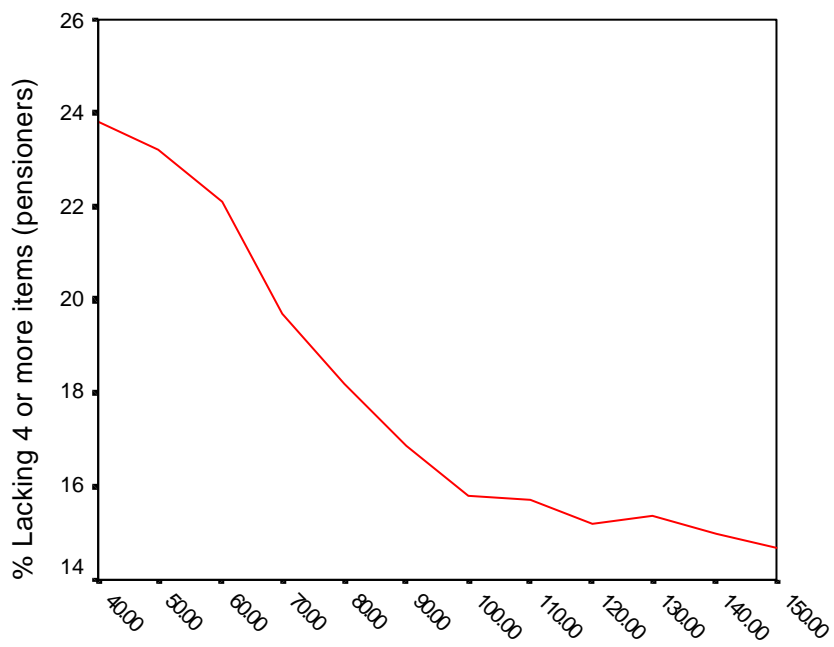
Socially perceived necessities

The next set of charts covering the lack of socially perceived necessities shows the familiar pattern – a clear threshold at below 90 per cent of the median and a tailing off of the increase at very low levels of income.

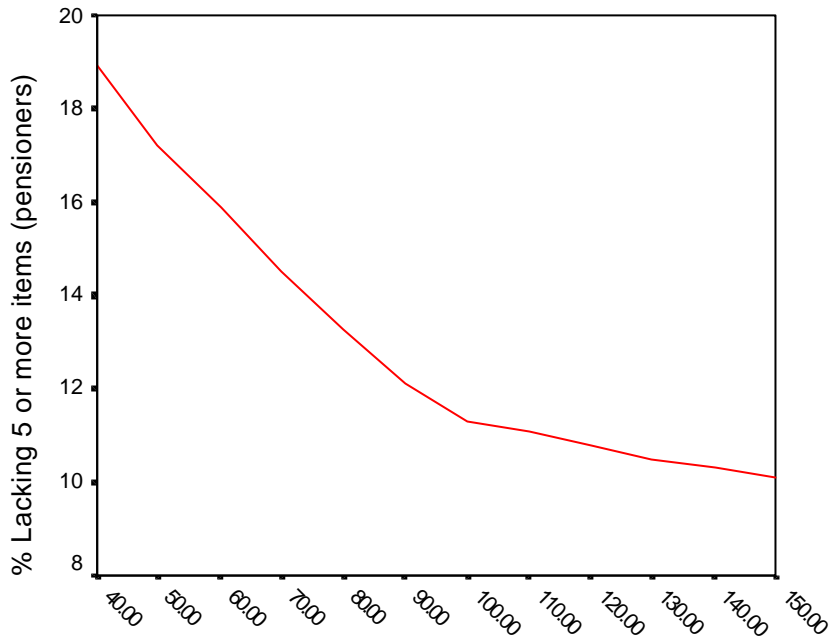




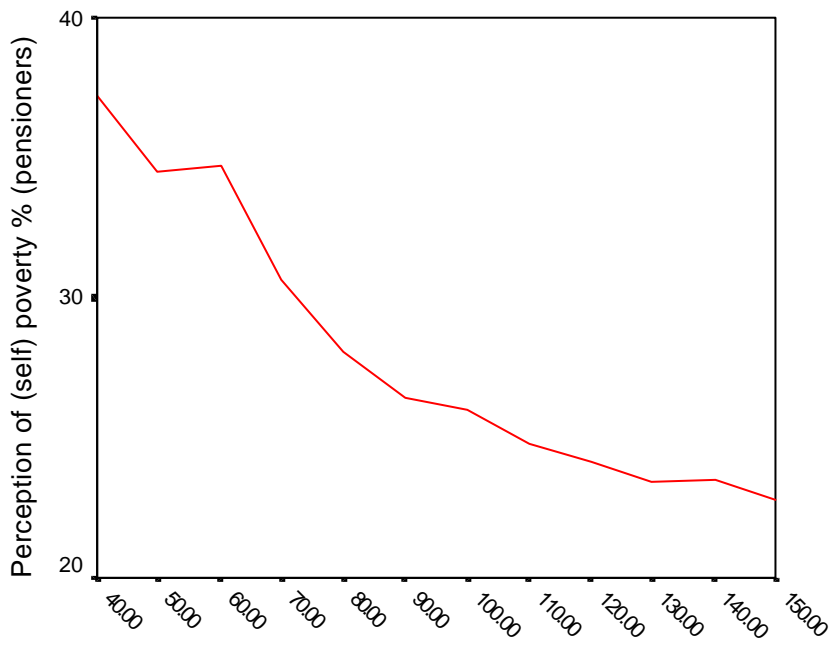
Under percentage median income



Under percentage median income



Under percentage median income



Under percentage median income

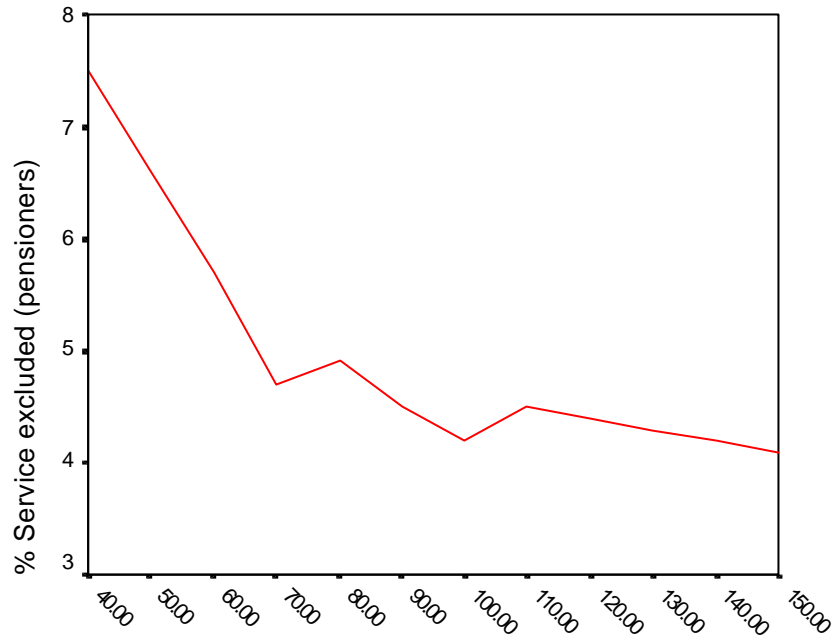
Subjective poverty

The same pattern is seen in the chart below for subjective poverty although in this case there is a further sharp increase below 50 per cent of the median.

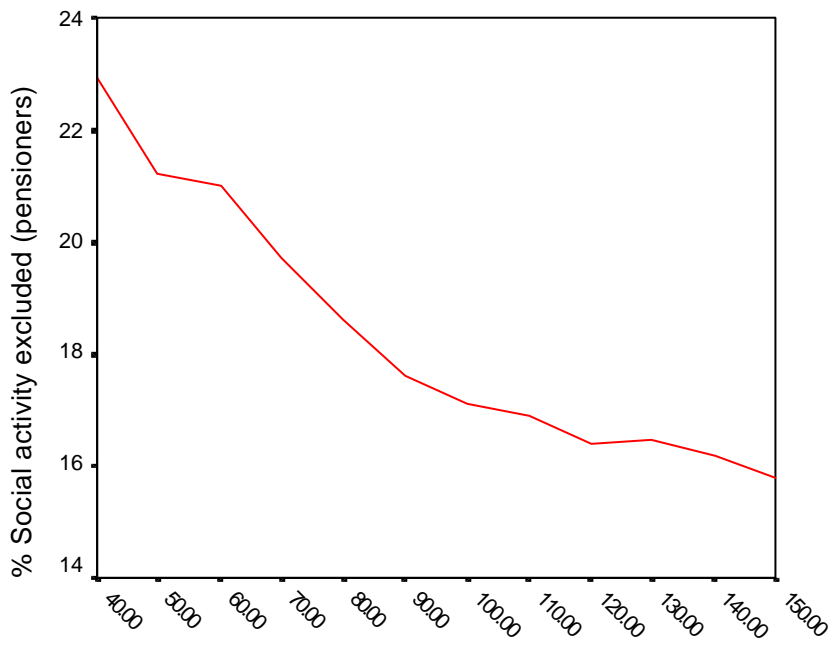
Social exclusion

Labour market excluded does not apply to pensioners.

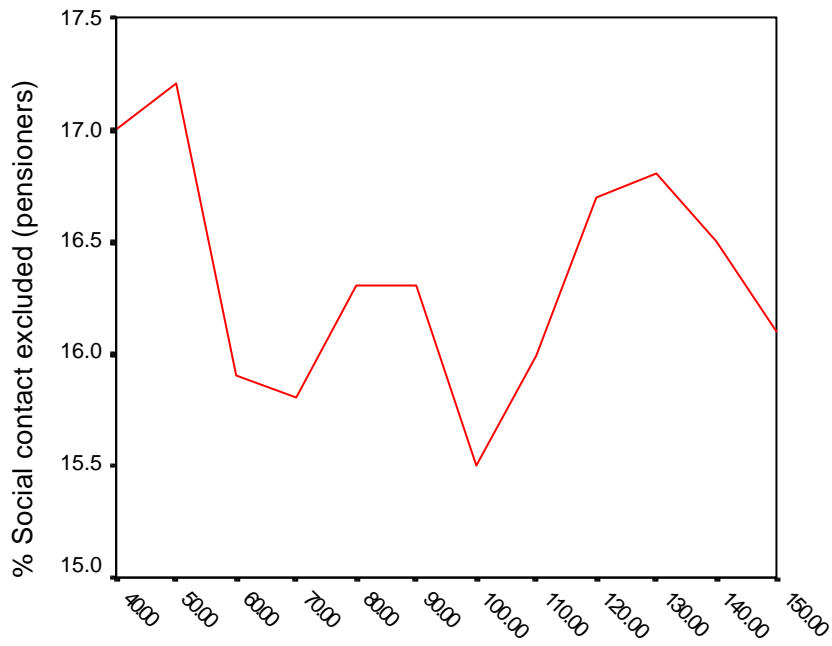
- There is a threshold of service exclusion below 70 per cent of the median.
- There is a threshold of social activities exclusion below 70 per cent of the median and a further sharp increase below 50 per cent of median.
- The pattern of social contact exclusion is all over the place and there is a very narrow range in the proportion excluded but those below.
- The percentage of pensioners excluded from social support increases below the 70 per cent threshold but then declines.
- The percentage disengaged increases below the 70 per cent threshold and then again sharply under the 60 per cent threshold.



Under percentage median income



Under percentage median income



Under percentage median income

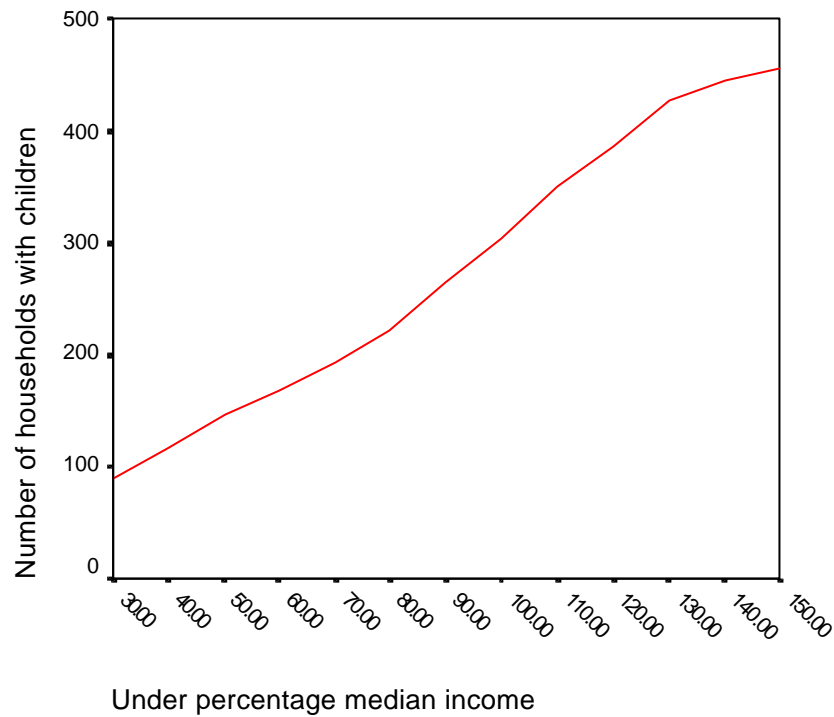


Under percentage median income



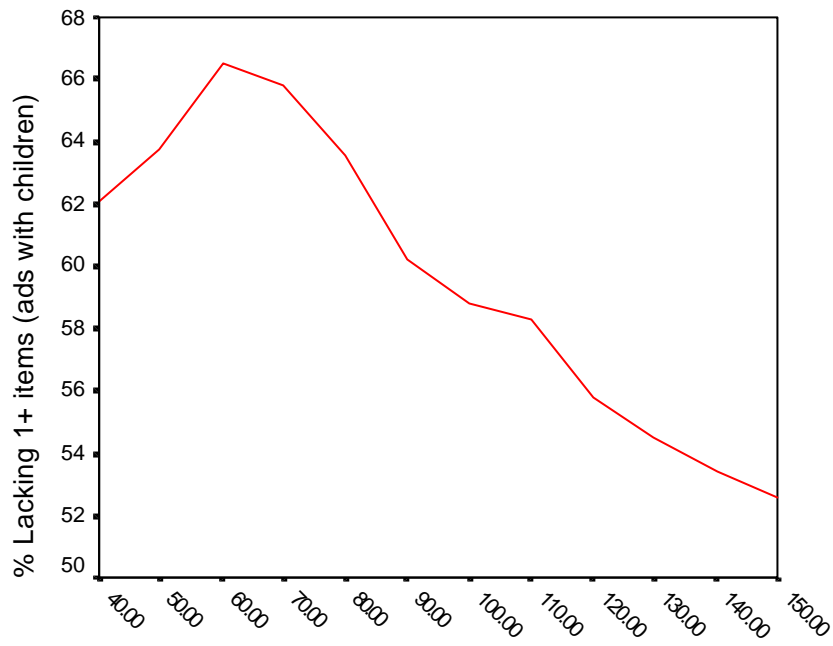
Families with children

The overall distribution of families with children is given in the next chart and as previously we decided to combine under 30 and 40 per cent of the median.

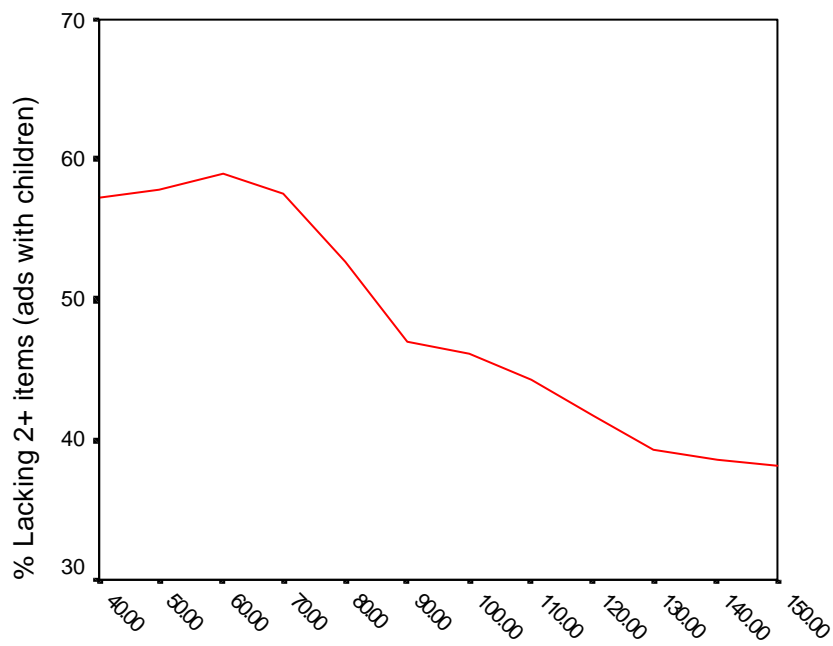


Socially perceived necessities

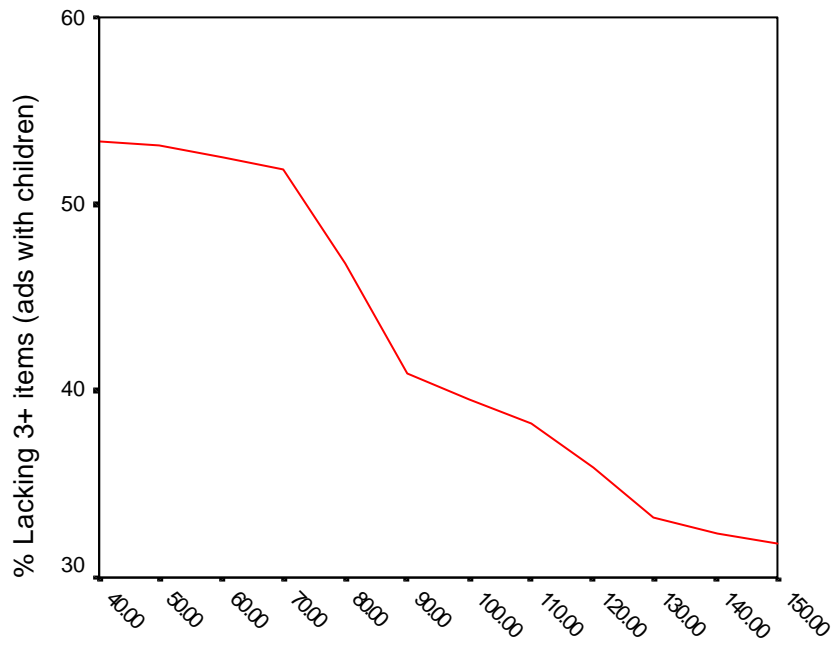
The pattern in the charts below is similar to previous analysis. For families with children there is a clear threshold below 90 per cent of median where the proportion lacking socially perceived necessities increases sharply but the increase in the proportion lacking tails off below 60 per cent of the median.



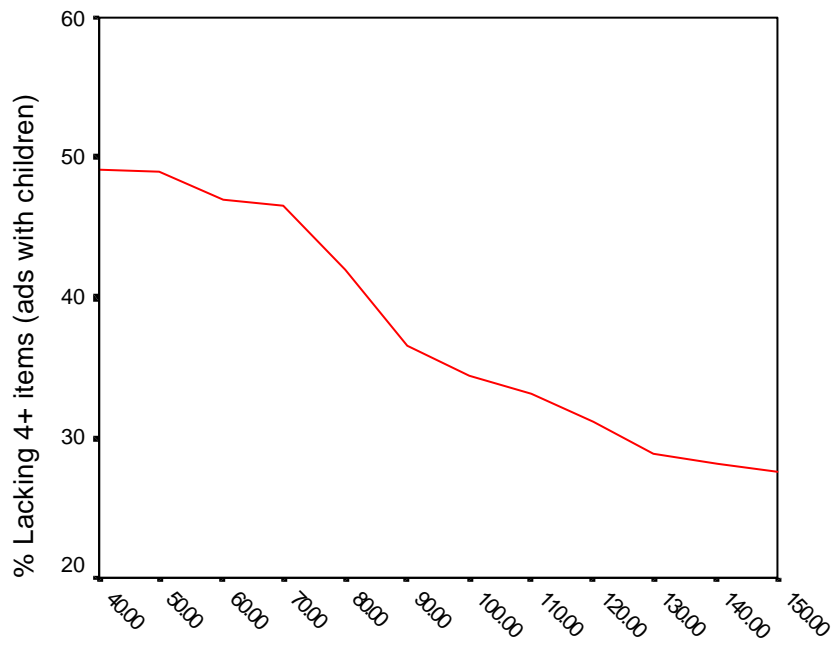
Under percentage median income



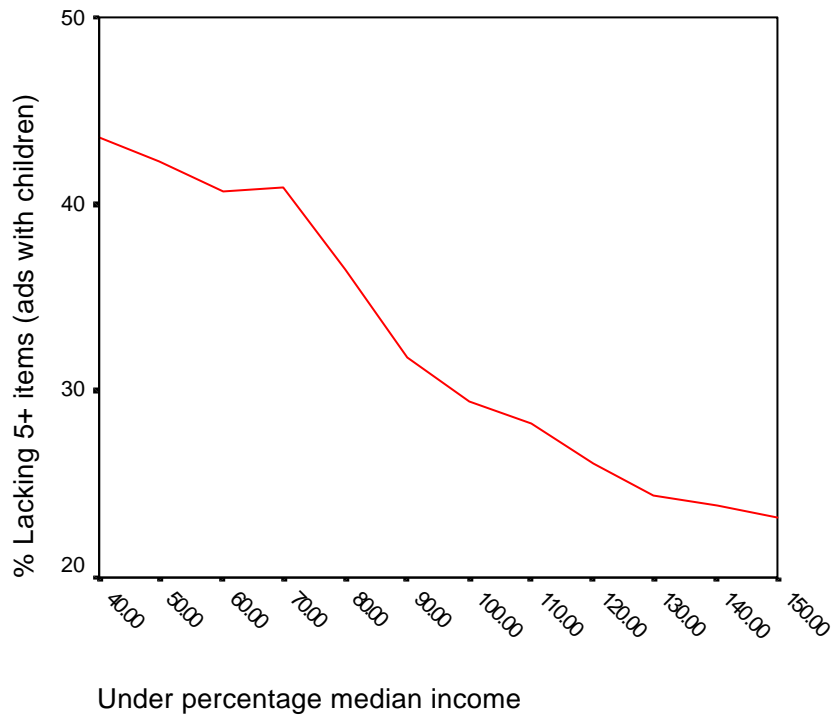
Under percentage median income



Under percentage median income

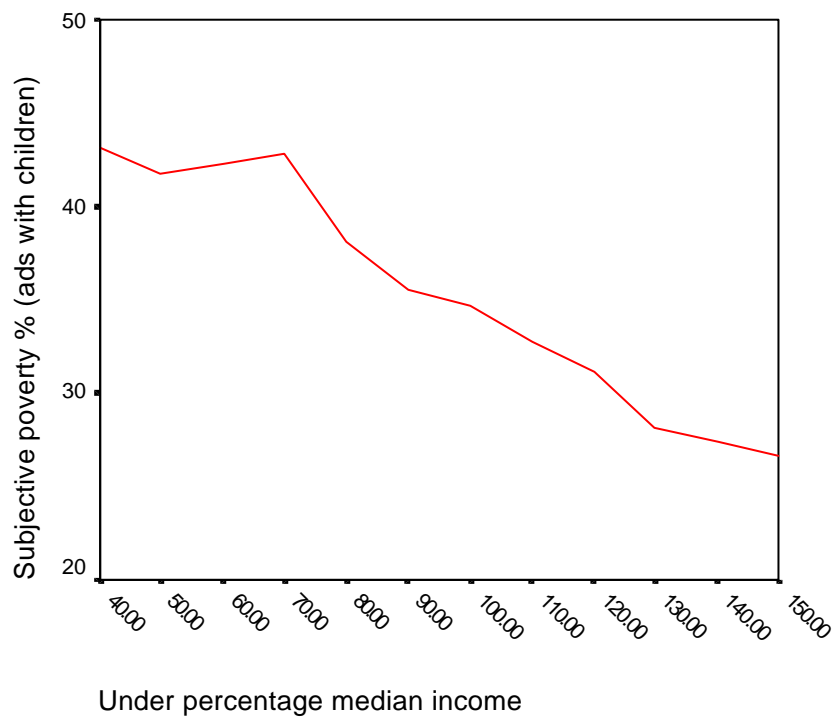


Under percentage median income



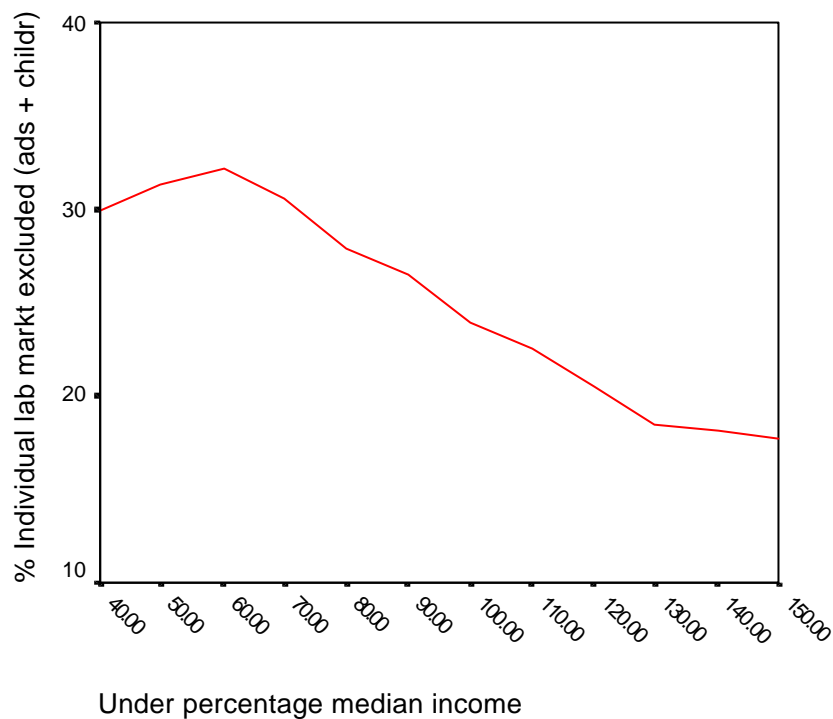
Subjective poverty

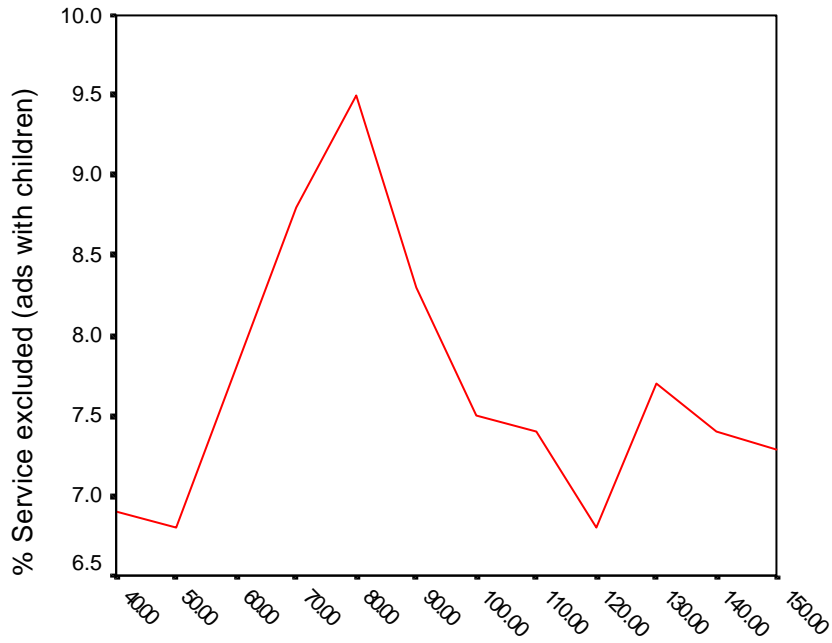
Similarly with subjective poverty there is a threshold below 90 per cent of the median where the proportion feeling poor increases sharply but it tails off below 60 per cent of the median.



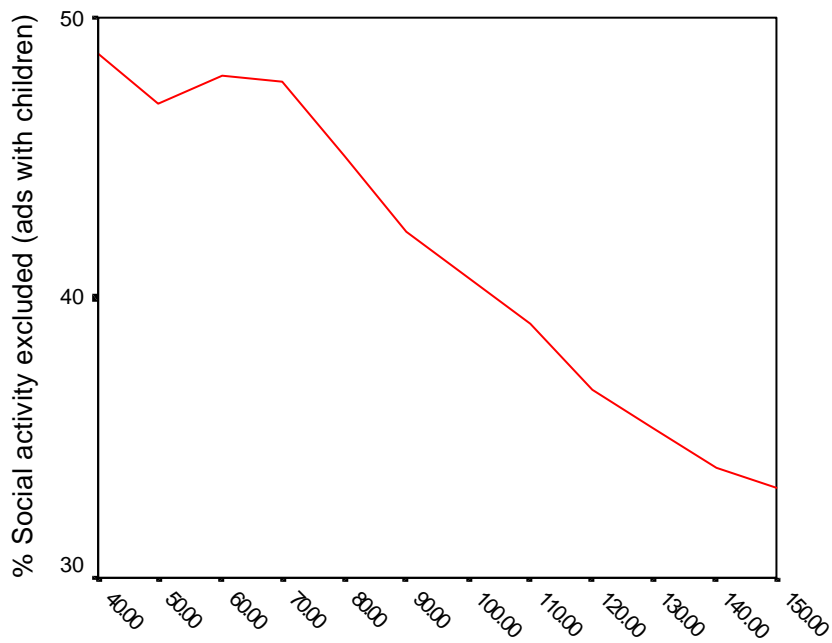
Social exclusion

- The threshold for labour market excluded is very high (130 per cent of the median) and tails of below 60 per cent of the median.
- There is no clear pattern in service exclusion.
- Exclusion from social activities has two thresholds at below 70 and 50 percent of the median.
- Contact excluded shows no pattern.
- The threshold for social support excluded is below 130 per cent of the median.
- Disengagement increases below the median and then tails off.

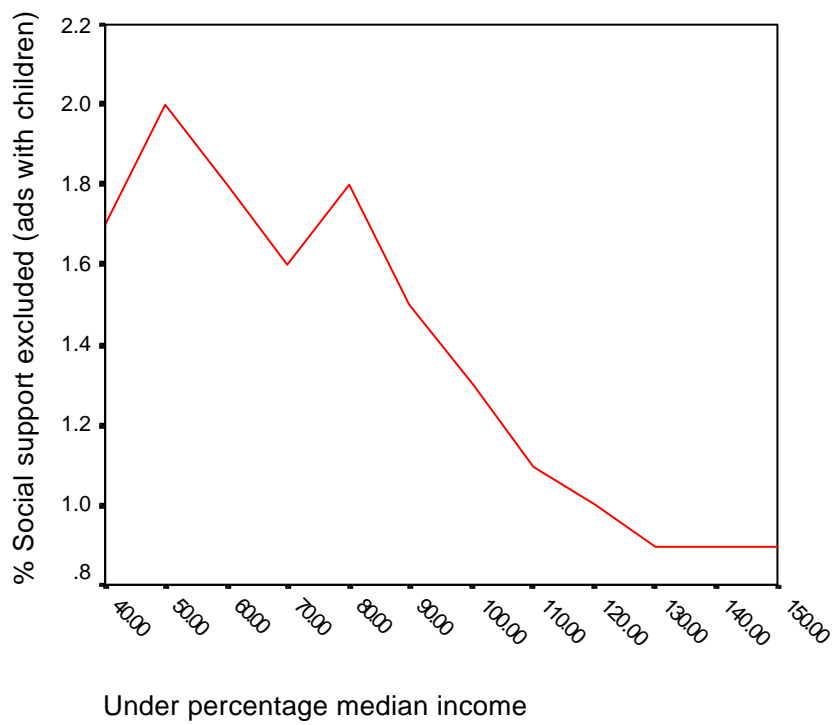
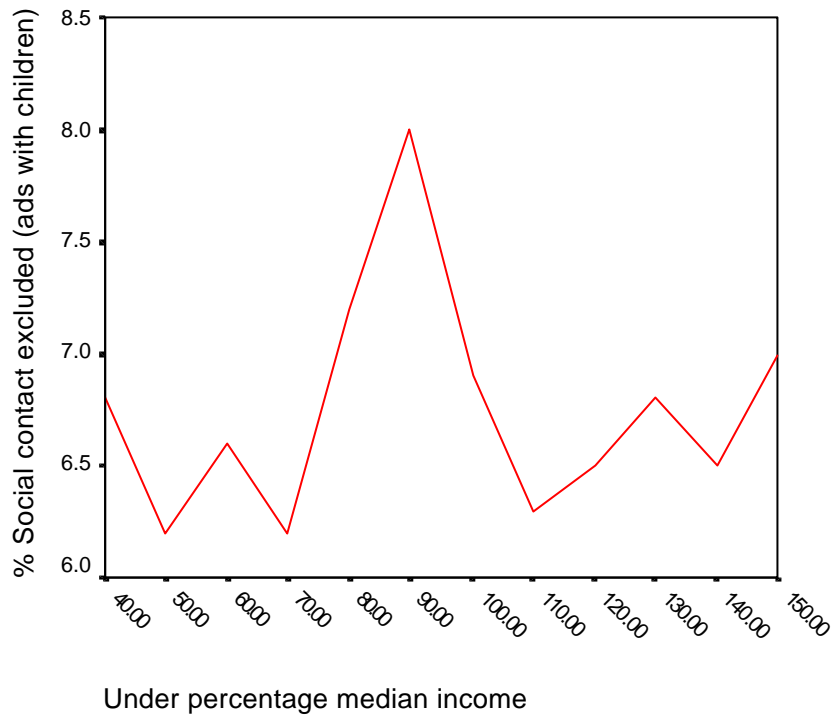


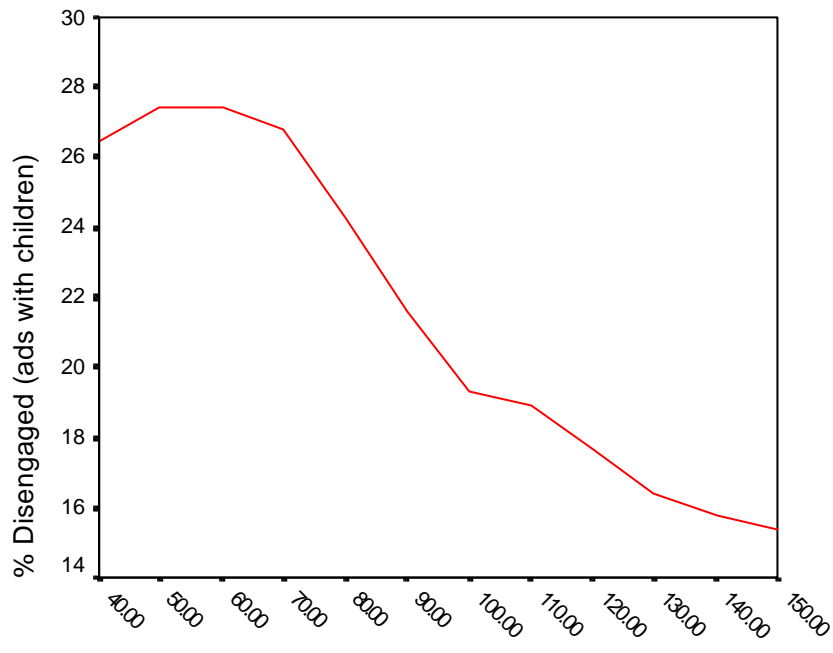


Under percentage median income



Under percentage median income

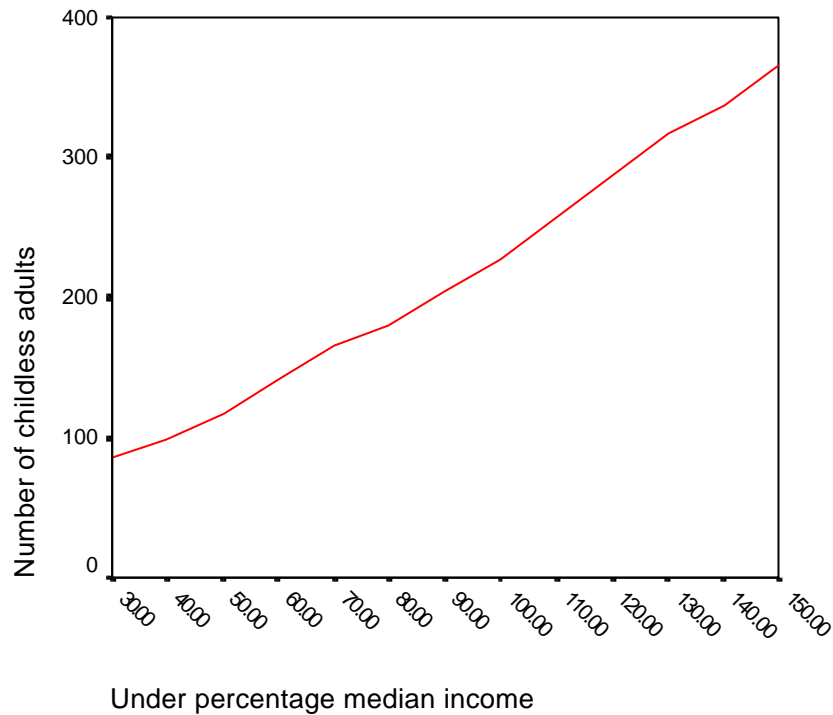




Under percentage median income

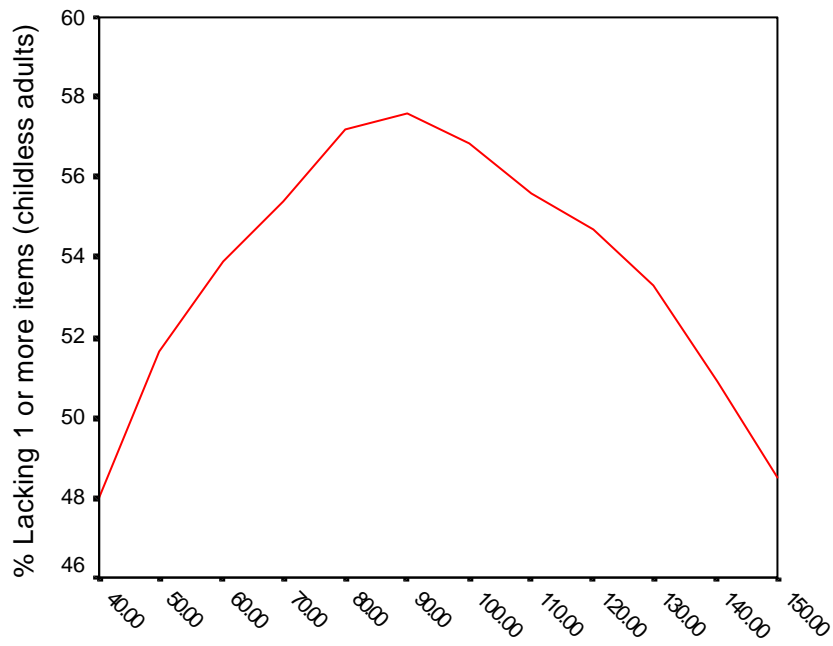
Childless singles and couples

The first chart gives the distribution of households containing childless adults by their income thresholds. As with the previous analysis we combine those below the 30 and 40 per cent threshold.

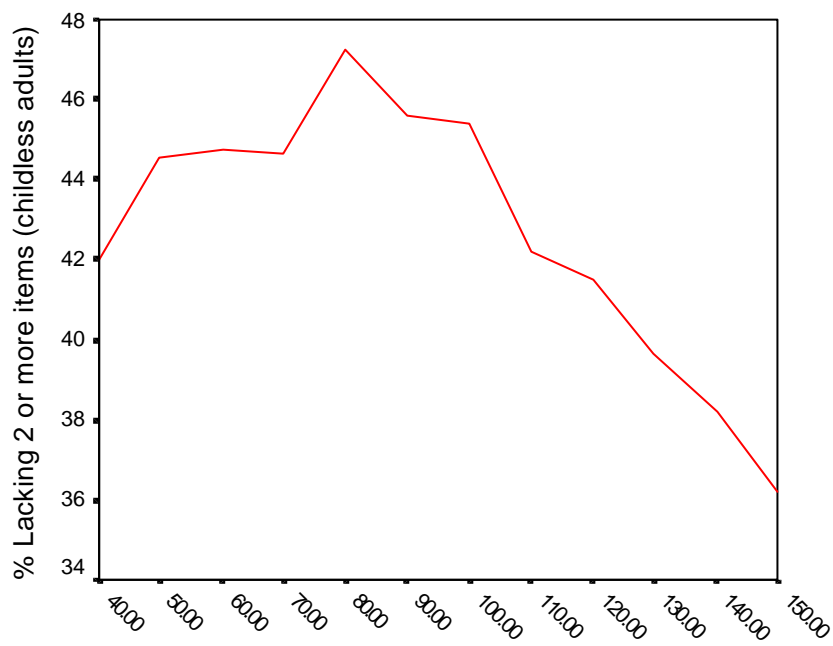


Socially perceived necessities

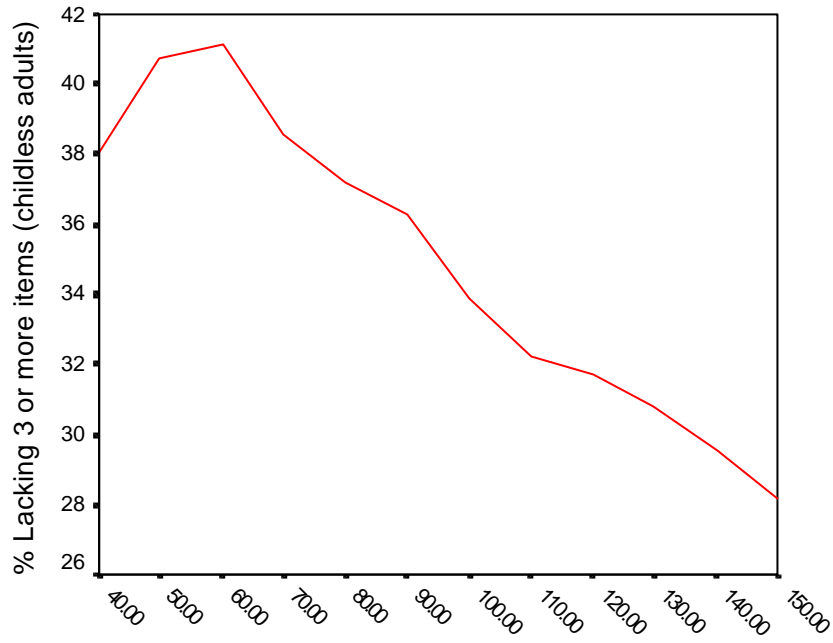
The patterns are similar to those presented before (except for lacking one or more items). There is a threshold where the proportion lacking items sharply below 90 per cent of the median and then tails off below 50 per cent of the median.



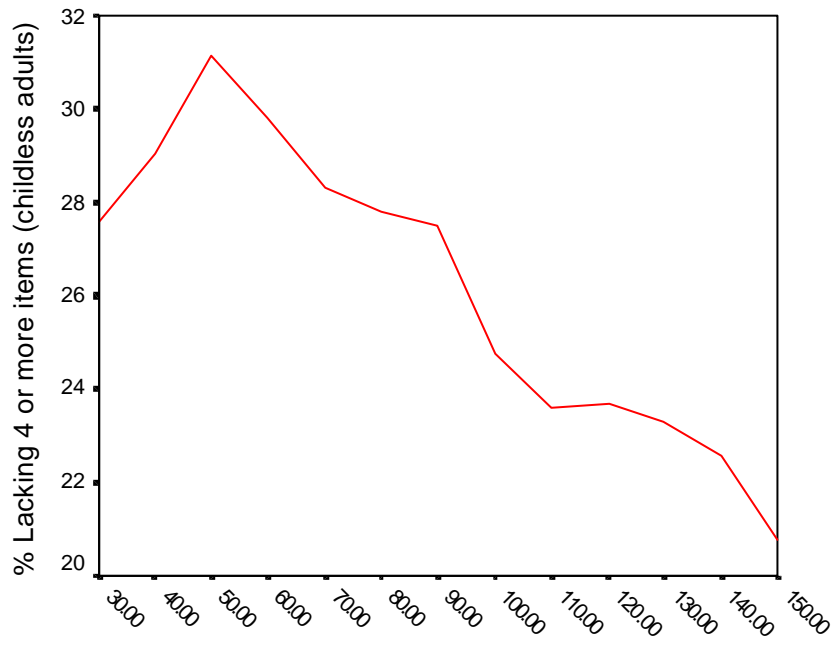
Under percentage median income



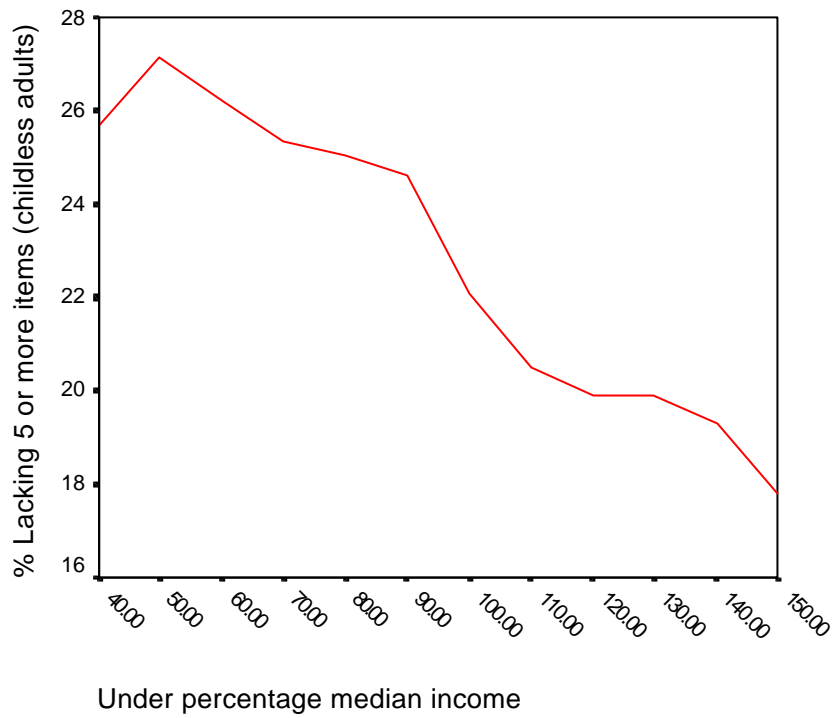
Under percentage median income



Under percentage median income

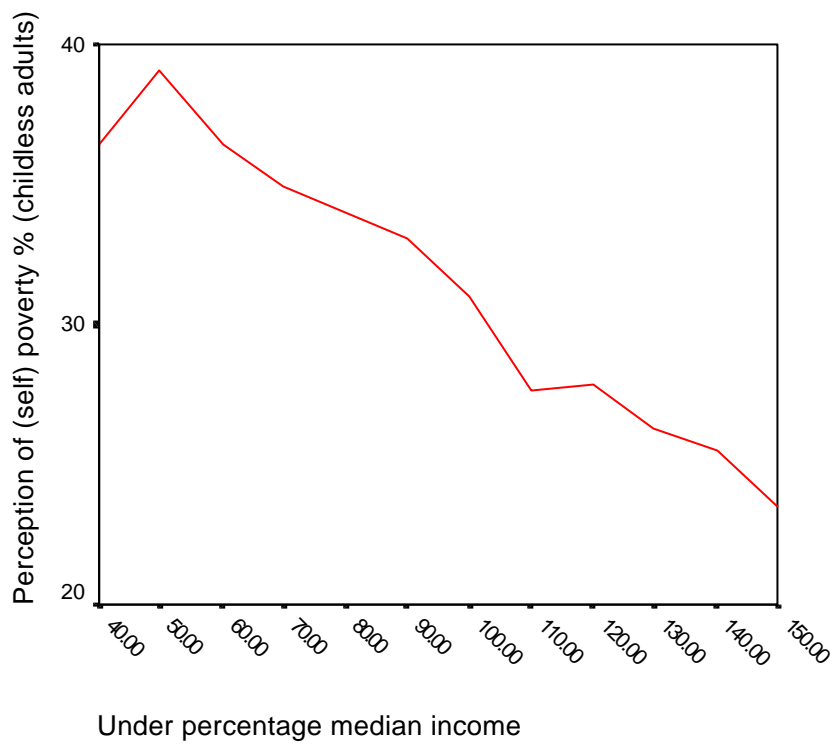


Under percentage median income



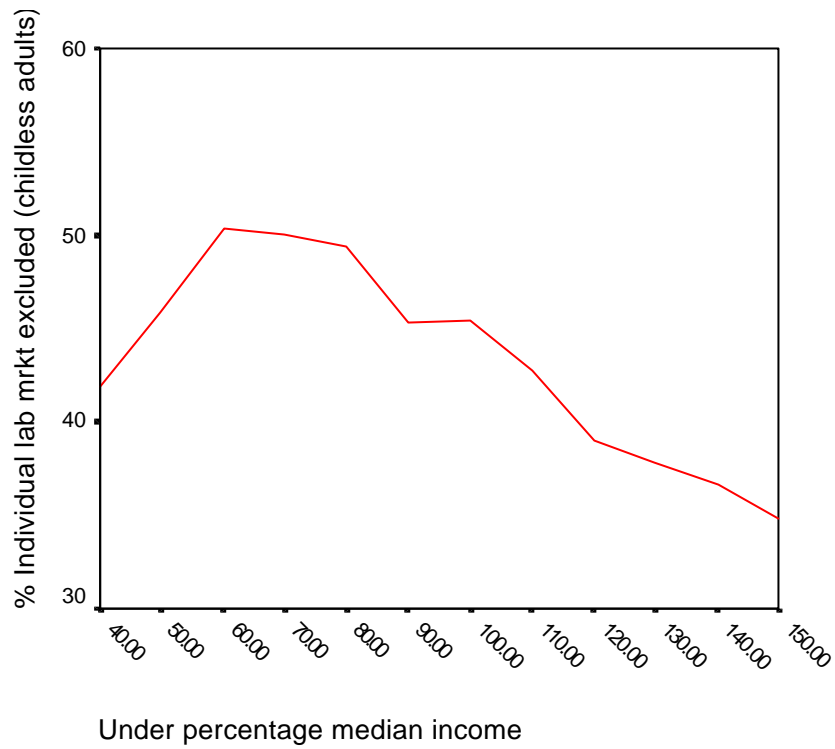
Subjective poverty

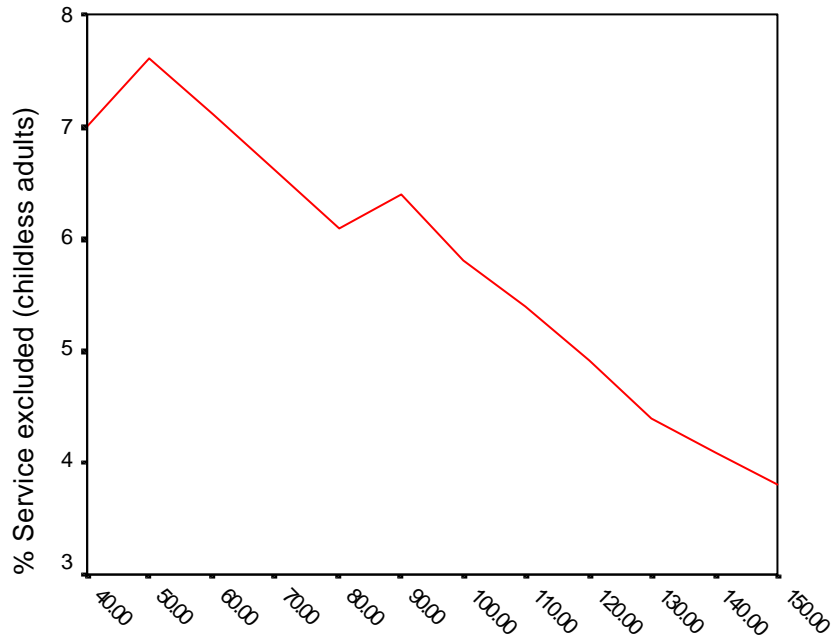
A similar pattern is true for subjective poverty except that the threshold occurs even higher up the distribution.



Social exclusion

There is a very mixed picture on social exclusion with only contact exclusion and social support giving clear thresholds.

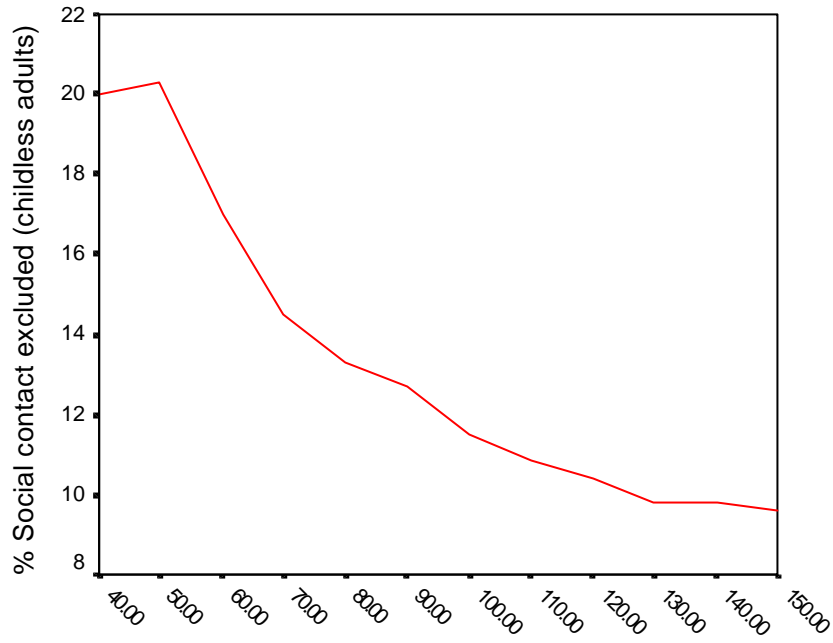




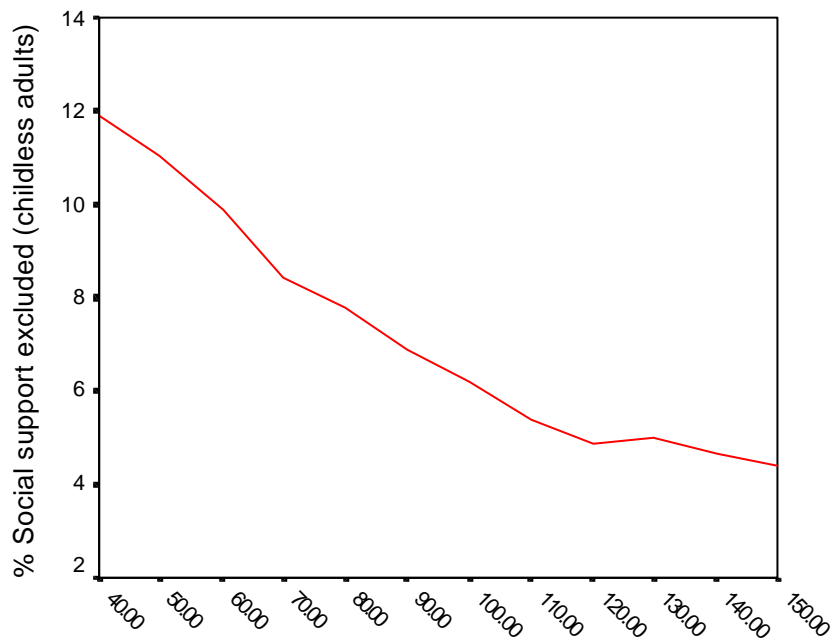
Under percentage median income



Under percentage median income



Under percentage median income



Under percentage median income



Under percentage median income