

An Examination of the Relationships between Housing Systems and Non Housing Outcomes¹

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Introduction

This paper examines the empirical veracity of a supposition currently under discussion within Australian policy circles that improvements in people's housing circumstances will lead to positive social, psychological, cultural, and economic outcomes to recipients. It is believed that there will, for example, be an increase in householders' perceived well-being, a decline in their experiences and fear of crime, and an improvement in health. Of specific interest is the causal impact of government housing assistance. Does the receipt of public housing, or of government rental assistance, substantially improve the lives of beneficiaries? While logic would suggest the affirmative, there is surprisingly little evidence to confirm this assumption.

The paper tests this housing-non housing outcomes thesis by focusing on the relationship between housing and nine non housing outcomes: perceived well-being (subjective quality of life); poverty; social exclusion; health; education; labour force participation; crime; community; and anomie. By implication, the provisioning of government housing assistance will lead, on the one hand, to a decline in poverty, social exclusion, experiences and fear of crime, and anomie, and, on the other hand, an improvement in perceived well being, health status, educational attainment, labour force participation, and community. Coverage of such a large number of non housing outcomes is unusual, but such coverage does provide an opportunity to see whether improved housing does bring range of positive outcomes.

Understanding the magnitude of change is critical in arriving at any decision about housing's effects on non housing outcomes. Does an improvement in housing lead to a fundamental change (e.g. a shift from a low to a high perceived quality of life) or a minor change only (e.g. householders' health remains poor, but an improvement has still occurred). Only longitudinal data will enable a measurement to be made of the magnitude of change. Data collected by means of a panel study are particularly important, such as the Household, Income and Labour Dynamics in Australia (HILDA) survey, the first stage of which is currently under way. Panel studies interview the same individuals or households over an extended period, even decades, and they thus generate detailed time-series data. However, panel studies are expensive and time-consuming, thus making them unattractive to funding organisations.

An alternative approach to the question, and the one adopted here, is to undertake a comparative analysis of tenure and non housing outcomes. This would compare the social circumstances (e.g. perceived well being) of those in receipt of government assistance, either in the form of public housing or rental assistance, and other tenure groups, and low income private tenants who receive *no* government assistance in particular. If housing assistance has a major impact on non housing outcomes, we would expect to see few statistically significant differences between those in receipt of government assistance and those living in other forms of tenure, and most particularly between those

government recipients and low income private tenants who receive no such assistance. We undertake such an analysis using South East Queensland data.

The paper is divided into four main parts. The first discusses past research. The second covers the data used and the methodology employed. The fourth discusses the research findings, while the last part discusses the policy implications.

Housing and its Relationship to Nine Non Housing Outcomes: The Evidence

It is possible to categorise the nine non housing outcomes into five broad groupings. Firstly, perceived well being provides an overview of people's perceptions of their overall quality of life. Secondly, poverty, in particular, but also social exclusion, focuses on people's material circumstances, although social exclusion also involves the question of citizenship. Thirdly, housing is seen to have specific outcomes in terms of education (better educational attainment) and health (improved health). Fourthly, three of the outcomes cover issues associated with the location of the housing: labour force participation; crime; and community. Finally, anomie is a cultural condition with marked social consequences, and appears in situations where the rules governing behaviour have become ambiguous, when laws are enforced in an arbitrary way, and when rules operate in favour of particular people to the disadvantage of others. Anomie evolves following the disintegration of an old culture and before the core rules of the new culture have been fully established. Over this transition period, then, the rules guiding behaviour remain unclear, with this situation of normlessness precipitating deviant and other forms of behaviour evoking moral comment (e.g. high rates of crime, suicide, substance abuse, corruption, family dissolution) (Atteslander et al, 1999). The rapid social change of the last 25 years has given rise to anomie, with the old culture disintegrating and the new (more globally-orient) culture being established.

There is surprisingly little evidence on housing's independent effects on these nine non housing outcomes. The most detailed is on health, crime, poverty, and social exclusion. While research findings on education and labour markets are more limited, there is even less on community, and virtually nothing on anomie or perceived quality of life. Research finding on each of these nine will be considered in turn.

The most detailed research has focused on *housing and health*. It demonstrates a clear link between the two, with poor housing impacting negatively on people's health. Thus, by implication, good housing is necessary for good health (Acheson, 1991; Blackman et al, 1989; Burnett, 1991; Byrne et al, 1986; Dunn, 2000; Marsh et al, 1999; Ranson, 1987; Wilkinson, 1999; Wilner and Walkley, 1963). Yet, poor housing and poor health are clearly tied to disadvantage. The most disadvantaged live in the most inadequate dwellings

and are thus more likely to experience negative health outcomes. Still, the precise nature of causality remains unclear.

There is a correlation between poor housing and ill health, but attempts to prove that poor housing actually **causes** ill health have often failed. Research in the field is characterised by weak, and sometimes contradictory empirical findings (Wilkinson 1999, 1) (bold in original).

Health problems emanating from poor housing tend to be minor and do not usually lead to serious outcomes, such as heart disease and high blood pressure (Brimblecombe et al, 1999; Hunt and McKenna, 1992). Cold, dampness, and mould pose the greatest health risks in cold climates, and housing improvements that remove these problems remove the maladies (Evans et al, 2000; Hopton and Hunt, 1996; Packer et al, 1995; Wilkinson, 1999). (Hunt and McKenna, 1992). Indeed, housing improvements have been shown to improve health in general and not just conditions causing cold, damp, and mould (Allen, 2000; Evans et al, 2000; Kearns et al, 1992; Wilner, 1962).

Mental health problems are clearly linked to homelessness, overcrowding, certain types of emergency accommodation, and low-income high-rise apartments (Evans et al, 1996; Gillis, 1977; Gove et al, 1979; Howden-Chapman, 2000; McCarthy et al, 1985; Schor, 1964; Wilkinson, 1999). Yet, despite these links, medical and government agencies rarely coordinate initiatives for improving health in tandem with improvements in housing (Conway, 1995; Wilkinson, 1999).

Public housing areas, and a number of low-income private housing districts, have been shown to be places with high *crime* rates (invariably minor, rather than serious, crimes), and places over represented by people with criminal records (Bottoms and Xanthos, 1981; Bottoms and Wiles, 1986; Farley, 1982 Goodchild et al, 1997; Holzman, 1996; Hope, 1986, 1987; Matka, 1997; Murie, 1991, 1997; Neild and Paylor, 1996; Roncek et al, 1981; Weatherburn et al, 1999). These outcomes are primarily a result of public housing authorities' allocation systems: they channel some of those with criminal records into these places. Thus, housing areas do not, in themselves, cause crime or create criminals.

One solution widely canvassed for the problem of high crime in public housing – and other problem housing – areas is to change the physical design of dwellings and neighbourhoods. Poorly designed housing and residential areas are thought to predispose crime; a claim most forcefully made several decades ago by Oscar Newman (1972) (see also Brantingham et al, 1981; Coleman, 1998; Holsman et al, 1996; Mawby, 1977). However, the environmentally deterministic nature of these claims has been severely criticised. Lee (1985), for example, warns against a belief in easy solutions, specifically the assumption that fiddling with the physical form will reduce crime

(see also Gans, 1968; Matka, 1997). Crime is a product of social conditions, not physical design.

Poverty is clearly linked with certain forms of tenure. Although more of the Australian poor live in private rentals, poverty rates are higher among public housing tenants (Burke, 1998; Wulff and Burke, 1993; Harding and Szukalska, 2000; Massey and Kanaiaupuni, 1993). However, it is important to note that, internationally, not all public housing areas are poor (Byrne et al, 1985).

The link between homelessness and poverty is widely recognised, with homelessness referring both to those who sleep rough and to those who are badly housed (Western et al, 1999; Wright et al, 1998). The seriousness of the problem indicates the need to tackle these issues together (Shinn and Gillespie, 1994).

Social exclusion is location-specific, appearing in the most deprived parts of cities, including certain public housing areas, and it is most apparent in Europe and North America. These areas house people who suffer from a combination of problems: unemployment; ill health; poor housing; the effects of crime; low income; and family instability (Anderson and Sim, 1999; Lee, 1994, 1999; Lee and Murie, 1997, 1998; Madanipour et al, 1998; Marsh and Mullins, 1998; Pleace, 1998; Somerville, 1998; Social Exclusion Unit, 1998). Social exclusion has particularly been a product of rapid social change of the last 25 years, resulting in the exclusion of individuals and households in question from mainstream society (Glennester et al, 199; Goodlad, 1999).

Research on housing and *labour markets* essentially focuses on the disjuncture between where low income housing is located and job locations (Allen and Hamnett, 1991; Hamnett and Randolph, 1988; Randolph, 1991; Yates and Vipond, 1991). Attention has been directed at the specific problem of employment opportunities for public housing tenants (Burke, 1998; Hamnett and Randolph, 1988; Murphy and Sullivan, 1986; Reingold, 1997), the significance of residential mobility for accessing jobs (Forrest and Murie, 1997; Munro et al, 1993); the link between occupation and tenure (Burrows and Ford, 1998; Pratt, 1996; Winter and Stone, 1996); and the effects of the new economy on the jobs-housing relationship (Barlow and Savage, 1991).

Research on housing and *education* focuses on two issues. The first is on the negative effects of poor quality housing on children's learning, with some impact being demonstrated (Cohen et al, 1973; Currie and Yelowitz, 2000; David et al, 1972 Essen et al, 1978; Rubin et al, 1996). The second is on the link between tenure and educational attainment, with children living in owner occupier housing being found to be the most successful students (Boehm and Schlottmann, 1999; Green and White, 1997; Rost et al, 1985). The latter outcome is likely to be a product of household characteristics rather than tenure. In our research, we focus on respondents' level of education rather than on children's level of educational attainment; we do not have data on the latter.

If *community* is defined as close knit ties between people sharing a locality – neighbourhood, suburb, country town – then community is more likely to be present in low income areas, specifically working class areas (Atkinson and Kintrea, 2000; Damer, 1990; Ditovsky and Van Vliet, 1984; Forrest and Kearns, 1999; Hornburg and Lang, 1997; Reingold, 1995). This outcome is primarily tied to needs for mutual support: disadvantage throws people together for mutual assistance.

Community is important in today's policy climate because it is seen to be a mechanism for aiding the implementation of policies encouraging self-sufficiency and mutual assistance (e.g. see Hillier, 1995; University of Glasgow, 1998; Queensland Department of Housing). These policy initiatives are particularly being pursued in terms of trying to increase social capital and thus strengthen communities (e.g. see Winter, 2000). Yet, community's value in this regard is still to be assessed.

There appears to be no research on the relationship between housing and *anomie*, and on housing and residents' perceptions of their *quality of life*. There is certainly an extensive research literature on housing satisfaction, but this is largely peripheral to perceived well being (e.g see Angrist, 1974; Rent and Rent, 1978, Gruber and Shelton, 1987).

Data and Methodology

To test the relationships between housing and the nine non-housing outcomes, we drew upon data collected in 1997 as part of the South East Queensland (SEQ) Quality of Life Survey. This was an ARC-funded collaborative research project (1995-7) involving academics from Griffith University, the Queensland University of Technology, and The University of Queensland, with the Queensland Government's Statistician's Office being the collaborative partner. The chief investigators were Robert Stimson (then Queensland University of Technology, but now The University of Queensland), Rodney Simpson (Griffith University), John Western and Patrick Mullins (The University of Queensland). The project focused geographically on an area from Coolangatta in the south, to Noosa in the north, and Toowoomba in the west.

Between February and May of 1997 a computer assisted telephone interview survey was conducted using random digit dialling. A sample of 1347 useable responses was obtained from an initial pool of 4,500 telephone numbers. Approximately 25 per cent of these numbers were out of scope, being either the numbers of business firms, government agencies, or non government organisations. A further 5 per cent, despite five call-backs, were also unanswered numbers. The in scope item pool was therefore 3,150. With 1,347 useable responses, the response rate was 43 per cent of the final pool of 3,150 in scope numbers.

The concepts we have used to tackle the housing-non housing outcomes thesis are defined for empirical purposes in the following way. First, housing is defined here according to tenure and housing quality. *Tenure* distinguishes households according to whether they were homeowners ('owner occupiers'), home purchasers ('purchasers'), low income private housing tenants in receipt of government assistance (households in the bottom 35% of household income who are in receipt of any government benefits), other low income private tenants (those in the bottom 35% of household income but not in receipt of government benefits), other private housing tenants, public housing tenants, and those households living under other forms of tenure. The latter include defence force housing, dwellings owned by a relative, and church-owned dwellings. Since we did not collect data on private housing tenants in receipt of rental assistance specifically, we have used 'low income private renters in receipt of any government assistance' as a proxy for this group.

Low-income households were identified as those located in the bottom 35% of households according to total household income. This cut-off point was chosen to ensure that the number of households involved would be sufficiently large for statistical analysis.

A measure of *housing quality* was constructed from the following variables: the number of bedrooms (1 to 2 versus 3+); material used (timber/brick/other); floor construction (timber/concrete/other); insulation (yes/no); air conditioning (yes/no); number of toilets (1/2/3+); age of dwelling (less than 20 years/20-50/50+); swimming pool (yes/no).

Community is defined by the extent to which life is localised; that is, concentrated within residents' suburbs (their postcode). It was measured using four variables. First, the number of intimates (e.g. friends, kin, neighbour-friends) living in respondents' suburb. Respondents were asked to identify up to four intimates, after having been asked the following question: Now thinking about people who do NOT live in your household: outside working hours whom do you see most often socially? What is the relationship? Where do they live? How often do you see them? The second part of the measure is based on whether they did their main shopping within their suburb. The third part is whether their doctor is based within their suburb. Finally, the fourth centred on whether they had attended, in the previous five years, a public meeting about an issue in their local area. Each respondent scored one for each intimate living locally (thus, a maximum of four could be scored) and one each if they shopped locally, if their doctor was locally-based, and if they had attended a local public meeting. Thus a maximum of seven could be scored, with the scale ranging from zero - for those who had no local intimates, who shopped outside their suburb, went to a doctor located elsewhere, and had not attended a local public meeting - to seven.

Crime is measured in two ways: firstly, from responses to three questions on fear of crime; and, secondly, from responses to three questions on respondents' experiences of crime. The three on fear of crime are: vandalism is a problem in this neighbourhood; breaking and entering is a problem in this neighbourhood; I feel safe walking around this neighbourhood after dark. The three questions on experiences of crime are: In the last 12 months, did anyone break into your home? In the last 12 months, has a registered motor vehicle been stolen from this address? In the last 12 months, has anyone threatened you with force or attacked you in the area in which you live?

The measure of *social exclusion* is based upon the ABS Index of Deprivation and is constructed from the following items: the bottom quartile of household income; no qualifications; labourer; unemployed; no car in household; renting housing commission or the household is a low income private renter receiving government assistance; primary education only; one parent family; separated/divorced; dwelling with one bedroom; tradesperson; Aboriginal or TSI; born in non English speaking country. The first four received heavier weighting and the last four a lighter weighting.

Poverty is defined according to those households receiving the bottom 25% of household income. This is an arbitrary measure, but one we are assuming has veracity for our purposes.

Labour force participation is measured according to whether respondents were in the workforce, on the one hand, or unemployed and outside the workforce, on the other hand.

Anomie is measured according to Travis' (1993) adaptation of Srole's anomie scale. The items included in this scale are: I feel all alone these days; No matter how hard people try in life, it doesn't make any difference; I feel discriminated against; My whole world feels like it's falling apart; I wish I were someone important; It's hard for me to tell just what is right and wrong these days; I don't live by society's rules

The measure of *perceived well being* (subjective quality of life) used is based on the scale formulated by Heady and Wearing (1992). It is developed from questions about satisfaction with their employment situation; the amount of money they have available to them; their housing; the amount of time that they have to do the things they want to do; their relationship with your partner; their level of independence or freedom; their overall standard of living; their life as a whole

Health is measured in two ways. The first, called 'health status', uses a standard health scale: the Short-Form36 (SF36) instrument (Ware and Sherbourne, 1992). It is constructed from responses to the following statements: I seem to get sick a little easier than other people; I am as healthy as anybody I know; I expect my health to get worse; My health is excellent. The second measure, called 'perceived health', is also a well-tried measure (Ware and Sherbourne, 1992). It is based on the following question: How would you describe your health? (Excellent, very good, good, fair, poor, don't know, refused).

With *education*, respondents' level of education is used: primary school or less; secondary school, but not matriculation/year 12; secondary school, matriculation/year 12; non-degree post school; bachelor's degree; postgraduate degree

The independent variables used to explain the outcomes are as follows. First, *location* within South East Queensland (with inner Brisbane being contrasted against middle Brisbane, outer Brisbane, the Gold Coast, the Sunshine Coast, and the rural-urban fringe). Second, *age*. Third, *gender*. Fourth, *household income*. Fifth, *education* (with those attaining primary education being contrasted against those who have had some secondary education, those who matriculated, those who have had some tertiary education, those who have bachelor's degrees, and those with postgraduate degrees). Sixth, *occupation* (with labourers being contrasted against elementary clerical workers, intermediate production and transport workers, intermediate clerical workers, advanced clerical workers, tradespersons, associate professionals, professionals, and managers). Seventh, *political activism* is a measure of 'civic engagement' and based on whether respondents had, in the previous five years, written to a newspaper, contacted a member of parliament, signed a petition, joined a specific campaign or organisation over an environmental or social issue; and attended a public meeting about an issue in their local area.. Eighth, *ethnicity* (non English speaking background versus the rest). Ninth, *household type* (other family being contrasted against sole person households, couple households, nuclear family households, sole parent households, and share households)

Housing Effects on Non Housing Outcomes: Empirical Evidence

The empirical analysis is undertaken in six steps. First, we provide background information on tenure, households, and housing quality. Second, we examine correlations between the nine non-housing outcomes; the nine dependent variables which, in effect, become 11 because crime and health have two parts. Third, we examine the results of an analysis of variance (ANOVA). This compares the non housing outcomes for the different tenure groups, with the results indicating the extent to which non housing outcomes for those in receipt of government housing assistance differ from those living in other forms of tenure, particularly low income private renters who receive no government assistance. Fourth, we focus explicitly on the two groups in receipt

of government assistance – public housing tenants and low income private tenants in receipt of assistance – and compare them with low income private tenants who receive no government assistance, controlling for age, income, and ethnicity. If we follow the logic of the housing-non housing outcomes thesis, we would expect to find that those in receipt of government assistance, either in the form of public housing or of rental assistance, will have better outcomes than low income private renters who receive no assistance. Finally, we search for those factors (the ‘predictors’) that determine each of the nine non housing outcome: we would expect to find, for example, that poverty, by definition, is a product of low income.

Background

First, we provide some basic information on the sample, with regard to tenure. Firstly, about a third of households were outright owners, another third were purchasers, and about a fifth were private renters other than low-income tenants (Table 1). There were 102 households (7.7%) who were low-income private tenants in receipt of government benefits and 44 households (3.3%) who were public housing tenants. Sampling determined the small number of public housing tenants. However, this group’s share (3.3%) of the sample corresponds closely with public housing tenants’ share of the SEQ urban region (with regard to tenure) at the 1996 Census (4%). There were also small numbers of ‘other low-income private tenants’ (32 households – 2.4%) and ‘other’ tenure (34 households – 2.6%) (Table 2). Therefore, although the absolute numbers of some of the tenure groups may be small, given the total sample size, we could not have expected anything larger. In any event, given the statistical procedures employed, the sample of 146 government supported tenants is sufficiently large for us to be confident of the reliability of the differences observed, and specifically when comparing these households with those in other forms of tenure.

About three quarters of couple households, nuclear family households, and other family households were home owners (owner occupiers and purchasers) (Table 1). More than half of the sole person households and sole parent households were home owners (see Table 1), with almost two fifths of sole parent households receiving some form of government assistance, either as public housing tenants or low income private tenants in receipt of government, assistance (Table 1).

The bulk of share households are ‘other private tenants’ (Table 1), while sole person households, sole parent households, and nuclear family households each comprised about a quarter of public housing tenants. Understandably, no share households were public housing tenants. Sole person households and nuclear family households formed the largest group of low-income private tenants. Sole parent households, couple households, and share households followed.

Finally, Table 2 summarises a number of key characteristics of each tenure group. It shows a consistent trend of disadvantage for public housing tenants and low-income private tenants in receipt of government assistance. These two groups, in particular, are more likely to have low household incomes, and be more likely have household heads with low levels of education, who are members of the working class², and who are employed as labourers. In addition, these households are more likely to live on the fringe of metropolitan Brisbane and be sole parent households.

It is also important to note differences between low-income private tenants in receipt of government assistance and those low-income private tenants not in receipt of assistance (Table 2). Obviously, the latter were ineligible for assistance, or, if eligible, they have failed to make application for assistance. Apart from the fact that both are low-income households, they differ markedly from one another. Unlike those in receipt of government benefits, the other low income private tenants include a large proportion living in sole person households (53.1% versus 22.5%), none were sole parents (versus 11.8%), none were unemployed (versus 11.8%), they were more likely to be from non English speaking backgrounds (31.3% versus 13.9%), fewer were in the bottom 25% of household income (34.4% versus 44.1%), none were labourers (versus 6.5%), but fewer were professionals (5.3% versus 22.6%), many more were university graduates (25.8% versus 11.9%), and they were somewhat younger (6.3% were 60 years+ versus 11.8%). These differences, then, suggest that low-income private tenants in receipt of government assistance are more disadvantaged than the other low-income private tenants.

TABLE 1: Household Type and Tenure (percentages)

Household Type	Owner Occupier (N=488)	Purchaser (N=428)	Public Housing Tenant (N=44)	Low Income Private Tenant on Benefits (N=102)	Other Low Income Private Tenant (N=32)	Other Private Tenant (N=296)	Other (N=34)	Total (N=1333)
Sole person	18.2	8.9	22.7	22.5	53.1	15.9	26.5	15.9
Couple	36.1	29.9	15.9	13.7	15.6	23.3	32.4	29.7
Nuclear family	24.2	44.2	25.0	28.4	6.3	20.9	20.6	29.6
Sole Parent	2.9	3.7	27.3	11.8	0.0	4.4	5.9	4.7
Other family	16.6	11.2	9.1	11.8	6.3	13.5	11.8	13.5
Share household	2.0	2.1	0.0	11.8	18.8	22.0	2.9	6.5
Total	100.0	100.0	100.0	100.0	100.1	100.0	100.1	99.9

² Class is defined here according to Wright's (1985) conceptualisation. He defines members of the working class as those who do not own productive property, who lack work skills, and who have no control over their work or the work of other employees.

Refer Table 2 at end of paper.

Correlations between the Non-Housing Outcomes

We turn now to the relationships between each of the non-housing outcomes, for this will identify which of these dependent outcomes relate to one another in either a positive or negative way. Table 3 lists the correlations, with those found to be statistically significant at the 0.5 level or greater being highlighted in bold. The most significant positive correlations (at 0.000) are between poverty, social exclusion, and anomie, these three coming together to pinpoint a high level of deprivation. Education and employment status are also correlated, and they identify a position of relative privilege. Quality of life, employment status, health status, and perceived health are also correlated, and they identify those who experience a high level of well-being. Fear of crime and experience of crime are highly correlated, suggesting that the latter may be a catalyst for the former.

The most significant negative correlations (at 0.000) are between community, on the one hand, and education and employment status, on the other hand. This seems to suggest that those who are well educated and in the workforce are less likely to have strong local ties; less likely to live in a cohesive communities. Thus, better off households are less likely to live in cohesive communities. In this regard, it is also worth noting the weaker, though still statistically significant, relationship between community, on the one hand, and social exclusion, on the other hand; apparently confirming the viewpoint that community cohesion is associated – maybe even a product of – disadvantage. By implication, disadvantaged households are likely to come together for mutual assistance, and their lives may be concentrated locally because of disadvantage.

Refer Table 3 at end of paper

Poverty is highly correlated negatively with education and employment, thus showing the obvious link between low levels of education, being outside the labour force, and poverty. Similarly, education and perceived quality of life, on the one hand, and anomie and social exclusion, on the other hand, are highly correlated negatively, thus highlighting the way low levels of education and a low perceived quality of life are associated with high rates of anomie and social exclusion.

Anomie, on the one hand, and perceived health and health status, on the other hand, are negatively correlated, thus identifying the way high rates of anomie are associated with poor health. Social exclusion, on the one hand, and employment status and perceived health, on the other hand, are negatively correlated, thus indicating the way that the socially excluded are likely to be unemployed and out of the workforce and have poor health.

Health status and perceived health, on the one hand, and fear of crime, on the other hand, are negatively correlated, thus suggesting the way that those who are in good health are less fearful of crime (and vice versa); a relationship that is tied to privilege rather to health specifically.

In sum, then, there is a clear clustering of variables pinpointing disadvantage, and a clear clustering that highlight advantage. We now turn to the first major step in attempting to understanding the relationships between housing and the nine non-housing outcomes.

Tenure and the Non-Housing Outcomes: An Analysis of Variance

Table 4 clearly shows the nature of the relationship between the different tenure groups (owner occupiers, purchasers, public housing tenants, low income private tenants on government benefits, other low income private tenants, other private tenants, and 'other') - as the independent variables - and the non-housing outcomes, as the dependent variables. Statistically significant relationships are apparent in all instances, nine of which are at the 0.0000 level and two are at least at the 0.01 level.

If housing brought clear non housing outcomes, this should be reflected in the position of public housing tenants and low income private tenants in receipt of government assistance. If this housing assistance had a major impact, differences between these people and those in other households should not be significant. Yet, as can be seen, the differences were marked.

A number of the findings are not surprising (see Table 4). Because public housing is now welfare housing and because, by definition, low-income private tenants on benefits have low incomes, it was inevitable that the latter, followed by the former (and then other low income private tenants), should have the highest mean scores for social exclusion. Public housing tenants also had the highest mean scores for poverty, but 'other low-income private housing tenants' had the second highest score, followed by low-income private tenants on benefits. It is perhaps a little surprising that the latter did not follow public housing tenants.

Overall, *public housing tenants*, followed by low-income private tenants on government benefits, are the most disadvantaged of the tenure groups. Public housing tenants received the lowest mean scores for perceived quality of life, perceived health, health status, educational attainment, and employment status (i.e. were more likely to be unemployed or outside the workforce). They expressed the greatest fear of crime, and they had the highest rates of poverty, and of anomie. They received the second lowest score for health status, and they had the second highest rates of social exclusion and experiences of crime.

Low-income private tenants in receipt of government assistance had the highest rates of social exclusion (followed by public housing tenants). They had the second lowest level of perceived quality of life and of employment status, the second highest rates of anomie, and the second lowest level of perceived health and of educational attainment.

Other private tenants were most likely to say that they had experienced crime. *Other low-income private tenants* had the second highest rates of poverty after public housing tenants, with low-income private tenants on government assistance having the third highest rate.

The most intriguing finding relates to community (see Table 4). Public housing tenants were found to have the strongest communities since they were far more likely to have strong local ties. They were followed by owner occupiers and low income private renters in receipt of government assistance. Following suppositions emanating from the social capital and community organisation literatures, this finding for public housing tenants and low income private housing tenants in receipt of government assistance would seem to augur well for attempts currently under way to strengthen communities - in order to help communities overcome difficulties. Yet, this may also be a disquieting finding since, if public housing tenants already live in cohesive communities and if the strengthening of communities is a policy goal, policy initiatives taken in this direction may not bring the desired outcomes anticipated. A cohesive community may not be a critical factor in solving key problems. There may be more fundamental issues, such as job skills, that would help overcome problems. The strong local ties may partly relate to mutual support and partly to the way disadvantage may encourage a greater localisation of life.

The clear conclusion from this analysis is that public housing tenants and low-income private tenants receiving government assistance tend, of all tenure groups, to be in the most parlous circumstances. Thus, if the receipt of government assistance has any positive outcomes it does not, overall, pull them out of their disadvantaged circumstances. This assistance would certainly lessen the degree of disadvantage - something our data does not enable us to observe – but high levels of disadvantage remain.

Refer to Table 4 at end of paper

Comparing Public Housing Tenants, Low Income Private Tenants in Receipt of Government Assistance, and Other Low Income Private Tenants.

To clarify the role government housing assistance plays in non housing outcomes, we need to examine more carefully the position of public housing tenants and low income private tenants in receipt of government benefits – groups receiving assistance – relative to low income private tenants not in receipt of government assistance. The issue is whether government assistance has made a major difference with regard to non housing outcomes. We are

assuming that housing assistance will have improved the lot of public housing tenants and those private tenants who receive benefits, relative to the other low income group. Logically, the former two groups should have better non housing outcomes.

We undertook three comparative analyses to see whether this is the case, and controlled for age, household income, and ethnicity. One compares public housing tenants with low income private tenants *not* receiving assistance. The second compares low income private tenants in receipt of government assistance with the other low income private tenants *not* receiving assistance. The third compares public housing tenants with low income private tenants in receipt of government assistance.

We applied hierarchical linear regressions to see whether there were differences between these three groups of low-income tenants. In the analysis we omitted poverty as a non housing outcome because one of the independent variables used (household income) was also used to define poverty. If we had included poverty, there would inevitably have been a high correlation between household income, on the one hand, and poverty, on the other hand. Thus, the non housing outcomes (i.e. dependent variables) used are: perceived quality of life; anomie; social exclusion; community; education; fear of crime; experience of crime; perceived health; and health index.

We included three independent variables, apart from the paired tenure groups. These are age, ethnicity, and household income, and we controlled for these three in the regression analyses. These three were used both because they are key variables, but also because the numbers making up each of the three tenure groups are small, which means we have to limit the number of independent variables used. When employing a hierarchical linear regression, small numbers limit the number of independent variables that can be used to identify determining factors.

Hierarchical linear regressions enable us to see whether, as the housing-non housing outcomes argument would have us believe, those households in receipt of government assistance – public housing tenants and low income private tenants on government benefits – are better off than those low income private tenants who are not in receipt of benefits. This form of regression analysis allows us to control for certain determining variables; in our case we controlled for age, household income, and ethnicity.

The results of the hierarchical linear regressions are shown on the left-hand sides of Tables 5 to 7. We first undertook a multiple regression analysis using age, household income, and ethnicity as the independent variables. We then added the three paired tenure variables to enable us to see whether those in receipt of government assistance have, as we are led to believe, better outcomes, relative to low-income private tenants who receive no government assistance. The results are shown on the right hand sides of the three tables,

with the column on the extreme right showing any statistically significant differences.

When we compare *low-income private tenants in receipt of government assistance with the other low-income private tenants* (those who did not receive government assistance), we find that the receipt of government assistance had no apparent positive effect on non housing outcomes. Low-income private tenants on government benefits, relative to other low-income private tenants, do not appear to be better off with regard to the non housing outcomes (see Table 5). Put simply, the group in receipt of government assistance was not better off as the housing-non housing outcomes thesis would have us believe.

When we compare *public housing tenants with low-income private tenants not in receipt of government assistance*, we find marked difference. Public housing tenants appear to be considerably worse off than these low-income private tenants, suggesting that government assistance did not – in terms of these broad outcomes – have any marked positive effect (see Table 6). Public housing tenants are worse off with regard to social exclusion, perceived quality of life, the health index, perceived health, anomie, fear of crime, and education. However, public housing tenants were also more likely to have a localised life; to live within a stronger ‘community’.

Finally, Table 7 compares *public housing tenants with low-income private tenants in receipt of government assistance*. Some differences are apparent, but public housing tenants are worse off than those in receipt of other assistance, specifically with regard to fear of crime, perceived health, health index, anomie, and education. However, there are no significant differences between the two tenure groups with regard to anomie, perceived quality of life, community, and experience of crime.

In sum, while we need to be cautious in our interpretation, the analysis does suggest that public housing tenants and those low income private tenants in receipt of government assistance are not better off with regard to the non housing outcomes when compared with low income private renters who did not receive assistance, and when controlling for the influences of age, household income, and ethnicity. Rather, the trend appears to be in the opposite direction: low income private tenants not in receipt of assistance appear to be better off. Thus, put simply, housing assistance does not seem to make any significant improvement to non housing outcomes, at least in this relative sense.

Of course, positive changes may have occurred with regard to each of these non housing outcomes for those in receipt of government assistance, but these would not have been sufficiently large to change households’ position relative to other tenure groups. Public housing tenants and low income private tenants in receipt of government assistance, relative to the other tenure groups and low income private renters who received no government assistance in particular, experienced more difficulties. This finding, then, suggests that

housing assistance has no *fundamental* effect, even if some change may have occurred.

Refer to Tables 5, 6 and 7 at end of paper

The Determinants of Non-Housing Outcomes: A Multiple Regression Analysis

We now attempt to identify the key determinants – the key social forces – influencing the non-housing outcomes, particularly noting whether any of the tenure groups have a causal impact. For example, what are the best predictors of quality of life? We ran 11 multiple regression analyses against the independent variables (the determinants) that we cited above, such as age, occupation, and gender. These analyses were run for seven of the non-housing outcomes, but with two being run for health (one on ‘perceived health’ and the other on ‘health status’) and two for crime (‘fear’ and ‘experiences’). The results are shown in Table 8.

Three of the eleven multiple regression analyses were discarded because the independent variables used explained less than 10% of the variance and thus there were no predictors identified. The three are perceived health, health status, and fear of crime. It was surprising that no predictors were identified for these three, because gender and age have been shown to be predictors of health. Since older women are more likely to report poor health, and older people are more likely to be in poorer health, we could have expected to find women and older people being good predictors of poor health. Age and gender should also been identified as predictors of fear of crime, with elderly women being the most fearful.

Table 8 shows that the ‘coefficient of determination’ (adjusted RSquare) ranged from a high of 0.43 (for education) (meaning that the independent variable explain 43% of the variance) to a low of 11% (for employment status). If we adopt conventional procedures, then an RSquare greater than 0.1 (i.e. accounting for 10% of the variance: variability in the dependent variable) can be regarded as acceptable. Significant parameter estimates contributing to that figure of 10% are sufficiently robust to be accepted with confidence as major predictors (Tabachnick and Fidell, 1996).

Housing was a predictor in four of the 11 multiple regressions. It helped predict the level of social exclusion, quality of life, anomie, and experience of crime, with public housing tenants and low income private tenants featuring prominently on the negative side. Of course, when we identify tenure and/or housing quality, we are pinpointing individuals and households with distinctive defining characteristics who live in these forms of housing; we are not highlighting the dwellings themselves.

With *educational attainment*, the strongest predictor was – not unexpectedly - the occupation ‘professional’, followed by ‘manager’, and ‘associate professional’. These are occupations requiring tertiary education.

Political activism ('civic engagement') is also significant, with our data indicating that the higher the level of education the more politically active the individual. Location was also a good predictor - but in a negative way: relative to inner Brisbane – a location with the largest concentration of the most educated - all SEQ locations are far less likely to have highly educated individuals. Finally, age is a good predictor: the younger the person, the higher the level of education.

Social exclusion is most clearly explained by low income private tenants in receipt of government assistance. Household income and education are also significant but in the opposite direction: high household income and the more likely respondents had gone beyond primary school, the less likely they were socially excluded. Location and household type are also significant. Those living in Brisbane's outer suburbs are, relative to inner city residents, less likely to be socially excluded, which is surprising considering the locational disadvantage debate invariably cites households living in these areas as being disadvantaged. Moreover, sole person households, relative to other family households, also have high rates of social exclusion.

The most significant predictor of *poverty* is – not surprisingly – household income: low household income is highly correlated with poverty. Oddly, Table 8 also shows that, relative to labourers, intermediate production and transport workers were least likely to experience poverty, an outcome that we find difficult to explain.

Refer to Table 8 at end of paper

The most significant predictors of *perceived quality of life* are high household income, those living in couple households, and those who are part of nuclear family households. Perhaps surprisingly, sole parent households was also a good predictor of a high perceived quality of life (relative to 'other households'), which seems contrary to popular opinion. Three tenure groups, relative to owner occupiers, had a low perceived quality of life: purchasers and other private tenants in particular, but also public housing tenants.

Political activism was the best predictor of *community*, although this seems largely a consequence of one of the variables used to identify community: local political action (which is also used - along with a number of other variables - to define political activism). There are also two location predictors. Relative to the inner city, community is strong on the Sunshine Coast and in the rural-urban fringe. Ethnicity was also a predictor. Those from non English speaking backgrounds had strong local ties. Interestingly, and in contrast with the ANOVA, none of the tenure groups were significant predictors of community.

Low income was the only predictor of *anomie*. However, those who were 'other tenants', and those living in 'couples' households and 'nuclear family' households were far less likely, at a statistically significant level, to experience anomie.

The strongest predictor of *employment status* was household type. Relative to other households, sole person households, couples households, nuclear family households, and share households were more likely to be employed. High income was also a strong predictor, as were certain geographic locations: Brisbane outer suburbs, Sunshine Coast, and the rural-urban fringe.

The best predictors of those saying that they had *experienced crime* were 'other private tenants' (i.e. those private tenants other than low income private tenants), those living on the Gold Coast, and those living in sole person households. Those experiencing very little crime are (relative to labourers): professionals, associate professionals, tradespersons, intermediate clerical workers, and intermediate production and transport workers.

In conclusion, the key determinants for each of these non housing outcomes are closely tied to factors distinguishing the two tenure groups in receipt of government assistance. For example, anomie, social exclusion, a low quality of life, and poverty all have low income as a predictor and low income is a distinguishing feature of these two tenure groups. Thus, it is not at all surprising, then, that these two tenure groups' positions, relative to the other groups, are so disadvantaged. As a consequence, it is unlikely that government housing assistance can ever have a fundamental impact. Some positive outcomes are certainly likely, but since this assistance goes to the most disadvantaged, no fundamental change will come from housing improvements *per se*.

Discussion and conclusion

Our analysis raises doubts about whether government housing assistance *in itself* leads to improvements in non housing outcomes. The position of public housing tenants and low-income private tenants receiving government assistance was clear, with measures of disadvantage being emphatically associated with these two groups. More particularly, when we compare these two groups with low income private tenants who receive no government assistance, and controlled for age, household income, and ethnicity, we found that former were not only not better off, they were worse off, than the latter. This is a surprising outcome considering the arguments proffered by the housing-non housing outcomes thesis. Clearly, it was the disadvantaged position of those in receipt of government housing assistance that enabled them to access these benefits. Concomitantly, the fact that low income private tenants not in receipt of housing assistance have better

outcomes probably explains why they do not receive assistance; their circumstances were not severe enough.

One clear policy conclusion arises from this analysis. This is an invocation of caution in assuming that improvements in housing *per se* bring *significant* non housing outcomes. By significant we mean a quality of life that is little different from other tenure groups. In making this comment, we are not denying that improvements in housing could lead to improvements in non housing outcomes – and there is a limited literature suggesting that this is the case. However, the level of improvement may be comparatively small: for example, tenants' health may have improved, but their health status relative to the population as a whole may remain unchanged.

Moreover, it would seem wise to directly tackle the root cause of disadvantage if improvements in non housing outcome are to be made. Necessary action would need to relate, for example, to job skills/education, behavioural changes (e.g. re health), and ways of changing values (e.g. valuing education specifically and intellectual work in particular). Thus, our results clearly highlight the importance of a whole of government approach. Such an approach would tackle housing problems together with other problems: those of health, education, crime, education, quality of life, and so on.

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Table 2: Selected Characteristics of Tenure Groups (percentages)

CHARACTERISTICS	OWNER OCCUPIER	PURCHASER	PUBLIC HOUSING TENANT	LOW INCOME PRIVATE TENANT ON SOCIAL SECURITY	OTHER LOW INCOME PRIVATE TENANT	OTHER PRIVATE TENANT	OTHER	TOTAL
Location within South East Qld: % Outer Metropolitan Brisbane	26.9	33.8	43.2	28.3	18.8	21.9	33.3	28.9
Age: % 60+	33.8	3.7	20.5	11.8	6.3	1.0	20.6	16.0
Household income: % Bottom 25%	25.2	10.8	66.7	44.1	34.4	0.0	34.6	21.6
Education: % Primary only	5.7	2.2	18.2	6.9	0.0	1.5	3.2	4.2
Education: % Uni grads	18.9	20.6	0	11.9	25.8	28.0	22.6	19.9
Class: % Working class	33.7	37.0	76.9	54.3	53.6	38.5	42.4	39.1
Professionals	25.6	23.1	0.0	22.6	5.3	27.4	36.4	24.4
Occupation: % Labourers	5.9	4.9	22.2	6.5	0.0	3.7	4.5	5.1
Ethnicity: % NESB	8.7	7.1	13.6	13.9	31.3	9.4	2.9	9.3
Household type: Sole parent	2.9	3.7	27.3	11.8	0	3.4	5.9	4.7
Household type: Sole person	18.2	8.9	22.7	22.5	53.1	12.7	26.5	15.9
% Unemployed	3.9	3.5	9.1	21.6	0.0	4.9	5.9	5.4

TABLE 3: CORRELATION ANALYSIS: DEPENDENT VARIABLES

CORRELATIONS:	Community	Poverty	Education	Quality of Life	Anomie	Social Exclusion	Fear of Crime	Experience Of Crime	Employ Status	Health Status	Perceived Health
Community	1.0000 (0) P= .	-.0491 (979) P= .062	-.0965 (1302) P= .000	.0412 (1342) P= .066	.0003 (1314) P= .496	.0628 (1337) P= .011	.0557 (1325) P= .021	-.0143 (1038) P= .323	-.1379 (1336) P= .000	-.0279 (1327) P= .155	-.0521 (1331) P= .029
Poverty	.0491 (979) P= .062	1.0000 (0) P= .	-.1375 (958) P= .000	.0825 (979) P= .005	.0662 (972) P= .020	.6845 (979) P= .000	.0174 (971) P= .294	.0290 (762) P= .212	-.2802 (974) P= .000	-.0044 (977) P= .445	-.0380 (979) P= .118
Education	-.0965 (1302) P= .000	-.1375 (958) P= .000	1.0000 (0) P= .	.0557 (1303) P= .022	-.1090 (1288) P= .000	-.2430 (1303) P= .000	-.0630 (1286) P= .012	-.0092 (1011) P= .385	.2414 (1298) P= .000	.0495 (1301) P= .037	.0897 (1303) P= .001
Quality of life	.0412 (1342) P= .066	-.0825 (979) P= .005	.0557 (1303) P= .022	1.0000 (0) P= .	-.3303 (1315) P= .000	-.2121 (1338) P= .000	-.0849 (1328) P= .001	-.0663 (1038) P= .016	.0916 (1341) P= .000	.1854 (1328) P= .000	.2096 (1332) P= .000
Anomie	.0003 (1314) P= .496	.0662 (972) P= .020	-.1090 (1288) P= .000	-.3303 (1315) P= .000	1.0000 (0) P= .	.1700 (1315) P= .000	.0539 (1298) P= .026	.0235 (1021) P= .227	-.0889 (1311) P= .001	-.2200 (1313) P= .000	-.1967 (1315) P= .000
Social Exclusion	.0628 (1337) P= .011	.6845 (979) P= .000	-.2430 (1303) P= .000	-.2121 (1338) P= .000	.1700 (1315) P= .000	1.0000 (0) P= .	.0145 (1321) P= .299	.0708 (1038) P= .011	-.3912 (1332) P= .000	-.0786 (1328) P= .002	-.0979 (1332) P= .000
Fear of Crime	.0557 (1325) P= .021	.0174 (971) P= .294	-.0630 (1286) P= .012	-.0849 (1328) P= .001	.0539 (1298) P= .026	.0145 (1321) P= .299	1.0000 (0) P= .	.1727 (1033) P= .000	-.0458 (1322) P= .048	-.0962 (1311) P= .000	-.0935 (1315) P= .000
Experience of crime	-.0143 (1038) P= .323	.0290 (762) P= .212	-.0092 (1011) P= .385	-.0663 (1038) P= .016	.0235 (1021) P= .227	.0708 (1038) P= .011	.1727 (1033) P= .000	1.0000 (0) P= .	.0053 (1035) P= .433	-.0433 (1032) P= .082	.0178 (1035) P= .283
Employment Status	-.1379 (1336) P= .000	-.2802 (974) P= .000	.2414 (1298) P= .000	.0916 (1341) P= .000	-.0889 (1311) P= .001	-.3912 (1332) P= .000	-.0458 (1322) P= .048	.0053 (1035) P= .433	1.0000 (0) P= .	.0893 (1323) P= .001	.1173 (1327) P= .000
Health Status	-.0279 (1327) P= .155	-.0044 (977) P= .445	.0495 (1301) P= .037	.1854 (1328) P= .000	-.2200 (1313) P= .000	-.0786 (1328) P= .002	-.0962 (1311) P= .000	-.0433 (1032) P= .082	.0893 (1323) P= .001	1.0000 (0) P= .	.5218 (1328) P= .000
Perceived Health	-.0521 (1331) P= .029	-.0380 (979) P= .118	.0897 (1303) P= .001	.2096 (1332) P= .000	-.1967 (1315) P= .000	-.0979 (1332) P= .000	-.0935 (1315) P= .000	.0178 (1035) P= .283	.1173 (1327) P= .000	.5218 (1328) P= .000	1.0000 (0) P= .

(Coefficient/(Cases)/1-tailed Significance)

“ . ” is printed if a coefficient cannot be computed

Bold = statistically significant at least at 0.5 level of significance

TABLE 4: Analysis of Variance: Tenure and the Non Housing Outcomes (mean scores)

Tenure	Perceived Quality of Life	Anomie	Community	Health Status	Perceived Health	Poverty	Social Exclusion	Educational Attainment	Employment Status	Fear of Crime	Experience Of Crime
Owner Occupier	2.7520	1.9854	1.8975	1.9405	2.5934	1.1365	1.2889	3.1345	1.4938	2.0847	1.1140
Purchaser	2.5748	1.9952	1.5888	2.0448	2.7793	1.0525	1.1285	3.2990	1.7465	1.9671	1.1168
Public housing tenant	1.7273	2.5227	2.2500	1.6364	2.0909	1.2564	1.7955	2.3409	1.2045	2.5610	1.2647
Low income private tenant + social security	1.9412	2.3333	1.8039	2.0495	2.4706	1.1569	1.9302	2.7921	1.3039	1.9293	1.2000
Other low Income private tenant	2.0938	2.0323	1.1250	2.2500	2.7500	1.2500	1.3750	3.2903	1.5938	1.8438	1.2000
Other private tenant	2.1171	2.0891	1.2683	2.0612	2.7745	1.0000	1.1707	3.5200	1.7843	2.0796	1.2892
Other	2.6176	1.9118	1.6176	2.0882	2.4706	1.0769	1.2353	3.3548	1.6471	1.7941	1.2083
Total	2.4824	2.0488	1.6804	1.9962	2.6554	1.1014	1.2648	3.2022	1.6017	2.0357	1.1420
	P=0.0000	P=0.0000	P=0.0000	P=0.0077	P=0.0000	P=0.0000	P=0.0000	P=0.0000	P=0.0000	P=0.0000	P=0.0002

Bold = statistically significant at least at 0.01

Table 5: Regressions showing the effects on non-housing outcomes for low income private tenants who receive social security vs low income private tenants who do not receive social security

Dependent Variable	Enter: Age, HH Income, Ethnicity				Enter: Age, HH income, Ethnicity & the two tenure groups				
	R step 1	R ² step 1	F step 1	R ² Change	R step 2	R ² step 2	F step 2	β Comparing the two tenure groups	t ratio
Quality of Life	.2589	.0670	3.090*	.0184	.2922	.0854	2.988	-0.1383	-1.60
Anomie	.2053	.0421	1.877	.0291*	.2669	.0712	2.436	.1735	2.00*
Social Exclusion	.5453	.2973	18.196****	.0195	.5629	.3168	14.841****	.1425	1.91
Community Count	.1321	.0175	.764	.0308*	.2196	.0482	1.622	.1791	2.03*
Highest Level of Education	.3725	.1387	6.820****	.0132	.3898	.1519	5.643****	-.1170	-1.40
Fear of Crime	.299	.089	4.110**	.002	.302	.091	3.126*	-.0434	-.50
Experience of Crime	.233	.054	1.239	.002	.236	.056	.943	.0396	.32
Perceived Health	.1241	.0154	.672	.0110	.1626	.0264	.869	-.1073	-1.20
Health Index	.0350	.0012	.052	.0232	.1563	.0244	.795	-.1554	-1.74

*p<.05, **p<.01, ***p<.001, ****p<.0001

Table 6: Regressions showing Public Housing Tenants vs low income private tenants who receive no Social Security payments

Enter: Age, HH Income, Ethnicity

Enter: Age, HH income, Ethnicity & tenure (Housing Commission and low income private renters without social security)

Dependent Variable	R step 1	R ² step 1	F step 1	R ² Change	R step 2	R ² step 2	F step 2	β Comparing the two tenure groups	t ratio
Quality of Life	.3883	.1508	4.144**	.1098**	.5105	.2606	6.079***	-.3458	-3.20**
Anomie	.1800	.0324	.770	.1379**	.4127	.1703	3.490*	.3870	3.36*
Social Exclusion	.5711	.3262	11.295****	.1008***	.6534	.4269	12.851****	.3313	3.48***
Community Count	.3182	.1012	2.628	.1099**	.4594	.2111	4.616**	.3459	3.10**
Highest Level of Education	.3107	.0966	2.458	.1198**	.4651	.2164	4.963**	-.3596	-3.22**
Fear of Crime	.3397	.1154	2.913**	.1155**	.4805	.2309	4.954***	.3541	3.15**
Experience of Crime	.3374	.1138	1.841	.0001	.3376	.1140	1.351	-.0114	-.08
Perceived Health	.1127	.0127	.3000	.1286**	.3758	.1413	2.838*	-.374	-3.21***
Health Index	.2300	.0530	1.306	.1940****	.4970	.2470	5.668**	-.4601	-.422****

*p<.05, **p<.01, ***p<.001, ****p<.0001

Table 7: Regressions showing differences in tenure types: Public Housing tenants vs low income private tenants who receive social security payments

Enter: Age, HH Income, Ethnicity

Enter: Age, HH income, Ethnicity & the two tenure groups

Dependent Variable	R step 1	R ² step 1	F step 1	R ² Change	R step 2	R ² step 2	F step 2	β Comparing the two tenure groups	t ratio
Quality of Life	.2932	.0859	4.356**	.0248	.3328	.1107	4.296**	-.1591	-1.96
Anomie	.2287	.0523	2.556	.0290*	.2850	.0812	3.050*	.1719	2.09*
Social Exclusion	.4648	.2160	12.765****	.0061	.4713	.2221	9.851****	.0791	1.04
Community Count	.1094	.0120	.562	.0149	.1640	.0269	.953	.1234	1.45
Highest Level of Education	.3315	.1099	5.680***	.0248*	.3670	.1347	5.332***	-.1592	-1.98*
Fear of Crime	.1678	.0282	1.285	.1149****	.3783	.1431	5.511****	.3433	4.21****
Experience of Crime	.2530	.0640	1.869	.0077	.2677	.0717	1.563	.0888	.82
Perceived Health	.1559	.0243	1.155	.0280*	.2287	.0523	1.904	-.1691	-2.02*
Health Index	.1871	.0350	1.668	.0563**	.3021	.0913	3.440**	-.2403	-2.91**

*p<.05, **p<.01, ***p<.001, ****p<.0001

Table 8: Factors Effecting Non Housing Outcomes (Statistically Significant Effects Only)

	Education	Social Exclusion	Poverty	Perceived Quality of Life	Community	Anomie	Employment Status	Experience of Crime
Tenure								
Purchaser				-.149**				
Other private tenant				-.172***				.168**
Low income private tenant								
Low income private tenants + bene		.235****						
Public housing tenant				-.094*				
Other tenure						-.096*		
House quality								
Location								
Brisbane middle suburbs	-.109*							
Brisbane outer suburbs	-.090*	-.099*					.139*	
Gold Coast	-.138***							.147*
Sunshine Coast	-.140***				.150**		.129**	
SEQ rural-urban fringe	-.073*				.140**		.091*	
Age	-.089*							
Gender								
Household income		-.224****	-.395****	.240****		-.116*	.161**	
Education								
Some secondary education		-1.496****						
Matriculation		-1.410****						
Tertiary non degree		-1.291****						
Bachelor degree		-1.359****						
PG degree		-.876****						
Occupation								
Elementary clerical								
Itermed Prod & Tpt			-.199*	.259*				-.136*
Itermed Clerical								-.210*
Advanced Clerical								
Tradespersons								-.179*
Assoc Prof	.161**							-.209*
Professionals	.696****							-.306**
Managers	.145**							
Political activism	.082*				.275****			
Ethnicity					.102*		-.122**	
Household type								
Sole Person		.107*					.242***	.167*
Couple				.254****		-.145*	.274***	
Nuclear family				.312****		-.165*	.293***	
Sole parent				.122*				
Share household							.116*	
Rsquare	.427	.386	.225	.198	.165	.122	.111	.120

*p<.05, **p<.01, ***p<.001, ****p<.0001

