

# New Zealand Longitudinal Study of Ageing

Summary Report

## - Socioeconomic Status -

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## Introduction

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Lower socio-economic status (SES) is associated with poorer health and well-being across the lifespan (see Feinstein, 1993; Marmot, 2005 for a review of the literature). Although health inevitably deteriorates with age, those with fewer resources tend to experience longer periods of illness or disability and have higher rates of mortality (Kaplan & Keil, 1993; Keil, Sutherland, Knapp, & Tyroler, 1992). Krieger, Williams, & Moss (1997) argue that SES must be considered at an individual, household and neighbourhood level, to account for their combined and unique contributions towards SES-related outcomes including health and well-being. As the direct links between SES and health have been examined elsewhere in this series of reports (Budge, Stephens, & Stichbury, 2013), the main focus of this report is to examine the multi-levelled and multi-faceted nature of SES and its association with five key demographic variables: age, retirement status, ethnicity, gender, and marital status. This report also considers how economic living standards—one proxy for SES—has changed for NZLSA participants between 2010 and 2012.

Krieger et al., (1997, p. 345), describe socioeconomic status (SES) as “an aggregate concept that includes both resource based and prestige based measures, as linked to both childhood and adult social class position.” While social class refers to the economic interrelationships between social groups as expressed by factors such as occupation, income, and wealth, SES refers more specifically to these particular elements of economic and social well-being. Resource based proxies of SES include material and social resources such as income, occupation and education. Prestige based measures refer to an “individuals rank or status in social hierarchy” (1990, p. 345) and are often evaluated by the consumption of goods, services, and knowledge. More broadly, Lynch and Kaplan (2000, pg.14) suggest that SES refers to the “social and economic factors that influence what position(s) individuals and groups hold within the structure of society.”

McMillan, Beavis and Jones (2009) have presented a conceptual framework for understanding the interrelationships between the different indicators and levels of socioeconomic status. They argue that occupation provides the means for converting educational qualifications—an indicator of human capital—into material rewards such as income and wealth. In other words, educational qualifications shape the kinds of occupations that people take up, which in turn influence their personal income, accumulation of household wealth and resultant economic living standards. Levels of individual and household SES also play a role in determining where individuals live or where they can afford to live. As such, socioeconomic disparities can be identified at the community-level with individuals or families with similar socioeconomic resources clustering in the same areas (e.g. suburbs). The socioeconomic homogeneity of individuals and families within these clusters tends to be greatest for those at the extremes of the socioeconomic spectrum (McIntyre, 2000). However, other communities can be characterised by the socioeconomic heterogeneity of their constituents. It is important to understand how SES operates at the area level as research suggests that lower socioeconomic communities experience higher rates of crime and child poverty and lower social capital amongst its constituents (Barnes et al., 2005; Day, Breetzke, Kingham, & Campbell, 2012). This report follows McMillan et al.’s (2009) cascading framework to closely examine the relationships

between individual-, household- and area-level SES for older New Zealanders and the relationships between SES and five key demographic variables.

## Demographic Correlates of SES

Age, retirement status, gender, marital status and ethnicity represent fundamental areas in which New Zealand's distribution of socioeconomic advantage and disadvantage can be better understood. Understanding how these factors may affect socioeconomic status is therefore an important step not only for improving older New Zealanders' socioeconomic conditions but also for promoting their health and well-being.

*Age.* New Zealand census data shows that increasing age is associated with lower levels of educational attainment (Statistics New Zealand, 2006). Specifically, the silent generation—those born prior to World War II—had less access to education than preceding generations with the compulsory school leaving age not rising to 15 until 1944 (Ministry for Culture and Heritage, 2012). To test for generational differences in the NZLSA sample, this report compares the educational attainment of the silent generation (born 1927 to 1944) with the baby boom generation (born 1945-1964). Based on McMillan et al.'s (2009) cascading model of SES, older less educated groups may be more likely than the baby boomers to work (or have worked) in occupations that do not require high educational qualifications including intermediate (e.g. clerks) and blue-collar jobs (e.g. machinery drivers). In addition, economic studies have demonstrated that the baby boom generation are wealthier than their parents (Keister & Deeb-Sossa, 2001). To test this inter-generational finding, the wealth of NZLSA's baby boomers is compared to the wealth of the 70-90 years olds.

*Retirement status.* Retirement status is closely linked with age, but adds vital information about socioeconomic advantage and disadvantage. For instance, previous research with NZLSA participants suggested that a significant proportion were pushed out of the workforce due to poor health while others continue working well past the traditional retirement age (Gorman, Scobie, & Towers, 2012). Studies also show that those working in physically demanding occupations with little autonomy retire earlier than other workers due to the health demands of the job (Blekesaune & Solem, 2005). It is therefore not surprising that those with the lowest educational qualifications also tend to retire the earliest, as they are the most likely to work in these physically demanding and often hazardous roles (Blekesaune & Solem, 2005).

While wealth accumulation does increase with age, it does so only to a point. Workers generate wealth over their working career and then draw on their wealth or "dissave" to fund their retirement (Browning & Crossley, 2001). Thus, it is expected that NZLSA participants who are partly retired will be at the peak of their wealth accumulation. That is, they will report higher wealth and better economic living standards compared to the fully retired 'dissaving' group and compared to the full-time workers who are generating wealth prior to retirement.

*Gender.* Gender inequalities in socioeconomic status have been long been the focus of academic scrutiny (see Breen, Luijkx, Müller, & Pollak, 2010, for a review). In the first half of the 20<sup>th</sup> Century women had had less access to education than men and were more likely than men to work in lower status occupations (Statistics New

Zealand, 2006). Although gender inequalities in education and occupation have reduced for proceeding generations of women (Blackwell, 2001; Dex, Ward, & Joshi, 2008), their greater family responsibilities still manifest in longer periods outside of paid work and higher rates of part-time employment (Jaumotte, 2003b). These disadvantages lead to lower personal incomes compared to men, less wealth and poorer economic living standards (Noone, Stephens, & Alpass, 2010). Based on this research, comparisons of the two generations are expected to yield only small gender differences in levels of education and occupational class. This is because potentially significant gender differences in education and occupation in the silent generation will be offset by a lack of significant gender differences for the baby boomers. However, larger gender differences in personal income, wealth, and economic living standards are expected because of women's prevailing over-representation in part-time positions and unpaid work (e.g., looking after a family), despite advances in education and occupational class.

*Marital status.* The accumulation of household wealth is higher for dual-earning couples compared to those living alone (Wilmoth & Koso, 2002) and this discrepancy is expected to manifest in better economic living standards for cohabitating participants in the NZLSA sample.

*Ethnicity.* Socioeconomic disadvantage in ethnic minority groups is also well documented. New Zealand researchers have noted significantly lower levels of educational attainment in Māori compared to those of European decent (Maani, 2000) as well as higher representation in lower status occupations. Accordingly, Māori report lower personal incomes than New Zealand Europeans in addition to less wealth accrual and poorer economic living standards (Jensen, Krishnan, Spittal, & Sathiyandra, 2003).

Australian and New Zealand research indicates that, due to their socioeconomic disadvantage, older retired individuals, women, those living without partners, and Māori tend live in relatively deprived communities compared to those with greater socioeconomic resources (Blakely & Pearce, 2002). This finding is tested with the NZLSA data by comparing the five demographic variables with an area-level measure of socioeconomic status as described below.

## Socioeconomic Indicators and Distributions in the NZLSA Sample

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### Individual-Level SES

*Education.* Education qualifications were assessed using New Zealand Qualifications Authority (2003) guidelines. The resulting 11 categories were then collapsed into four to capture those with no secondary qualification (23% of the sample), a secondary qualification (24%), post-secondary/Trade qualification (27%), or a tertiary qualification (26%).

*Occupation.* In the 2010, NZLSA participants identified their current occupation and their main occupation between the ages 35 to 65. The latter was used in this report in order to include the occupational class of those who are retired from work. Occupation was initially categorised according to Australian and New Zealand Standard Classification of Occupations (ANZSCO) guidelines (Trewin, Pink, & Zealand, 2006). These categories were managers (13% of the sample), professionals (31.2%), technicians and trade workers (15%), community and personal service workers (7.4%), clerical and administrative workers (17.7%), sales workers (6%), machinery drivers and operators (4.3%), and labourers (5.5%). These categories were then converted into three social classes based on the earlier work of Goldthorpe and Hope (1974): white-collar (44.2%), intermediate (46%), and blue-collar workers (9.8%). Goldthorpe and Hope's Service Relationship Class comprises professionals and higher technical, administrative and managerial positions or white-collar workers (i.e. Managers and Professional ANZSCO categories). The intermediate class comprises routine non-manual and lower technical positions (i.e. technicians/trades, community/personal service workers, clerical/administrative, and sales workers). Finally the labour contract class or blue-collar workers include labourers and machinery drivers and operators (Evans, 1992). Goldthorpe and Hope's schema also includes separate classes for the self-employed, but only occupational type was considered in this report.

*Income.* Personal income<sup>1</sup> was categorised into five income bands: \$0 - \$25,000; \$25,000 - \$50,000; \$50,000 - \$75,000; \$75,000 - \$100,000; and \$100,000+.

Figure 1 shows substantial variation in personal income with 24% of the sample reporting income less than \$25,000 and 22% reporting personal income above \$75,000 per annum.

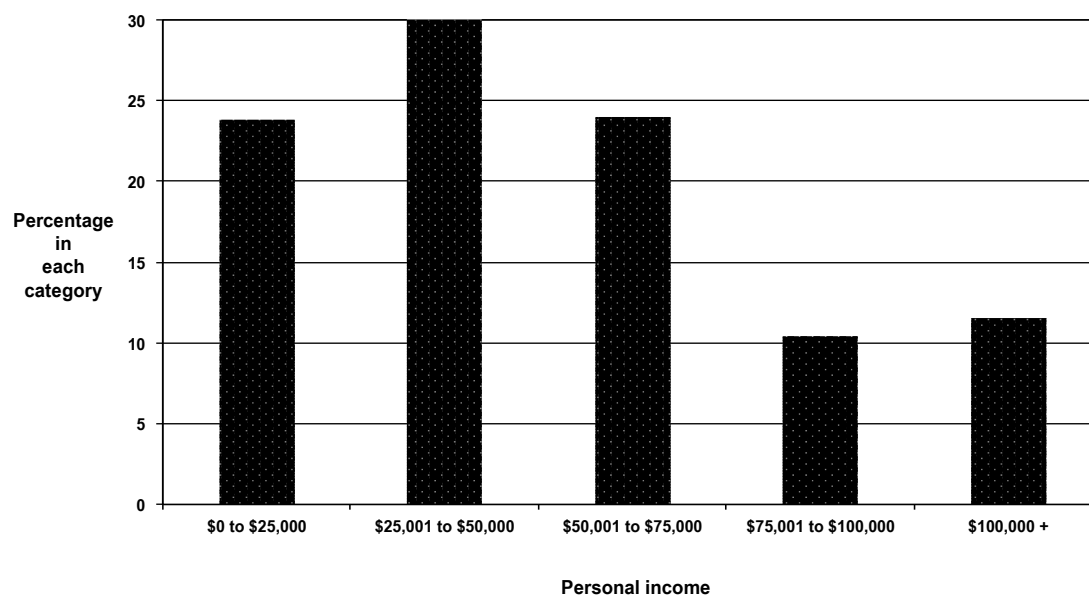


Figure 1. Distribution of personal income across the NZLSA sample

<sup>1</sup> Results based on personal income should be treated with caution due to the high rate of missing data (65.6%)

## Household-Level SES

*Wealth.* Wealth is a composite measure developed by the New Zealand Treasury in conjunction with researchers from NZLSA (Enright & Scobie, 2010) in which missing data are imputed. To calculate wealth, the values of assets, including a home, car and other investments, were summed. According to Figure 2, levels of wealth across the NZLSA sample also vary considerably. Approximately 15% of the sample had less than \$25,000 in total wealth, yet a similar proportion have over \$1,000,000 in wealth.

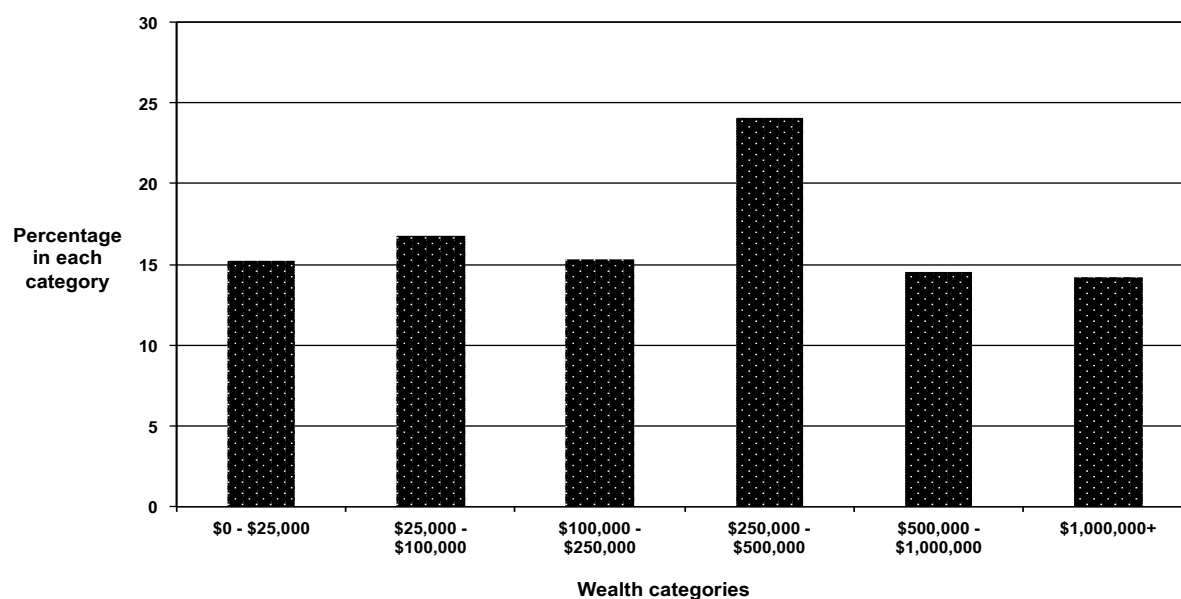


Figure 2. Distribution of wealth across the NZLSA sample.

*Economic Living Standards.* The Economic Living Standards Index (ELSI) was developed by New Zealand researchers (Jensen, Spittal, & Krishnan, 2005) to assess restrictions in the ownership of household items, economic-based restrictions in social participation and the extent of economising to reduce daily living costs. Three questions on self-rated material standard of living were also included in the ELSI. Scores ranged from 0 to 31 with higher scores reflecting higher standard of living. The average ELSI score for the NZLSA was 23.9 and the standard deviation was 6.2. Figure 3 describes the distribution of ELSI scores according to categories of living standards. The data indicate that the majority of the sample had reasonably good living standards, but that a substantial minority (12%) were living in some or greater hardship.



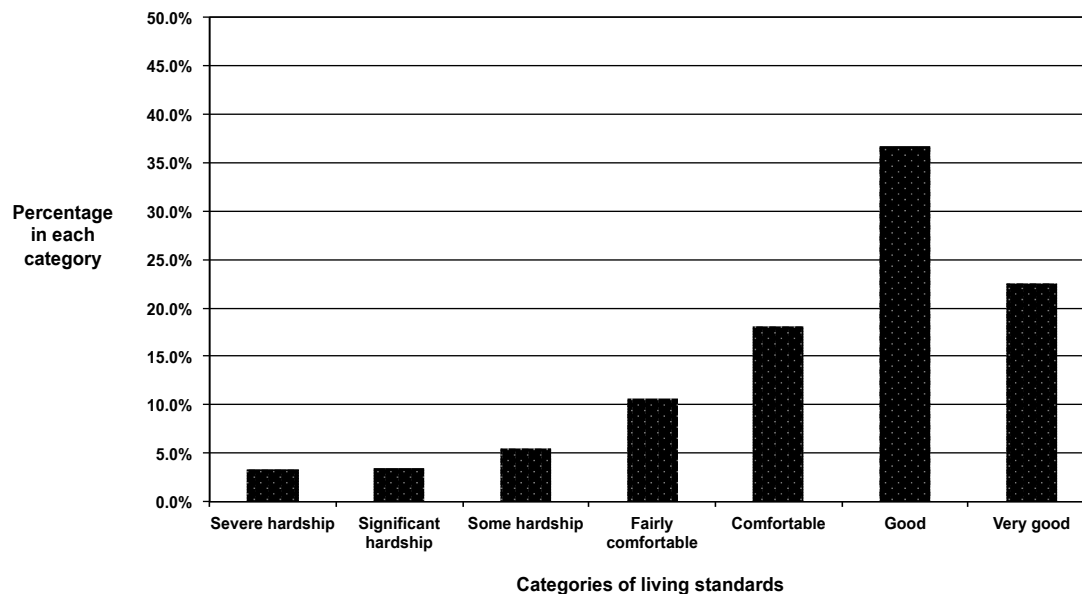


Figure 3. Distribution of economic living standards across the NZLSA sample.

## Community-level SES

*Area level deprivation.* The New Zealand Socioeconomic Deprivation Index (NZDep) assesses socioeconomic advantage and disadvantage in small areas or mesh-blocks, which contain on average 87 individuals (Salmond, Crampton, & Atkinson, 2007). The development of the NZDep manifested in nine individual questions to assess different dimensions of deprivation including income, education, and home ownership, which give an overall small-area index of socioeconomic deprivation. NZDep scores for NZLSA participants, or the socioeconomic deprivation of the community they live in, are based on their post code. Scores are categorised on a 10-point scale with higher scores indicating higher levels of deprivation. A score of 10 represents the 10% of most deprived New Zealand areas, while a score of 1 indicates location in the 10% of least deprived communities. Figure 4 shows the distribution of NZDep categories in the NZLSA sample. Approximately 14% of NZLSA participants resided in the least deprived areas of New Zealand compared to 5% residing in the most deprived. In general, NZLSA participants reside in communities with a wide range of socioeconomic resources, but with a skew towards less deprived areas.

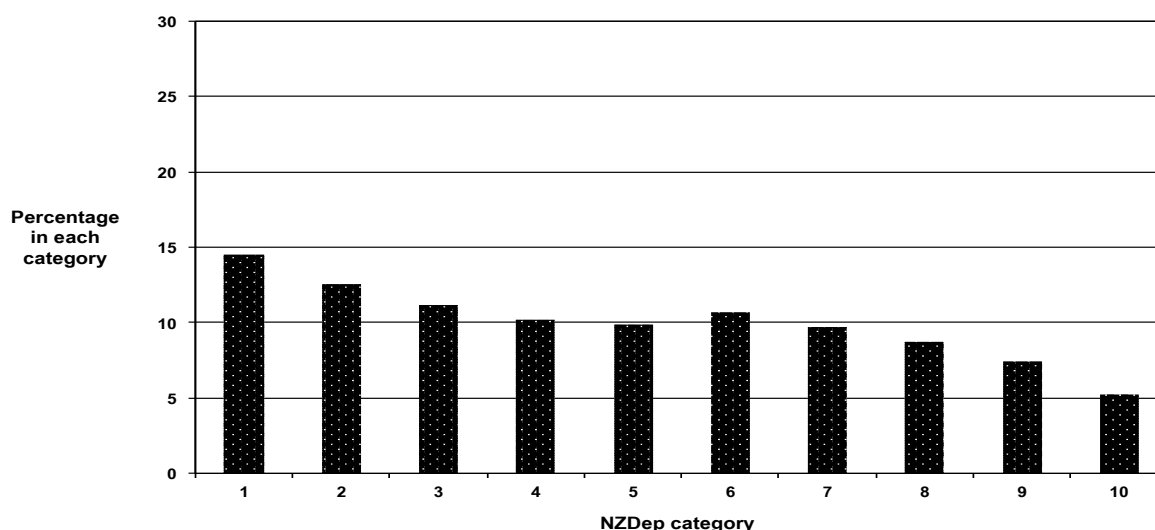


Figure 4. Distribution of NZDep categories across the NZLSA sample.

## Summary

The socioeconomic characteristics of the NZLSA sample reveal diversity in advantage and disadvantage at late-middle age and beyond. The data indicate a wide range of educational qualifications and occupations with personal incomes distributed somewhat evenly across the different categories. Levels of household wealth were more variable than economic living standards, but 12% of the sample was living in hardship. Although the majority of the sample did report a reasonably comfortable standard of living, they did so from a socioeconomically diverse range of communities. By drawing on McMillan et al.'s (2009) model and key demographic variables, the following section aims to explain why some older people are disadvantaged in terms of their SES while others are not.

## SES at the Individual Level

### Education

*Age.* Figure 5 shows that increasing age was associated ( $p < .001$ ) with lower levels of educational qualifications<sup>2</sup>. Only 14.7% of the 70-90 year olds had a tertiary qualification compared to approximately 30% of the 48 to 69 year-olds<sup>3</sup>. Conversely 31.5% of the oldest group had no formal educational qualification compared to 22.6% of the 60-69 year olds and 16.9% of the 48-59 year-olds. This distribution indicates that the effects of age on education became most apparent after age 70 ('silent generation') while those aged 48 to 69 ('baby boomers') showed reasonably similar educational patterns.

<sup>2</sup> For this report, NZLSA participants were categorised into three different age groups: 48-59 (33.3% of the sample); 60-69 (43.2%); and 70-90 years (23.4%).

<sup>3</sup> Sampling procedures sought to recruit individuals aged 50 to 84. Due to the imprecision of the Electoral Roll's age-indicator which is based on participants 'birth year' rather than their specific birth-date a number of younger ( $n=32$ ) and older participants ( $n=5$ ) were sampled and these are included here.

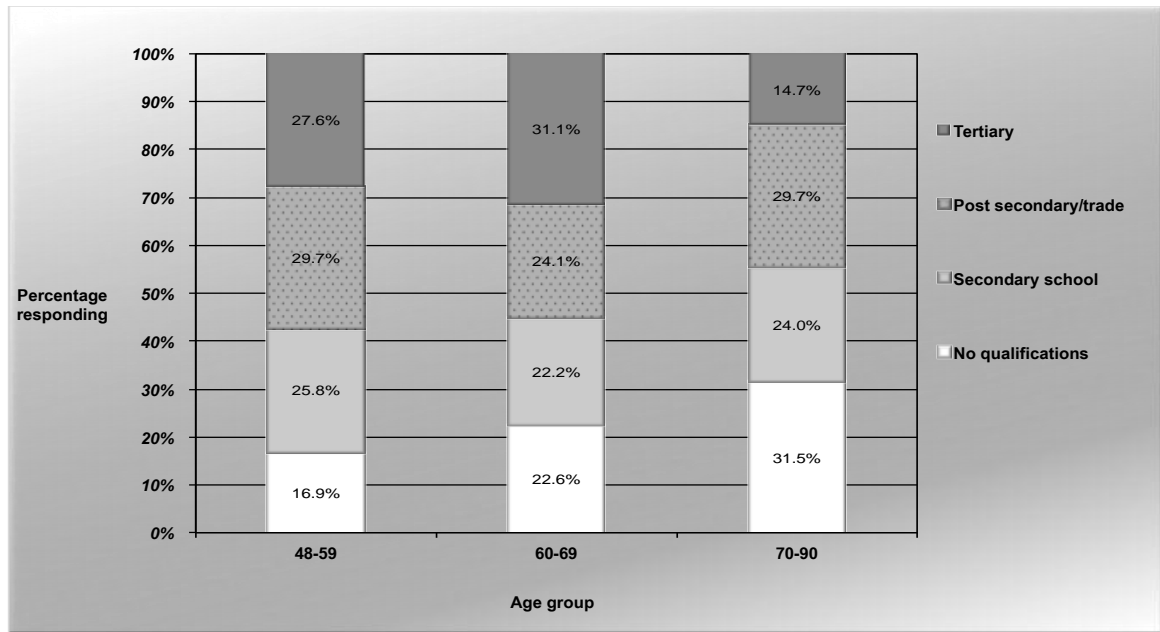


Figure 5. Educational qualifications according to age group.

*Workforce participation.* Figure 6 shows a linear relationship between increasing educational attainment and the increasing levels of workforce participation<sup>4</sup> ( $p < .001$ ). Of those with no educational qualifications, approximately 60% were completely retired compared to only 34.6% of those with a tertiary qualification. Conversely, only 23% of those with no qualification were working full time compared to 39.5% of the most educated NZLSA participants.

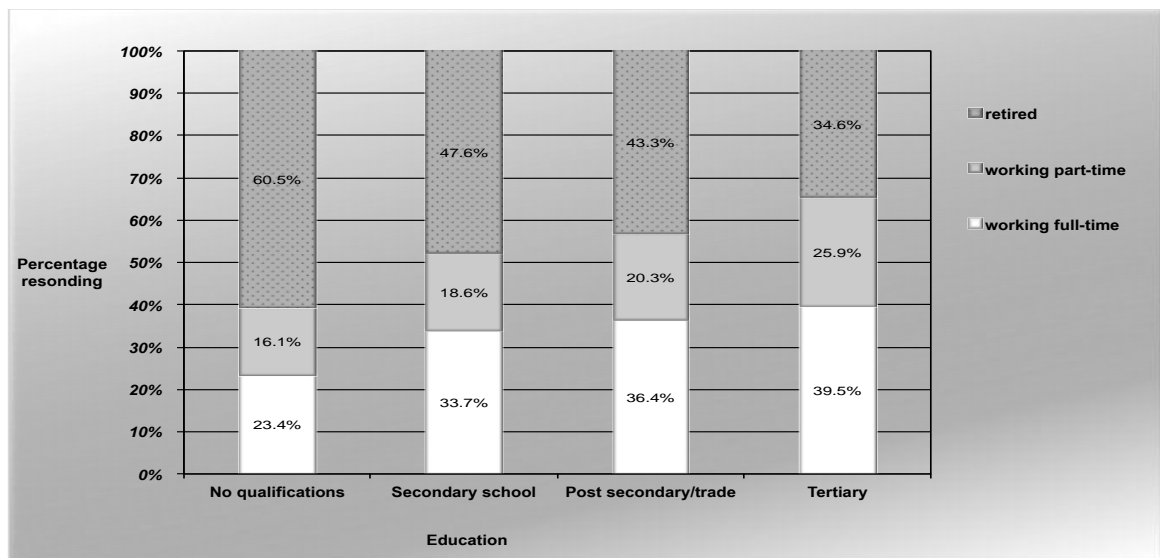


Figure 6. Retirement status according to educational qualifications.

<sup>4</sup> NZLSA participants were divided into three categories based on their retirement status: Not retired at all (33.6%); partly retired (20.4%); and fully retired (46%).

*Gender.* Women reported fewer educational qualifications than men<sup>5</sup>, but the differences were not linear. Approximately equal proportions of men and women reported no qualifications (22% and 23% respectively) or a tertiary qualification (26% and 27% respectively). However, men were more likely to have a trade certificate than women (32% versus 23%), while women were more likely to have completed only high school (27% versus 21%).

*Marital Status.* Differences in marital status according to levels of education were most apparent for widowers and those who were married (Figure 7,  $p < .001$ ). Of those with no educational qualifications, only 62% were married compared to 72% of those with a tertiary qualification. Likewise, approximately 15% of those with no qualification were widowed compared to only 6.2% of those with a tertiary qualification. It is possible that widows reported lower levels of education due to a survivor effect. Individuals with lower levels of education have higher levels of mortality (Kunst & Mackenbach, 1994) and tend to marry those with similar qualifications (Blossfeld & Timm, 2003). Therefore, women with low educational qualifications are more likely to lose their lower SES partner than those with higher educational qualifications.

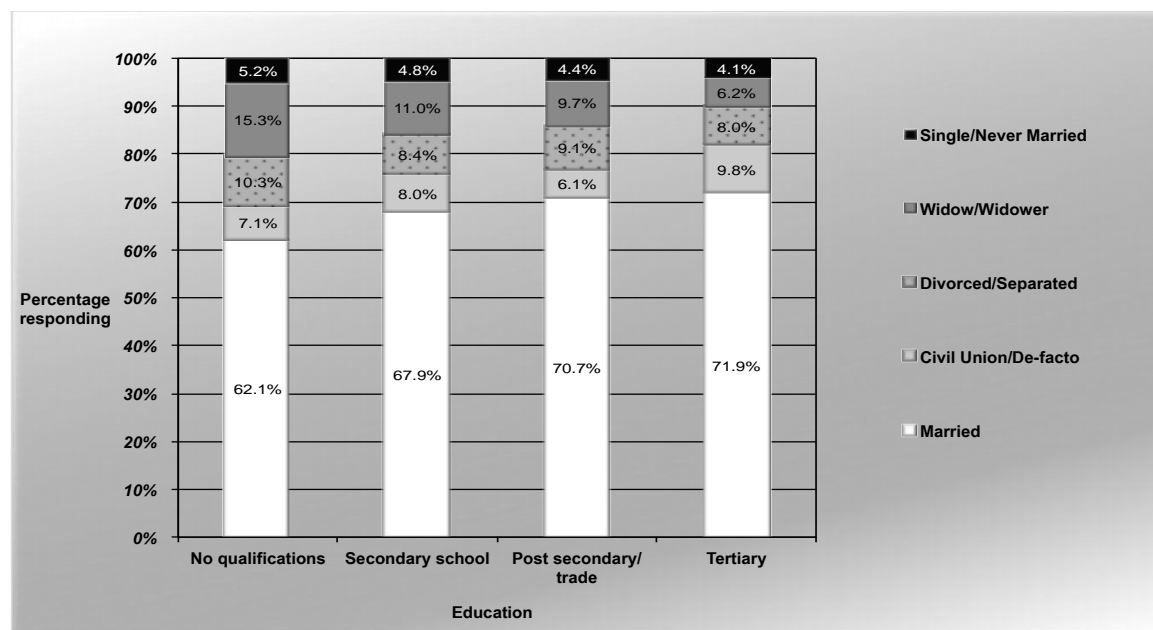


Figure 7. Marital status according to educational qualifications.

*Education.* Levels of education also differed according to ethnicity<sup>6</sup> ( $p < .001$ ). Figure 8 shows that proportionally more Europeans had tertiary qualifications (27.2%) compared to those identifying as Māori and European (23.6%) or Māori only (19%). The ethnic groups most likely to have no formal qualification were those identifying as Māori only (41.1%) followed by those identifying as Māori and European (28.5%), Europeans (21.7%), and Other ethnicities (14.1%). The relatively

<sup>5</sup> Approximately 45% of the 2010 NZLSA sample was male and 55% was female.

<sup>6</sup> For this report, the NZLSA sample was categorised into four groups according to ethnicity: those identifying as European only (63.5%); both European and Māori (17.1%); Māori only (14.7%); and Other (4.7%). The Other category included individuals of Pacifica, South American, Asian, and African descent.

few members of other ethnicities with no qualification possibly reflects a skilled migrant effect.

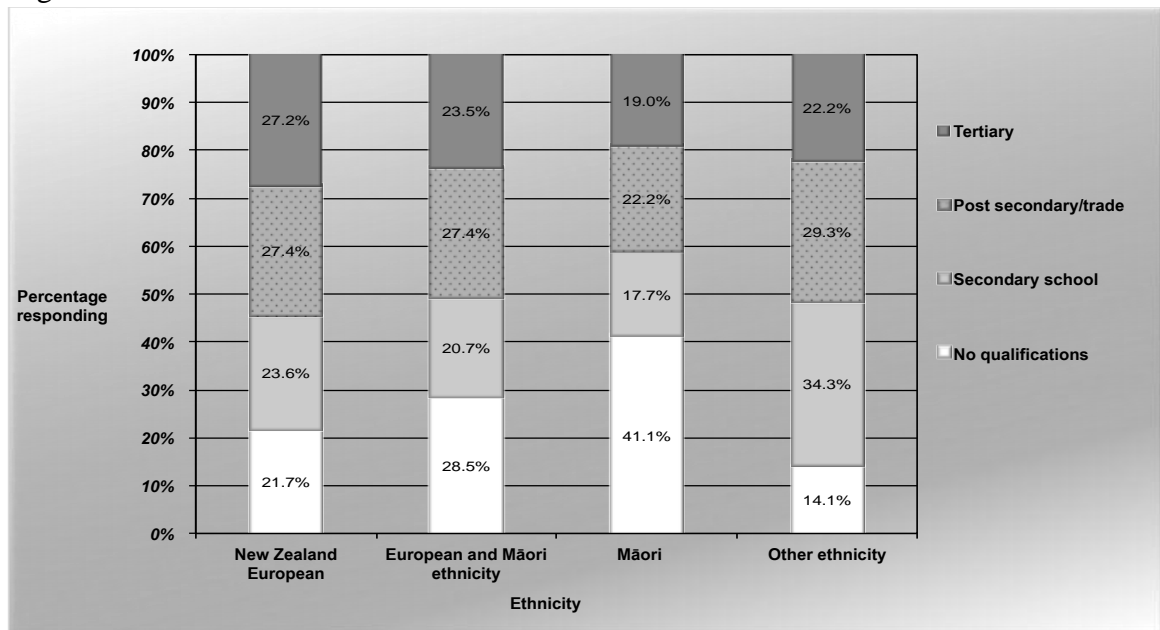


Figure 8. Educational qualifications according to ethnicity.

### Occupation

*Education.* Occupational class differed significantly according to highest educational qualification ( $p < .001$ ). The linear relationship illustrated in Figure 9 shows that as educational qualifications increase, the probability of working in a white-collar occupation increases and the probability of being in a blue-collar occupation decreases. For instance, 81% of those with a tertiary qualification worked in the highest occupational class compared to only 12.6% of those with no qualification. In contrast, intermediate workers showed substantially greater variation in educational qualifications compared to white- and blue-collar occupations.

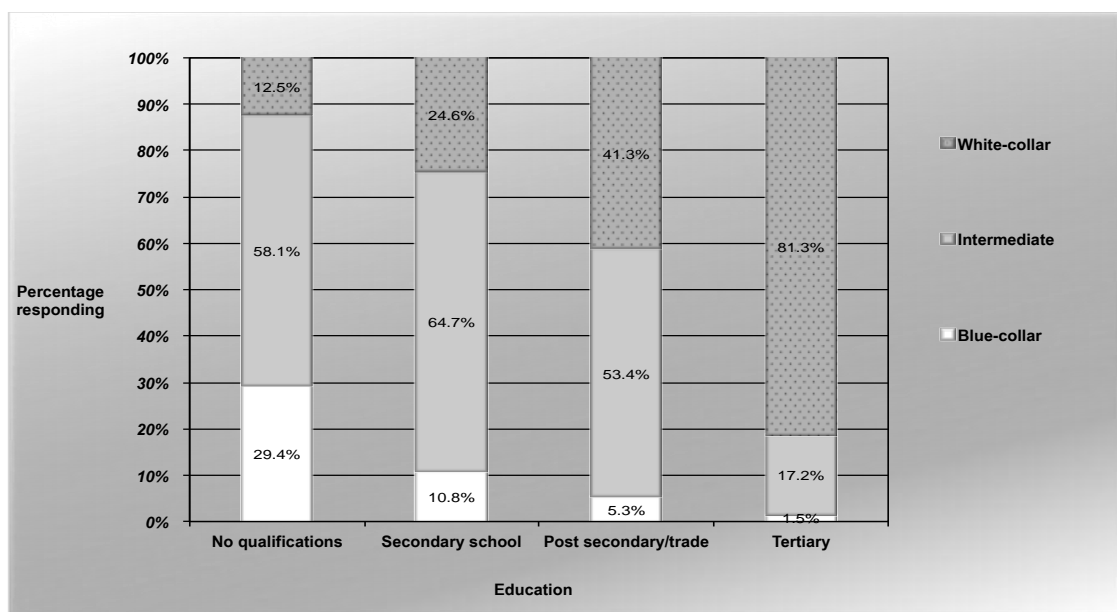


Figure 9. Main occupation according to education.

*Age.* Main occupation differed according to age ( $p=.004$ ), but the differences were small. Approximately 50% of 70-90 year olds were employed in intermediate occupations compared to only 44% of 48 to 69 year-olds. However, occupational class had a stronger association with retirement status ( $p<.001$ ). According to Figure 10, the likelihood of being fully retired in 2010 increased as occupational class decreased, suggesting that those who have been in relatively more physically demanding occupations tended to retire earlier.

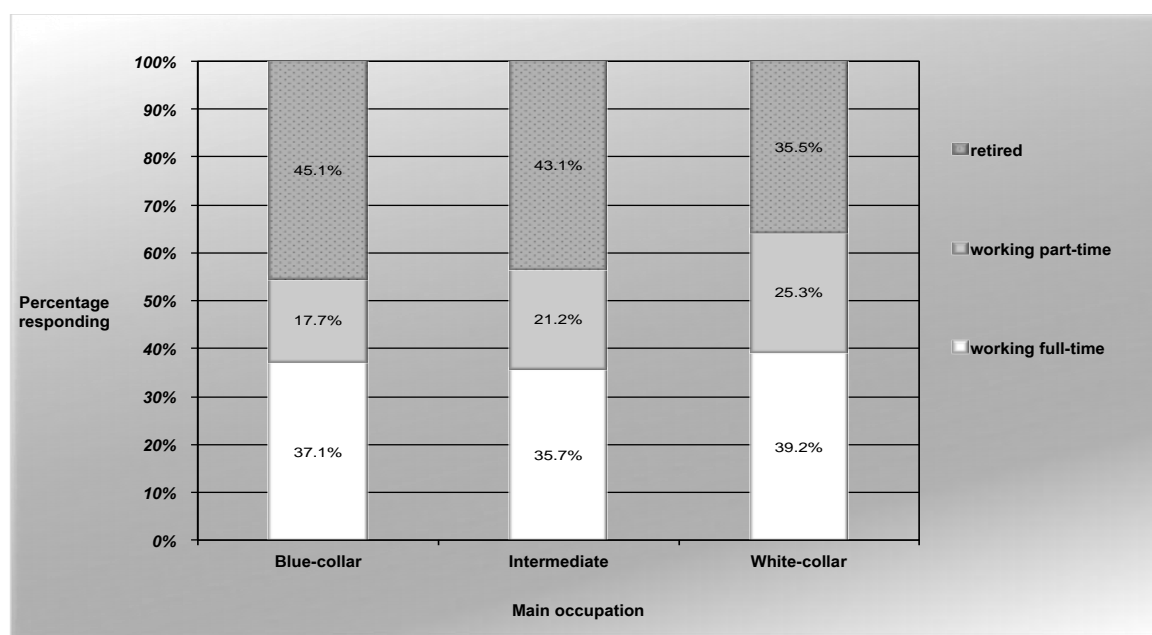


Figure 10. Retirement status according to main occupation.

*Gender.* There were small but significant gender differences in occupational class. Approximately 47% of men were working (or had worked) in white-collar occupations compared to 42% of women. In contrast, 50% of women were working (or had worked) in intermediate positions compared to 42% of men. There were no differences in occupational class according to marital status.

*Ethnicity.* New Zealand Europeans were the most likely to have worked or to be working in white-collar occupations (45.6%) followed by those identifying as Māori and European (39.8%), other ethnicities (37.4%), and Māori only (28.6%,  $p<.001$ , Figure 11). The reverse pattern was evident for blue-collar workers. Considered alongside the findings on ethnicity and education (Figure 9), the relatively high proportion of participants from other ethnicities (i.e., non-Māori and non-European) in white-collar and intermediate occupations compared to Māori provides further evidence for a skilled migrant effect.

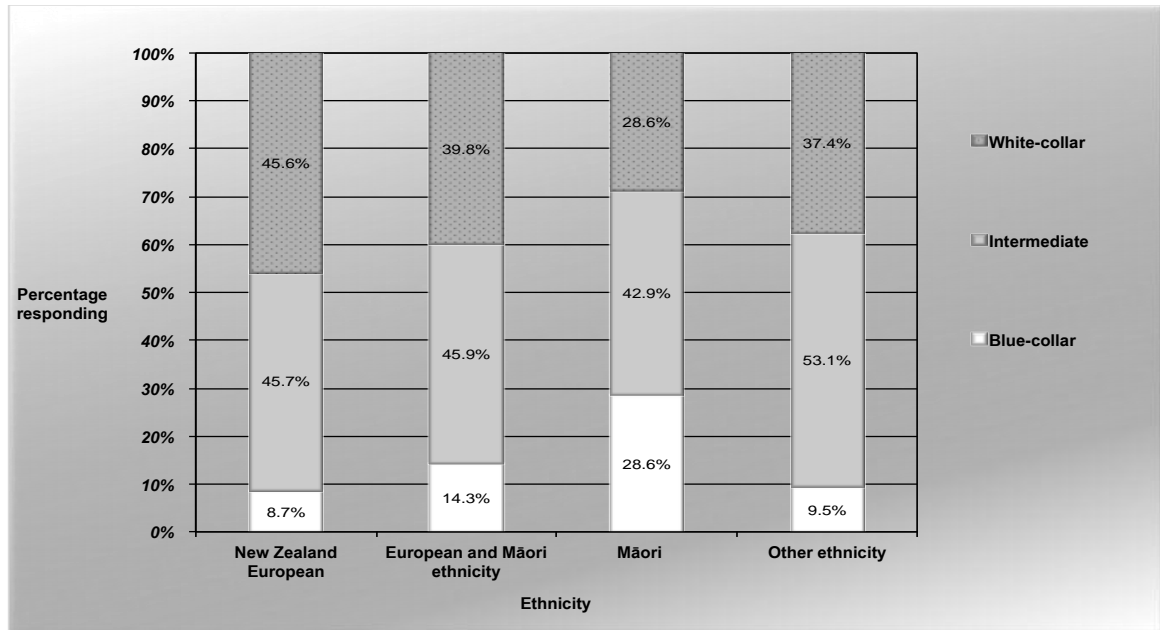


Figure 11. Main occupation according to ethnicity.

### Personal Income

*Education.* Personal income increased with increasing educational qualifications ( $p < .001$ ). According to Figure 12 approximately 23% of those with a tertiary qualification earned more than \$100,000 per annum compared to between 3.9% and 6% of those with a trade certificate or less. Personal income also increased with occupational class ( $p < .001$ , Figure 13), showing a similar pattern to Figure 12. For instance, 36% of blue-collar workers (or former workers) had personal incomes below \$25,000 compared to only 25% of intermediate workers and 15.7% of white-collar workers ( $p < .001$ ).

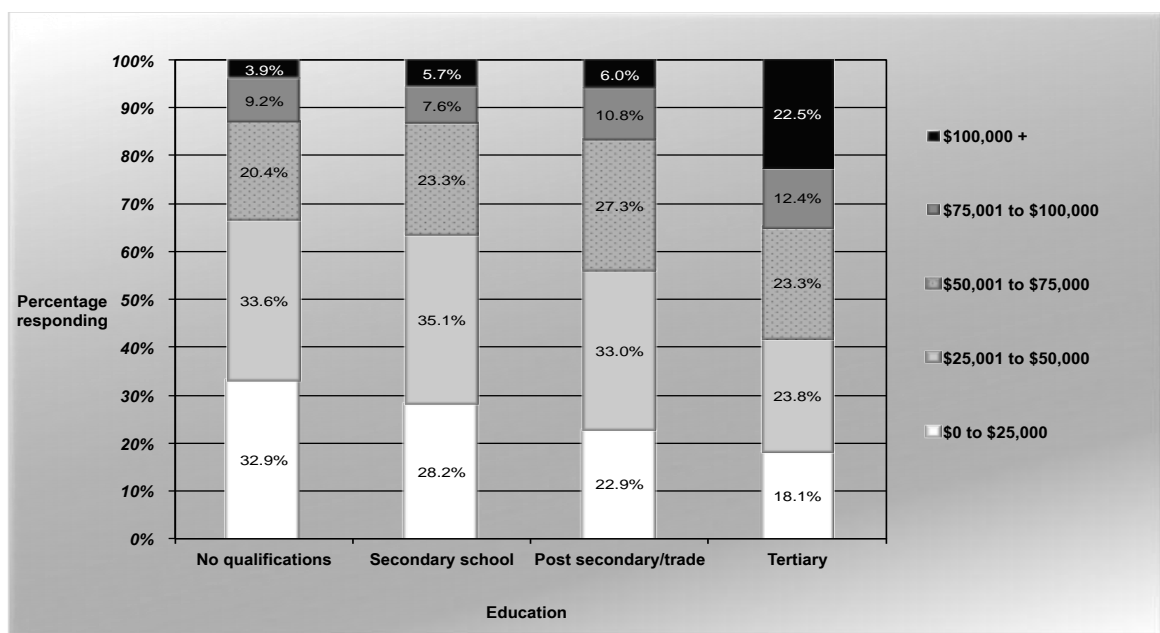


Figure 12. Personal income according to educational qualifications.

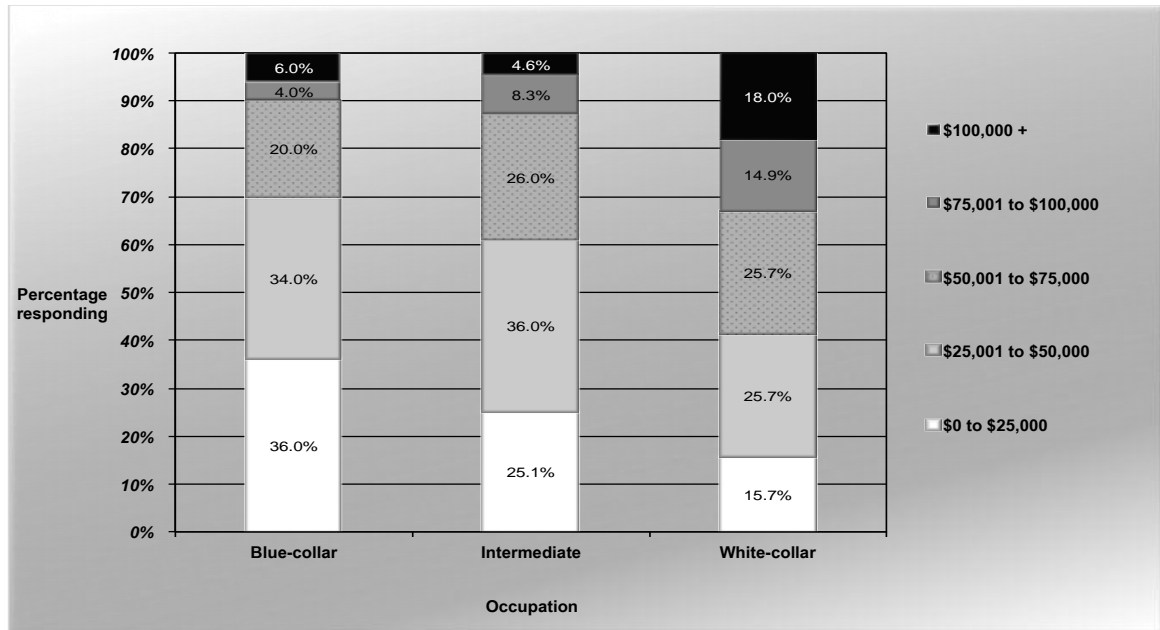


Figure 13. Personal income according to main occupation.

*Workforce participation.* As expected, increasing age and the transition to retirement were associated with lower personal income ( $p < .001$ ). Of the 48 to 59 year-olds, 17.4% had personal incomes over \$100,000 compared to between 4.1% and 8.7% of 60 to 90 year-olds (Figure 14). The same pattern was evident for retirement status ( $p < .001$ ), but the strength of the relationship with personal income was somewhat stronger than for age. According to Figure 15, approximately 22% of the full-time workers had personal incomes over \$100,000 compared to fewer than 3% of part-time workers and retirees. In contrast, only 3% of full time workers had income below \$25,000 compared to 45% of retirees. It is likely that New Zealand Superannuation comprises a large proportion of the latter group's personal income.

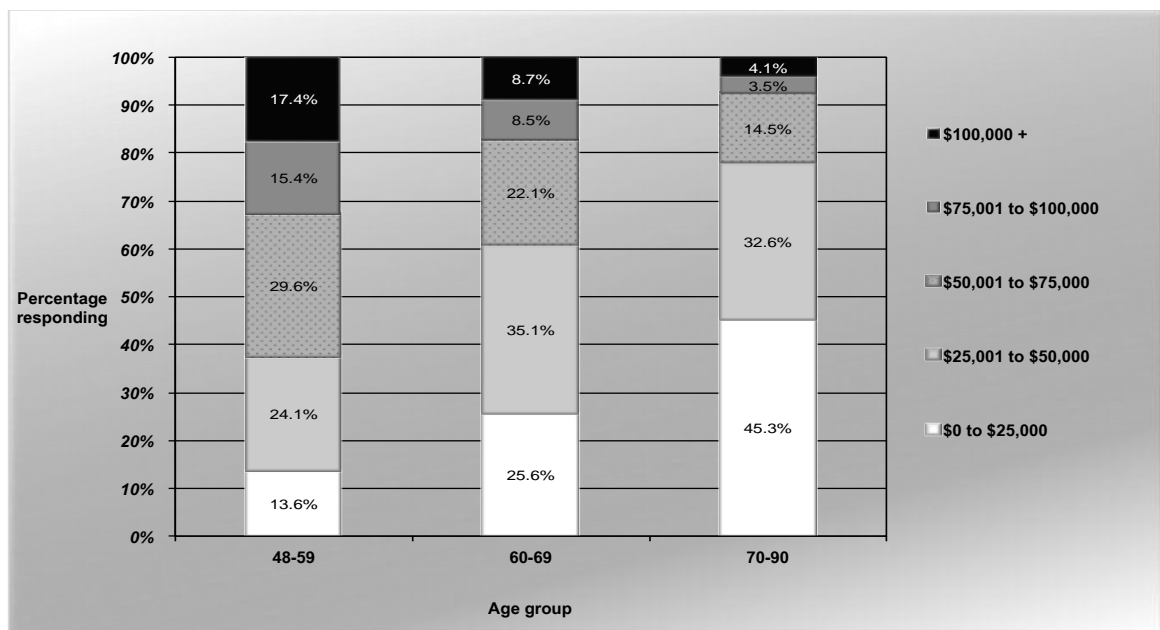


Figure 14. Personal income according to age group.



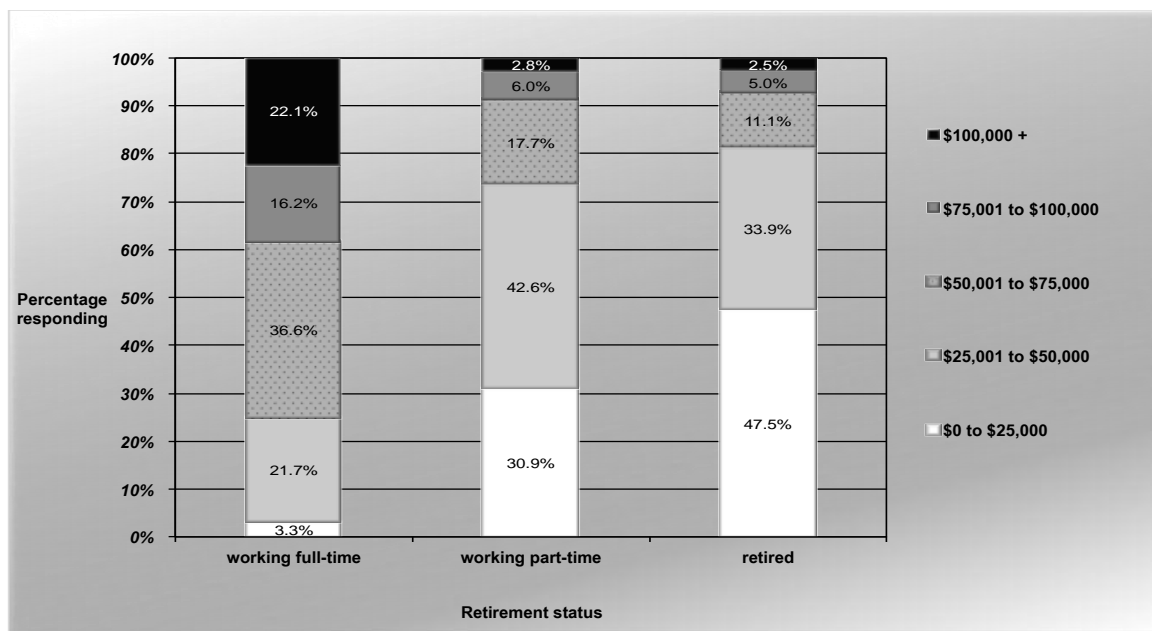


Figure 15. Personal income according to retirement status.

*Gender.* Women reported significantly lower personal incomes than men ( $p < .001$ ). As shown in Figure 16, 17% of males earned over \$100,000 compared to only 5.2% of women. In contrast, 32.2% of women earned less than \$25,000 compared to only 17% of men. There were no statistically significant differences in personal income according to marital status or ethnicity<sup>7</sup>.

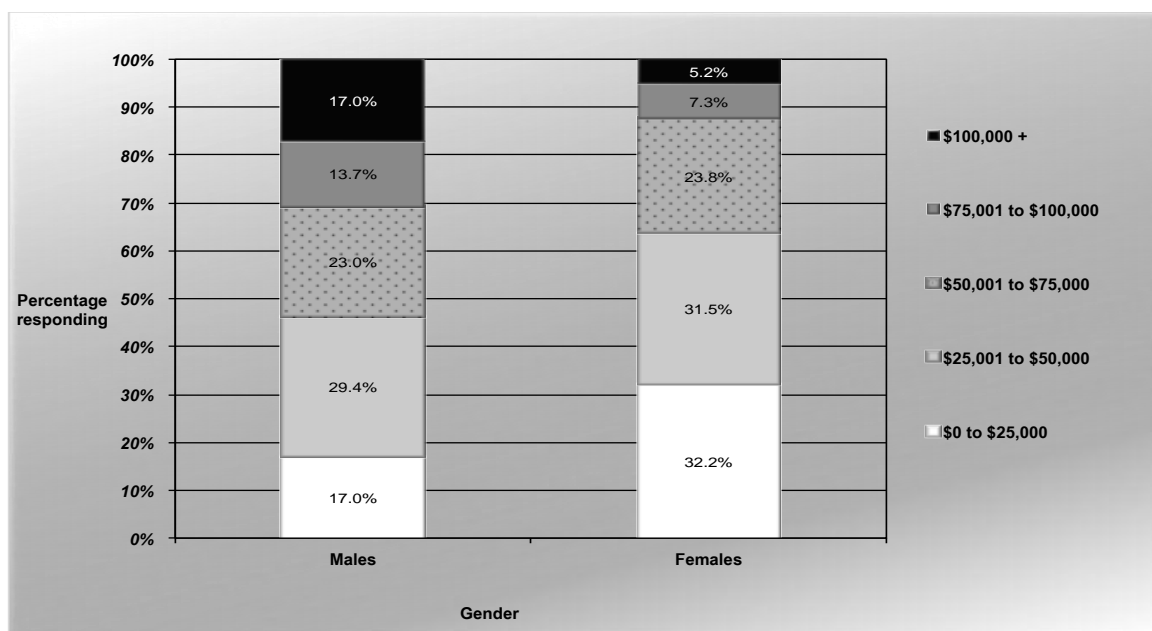


Figure 16. Personal income according to gender.

<sup>7</sup> High levels of missing data for personal income lead to small cell sizes when examining the relationships between personal income, ethnicity and marital status. Thus, the result of no association is unlikely to reflect the relationship in the population.

## Summary

Educational attainment was moderately associated with occupational class and personal income, providing support for McMillan et al.'s (2009) model. As expected, those in white-collar occupations were more likely to have a tertiary qualification than those in blue-collar occupations. Personal incomes were also significantly greater for those with higher educational qualifications and in a higher occupational class. However, it is important to note that this was not the case for all participants. Many reported relatively high personal incomes despite low educational qualifications. The gender differences in personal income identified in Figure 16, suggest that these opportunities were more open to males than females. In line with the previous literature, this finding suggests that while advances in educational and occupational equality are evident, women still experience disadvantage in terms of their personal incomes (Jaumotte, 2003a, 2003b).

Educational qualifications were lower for the oldest group, reflecting a possible generation effect identified in other research and New Zealand census data (Ministry for Culture and Heritage, 2012; Statistics New Zealand, 2006). Findings also indicate that the oldest group was more likely to work (or have worked) in an intermediate occupation. In terms of retirement status, those who were no longer working for pay were more likely to have worked in blue-collar occupations compared to those who were still working. This is consistent with previous research, which argues that blue-collar workers retire earlier due the physical demands of the job and relatively low levels of autonomy compared to other workers (Blekesaune & Solem, 2005). The association of decreasing educational qualifications with the increasing likelihood of retirement supports this conclusion, as NZLSA's blue-collar workers and former workers were less well educated than intermediate and white-collar workers.

Ethnicity-based differences in education clearly indicated that Māori are disadvantaged as approximately 40% had left school with no qualification—twice the rate as those identifying only as European. Ethnic disparities in education appear to have had an effect on occupational class. Māori were significantly less likely than all other groups, including those identifying as both European and Māori, to work in white-collar occupations. Contrary to expectations, there were no differences in personal income according to ethnicity. However, this finding may be an artefact of the high rates of missing data for personal income.

## SES at the Household Level

### Household Wealth

*Education, occupation and income.* Higher levels of household wealth were associated with higher educational qualifications, occupational class, and personal income ( $p < .001$ ). As expected, personal income was strongly associated with accumulated wealth (Figure 19), while the relationships between educational qualifications, occupation and wealth were weaker but still statistically significant (Figures 17 and 18). For instance, 20.4% of those with a tertiary qualification had accumulated over \$1,000,000 in wealth, compared to only 12.9% of those with a trade qualification and 14% of those with a secondary qualification. However, 8.2% of those with no formal qualification had amassed more than \$1,000,000 in assets and over 40% had accumulated more than \$250,000 in assets. In terms of occupation, only 15% of blue-collar workers had accumulated more than \$250,000 in assets (Figure 18). This suggests that educational qualifications are less of a barrier to wealth accumulation than occupation and income.

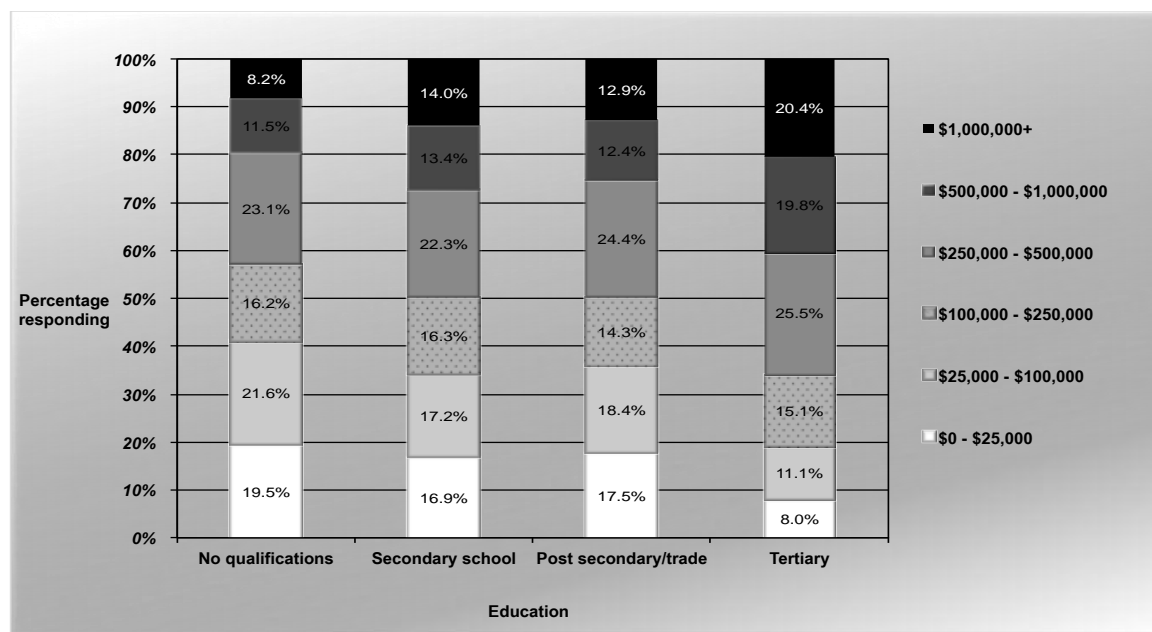


Figure 17. Household wealth according to educational qualifications.

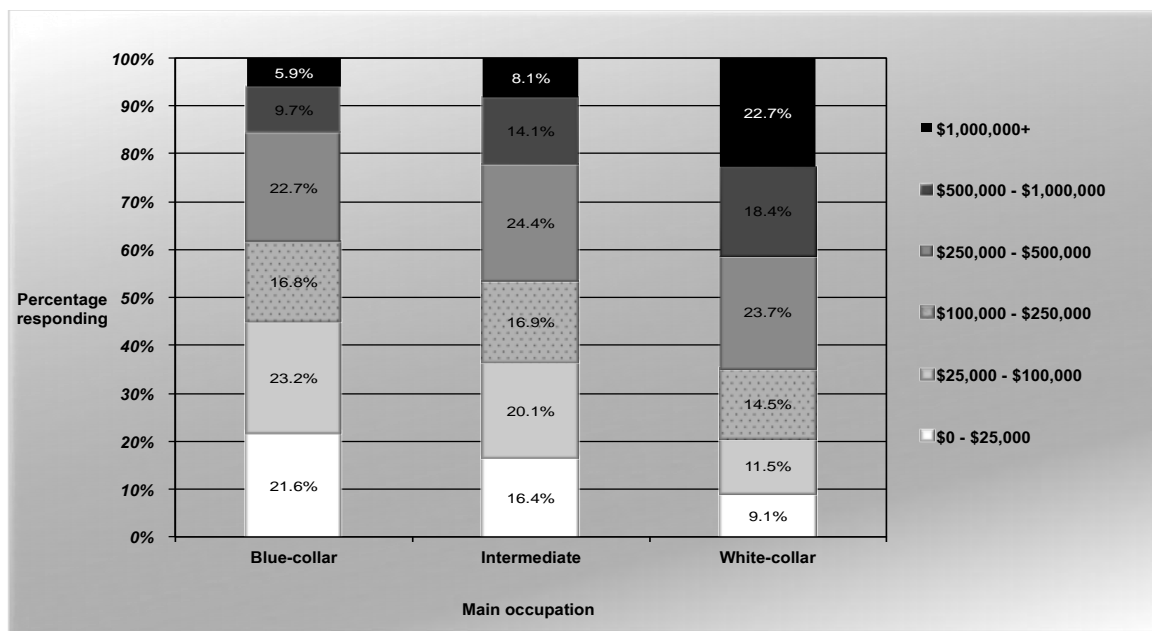


Figure 18. Household wealth according to main occupation.

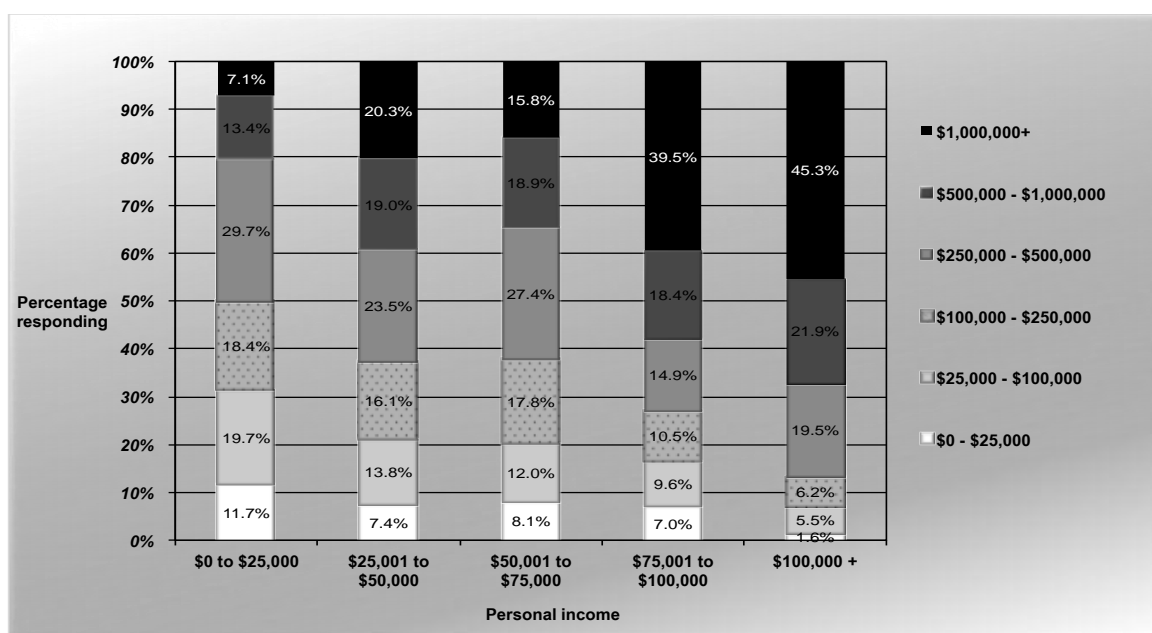


Figure 19. Household wealth according to personal income.

*Workforce participation.* Increasing age and lower levels of workforce participation were associated with lower levels of wealth ( $p < .001$ ), but the differences were small. As shown in Figure 20, approximately 20% of 70-90 year-olds had accrued more than \$500,000 in wealth compared to approximately 30% of those aged 48 to 69. Conversely, approximately 20% of the oldest group had accrued less than \$25,000 in wealth compared to 16.1% of the youngest group and 12.2% of the 60-69 year-olds. A similar pattern was evident for retirement status (Figure 21). This pattern of findings reflects the economic life-stages of wealth generation and ‘dissaving’. The oldest retired group did report lower levels of wealth than the other age groups and those who were working at least part-time. Figure 21 also indicates that part-retirees,

those arguably at the peak of wealth generation were slightly more likely than workers (the wealth generators) and full retirees (the ‘dissavers’) to have more than \$500,000 in total wealth.

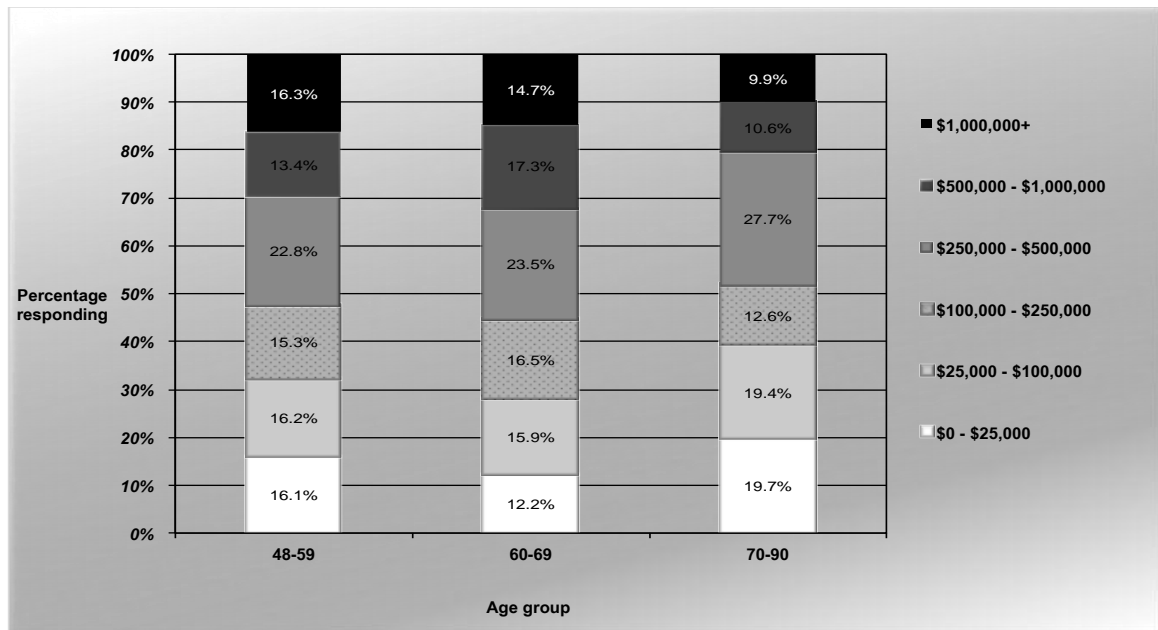


Figure 20. Household wealth according to age group.

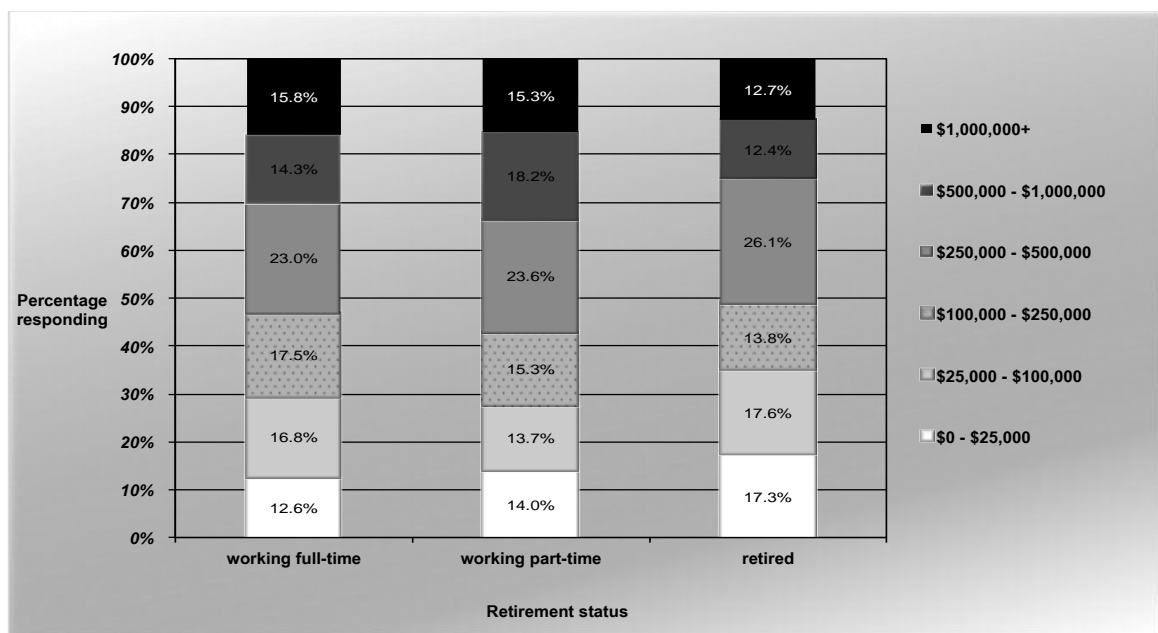


Figure 21. Household wealth according to retirement status.

*Gender.* Women had accrued less wealth than men ( $p < .001$ ), but the differences were again small. For instance, 17.6% of women had accrued less than \$25,000 of wealth compared to only 12% of men. Although larger gender discrepancies in wealth were expected, any gender inequalities in wealth accrual may be masked by wealth sharing in cohabitating couples. Figure 22 shows the advantage of having a partner for wealth accrual with approximately 30% of those with a partner

accumulating more than \$500,000 in wealth compared to approximately 12% of divorcees, 18% of widows and widowers, and 17% of those who have never married. The opposite pattern was evident for those accruing less than \$25,000 of wealth.

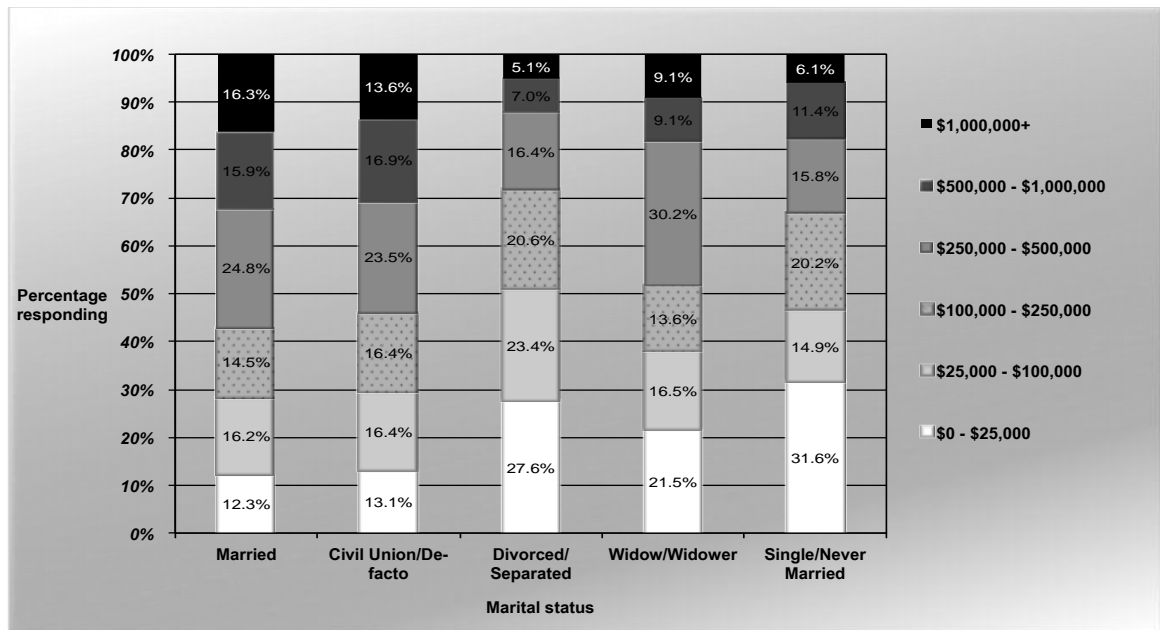


Figure 22. Household wealth according to marital status.

As expected, those accruing the most wealth identified as Europeans closely followed by those identifying as European and Māori (Figure 23). Along with those from other ethnicities ( $p < .001$ ), those identifying as Māori reported significantly less wealth accumulation.

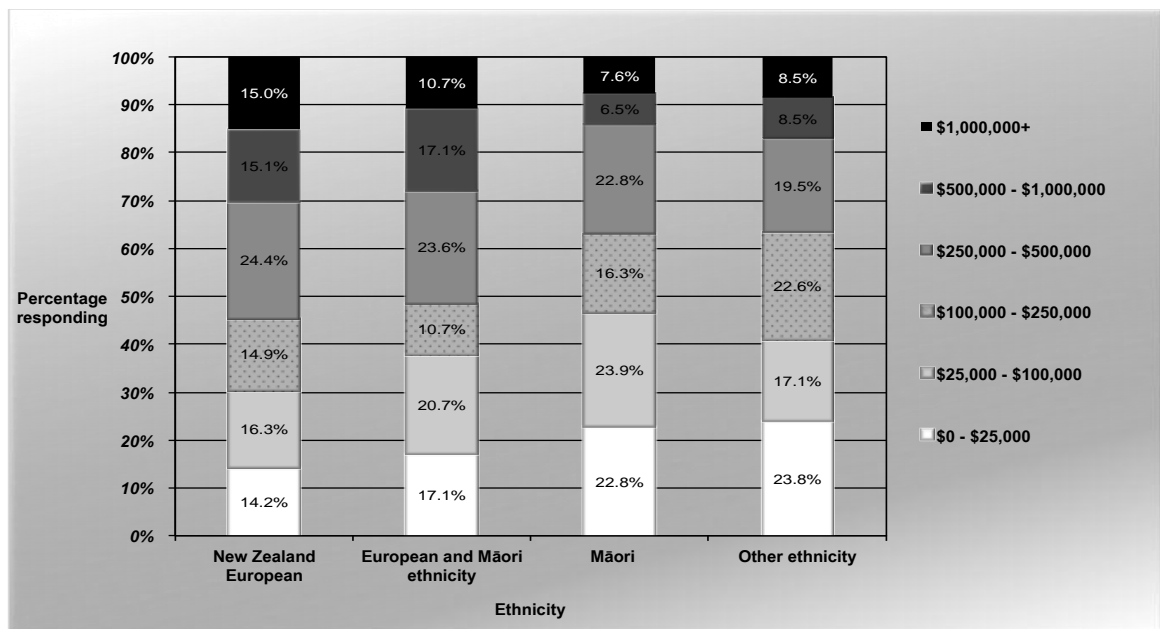


Figure 23. Household wealth according to ethnicity.

## Economic Living Standards

*Education, occupation, income and wealth.* Improving economic living standards were associated with higher educational qualifications, occupational class, personal income, and household wealth ( $p < .001$ , Figures 24 to 27). The difference in mean ELSI scores between those with no qualification ( $m=22.4$ ) and a tertiary qualification (25.4) was 3.0 points. This compares to 4.6 points when comparing ELSI scores for blue- and white-collar workers, 5.2 when comparing the lowest and highest income groups, and 8.7 points with comparing those with the least wealth and those with the most. The magnitude of the ELSI scores across the extremes of the socioeconomic categories suggests that household wealth plays a particularly important role in shaping the ownership of household items, economic-based decisions to socialise with others, and levels of economising to keep costs down.

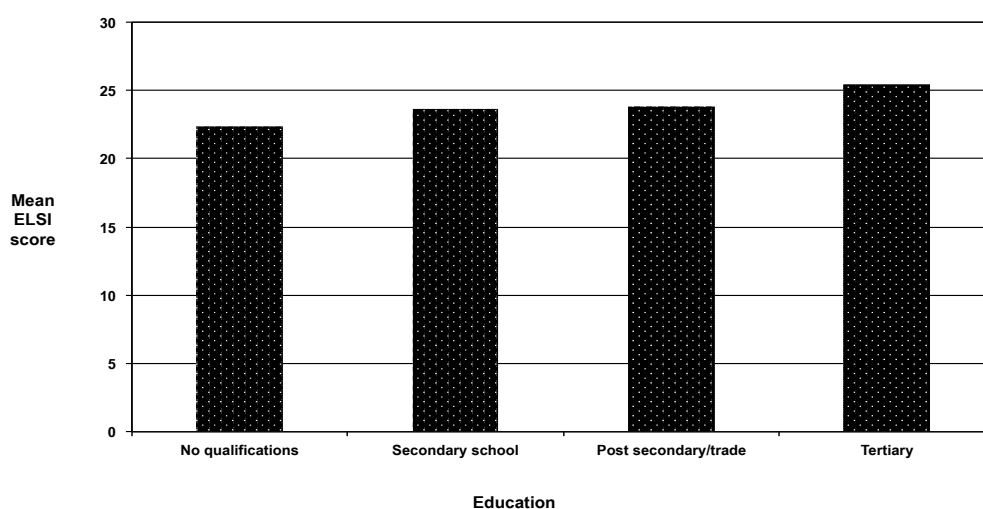


Figure 24. Mean ELSI score according to educational qualifications.

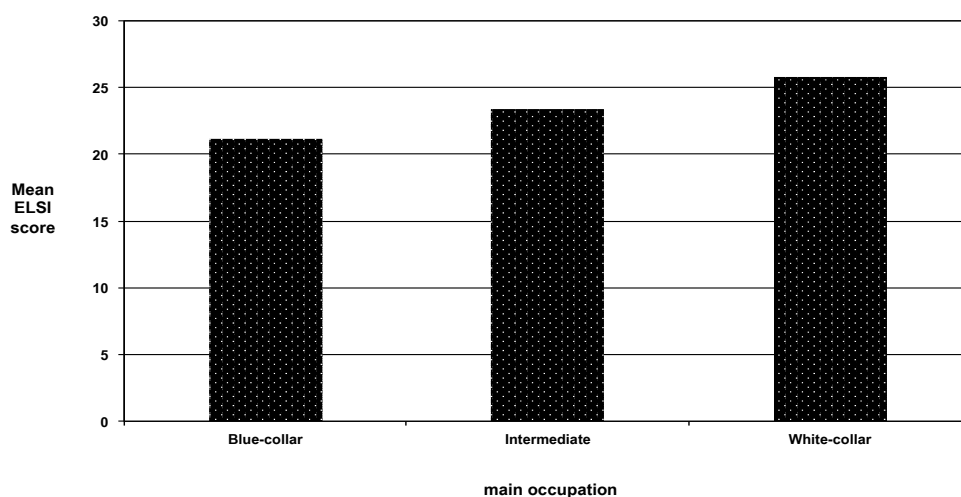


Figure 25. Mean ELSI score according to main occupation.

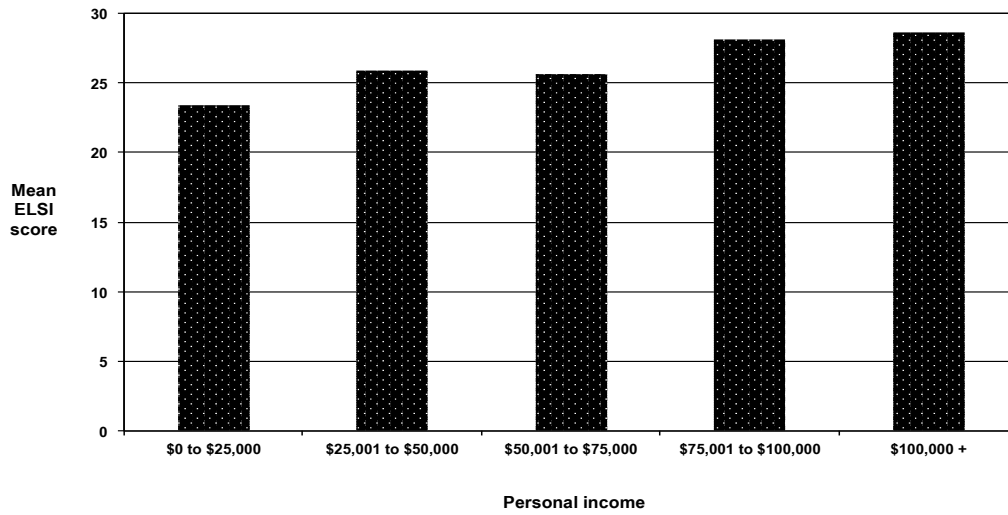


Figure 26. Mean ELSI score according to personal income.

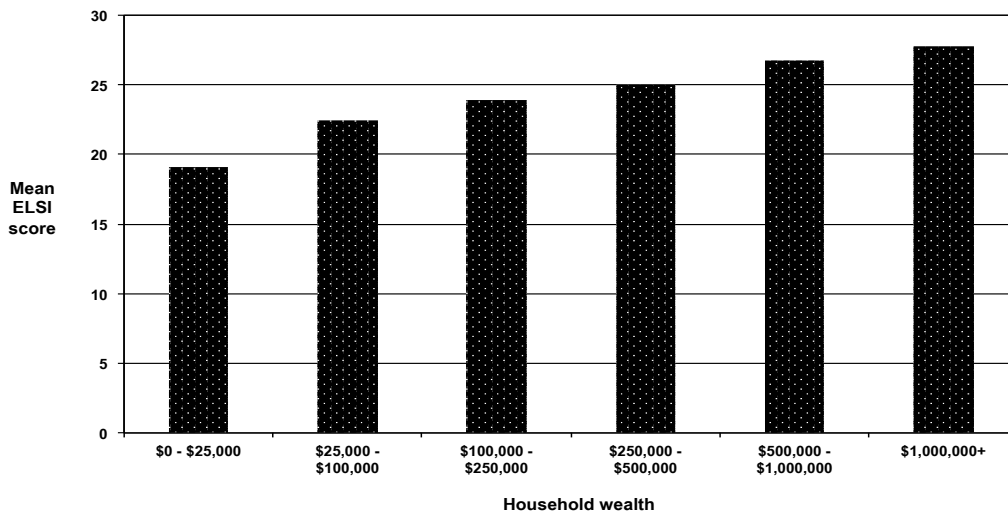


Figure 27. Mean ELSI score according to household wealth.

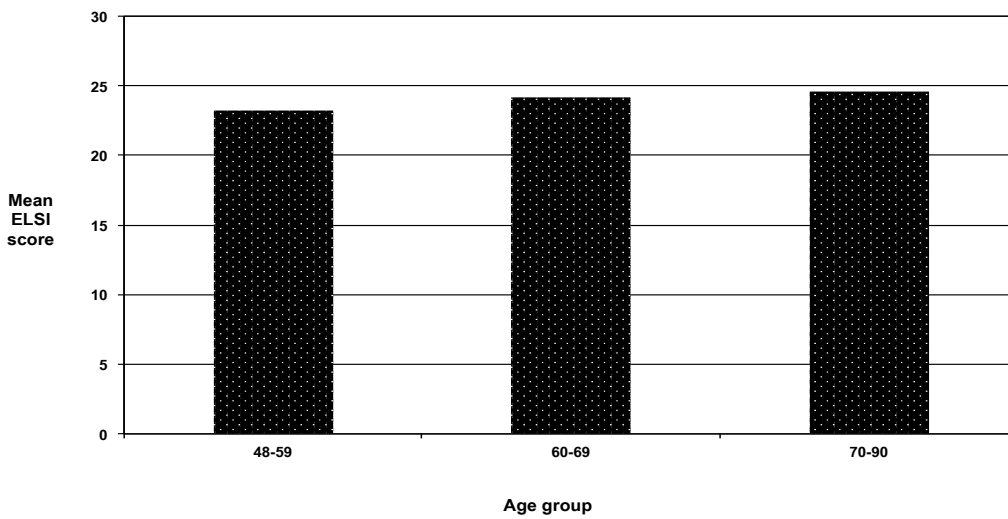


Figure 28. Mean ELSI score according to age group.



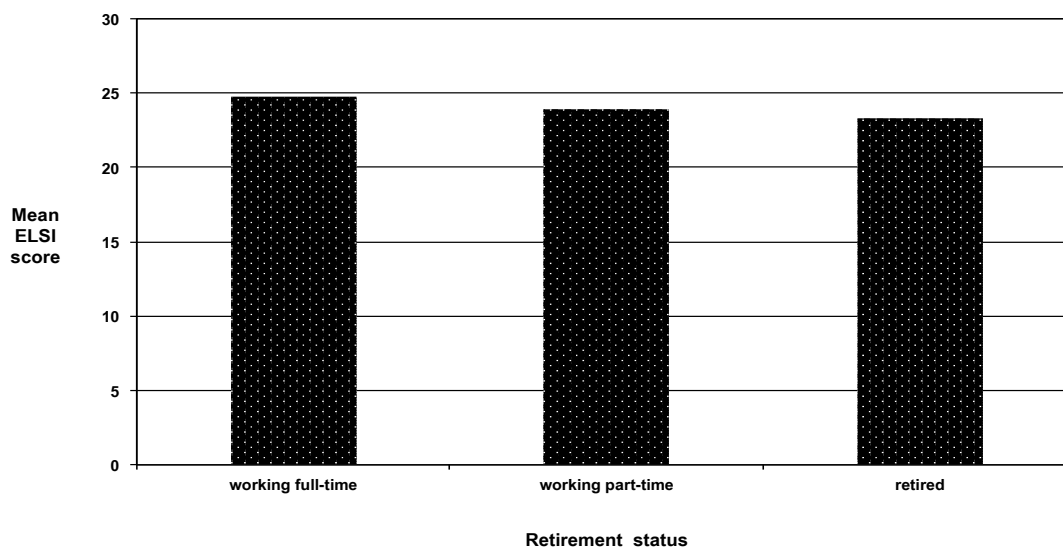


Figure 29. Mean ELSI score according to retirement status.

*Workforce participation.* As expected, increasing age and decreasing levels of paid work were associated with decreasing economic living standards ( $p < .001$ ). However, Figures 28 and 29 suggest that the group differences in ELSI scores were small.

*Gender and marital status.* On average, women reported slightly lower economic living standards (23.4) compared to men (24.7,  $p < .001$ ). According to Figure 30, married individuals and those in Civil Unions or de Facto relationships reported higher living standards than those living without partners ( $p < .001$ ). Those who had never married or who had divorced or separated reported the lower economic living standards than widows/widowers.

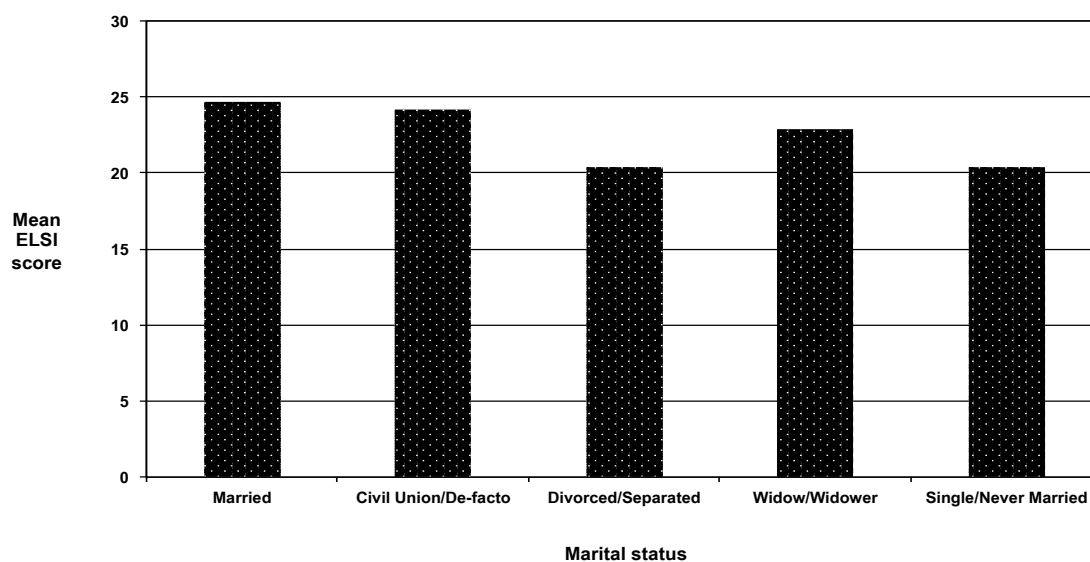


Figure 30. Mean ELSI score according to marital status.

*Ethnicity.* According to Figure 31, those identifying as Māori only reported significantly lower living standards than New Zealand Europeans and those identifying as both European and Māori ( $p < .001$ ). However, mean differences in ELSI scores between Europeans, those identifying as European and Māori, and those of Other ethnicities did not differ significantly.

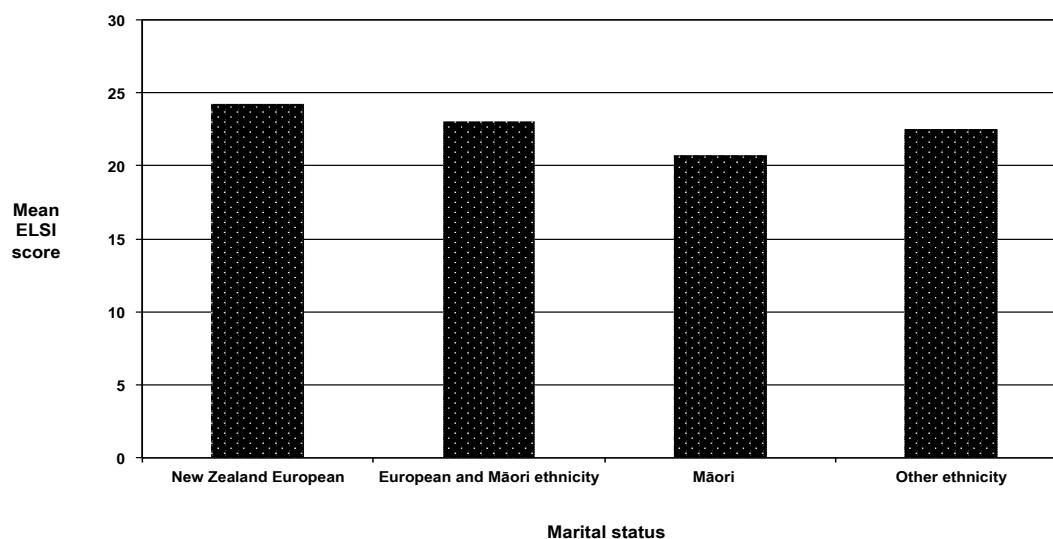


Figure 31. Mean ELSI score according to ethnicity.

## Summary

Increasing SES at the individual-level is associated with greater wealth and economic living standards at the household-level. However, personal income appeared to have a stronger relationship with wealth and economic living standards than education and occupation. In terms of the demographic variables, ethnicity was the strongest correlate of household-level SES followed by marital status. In these cases, Māori and those without partners were disadvantaged in terms of their wealth accumulation. Wealth and economic living standards did decrease with age and as people moved into retirement, providing some support for the wealth ‘generation-dissaving’ model. However, the effects were small, particularly in comparison with the effects of ethnicity and marital status on household-levels SES. Women did report lower wealth and poorer economic living standards, supporting previous findings (Noone et al., 2010).

## SES at the Community Level

*Education.* As shown in Figure 32, education-based differences in community-level deprivation were only evident at the extremes of the NZDep scale, which is consistent with other research (McIntyre, 2000). Twenty one percent of those with a tertiary qualification lived in areas with the least deprivation (a score of 1) compared to only 7.3% of those with no educational qualification. In contrast, only 1.3% of those with a tertiary qualification lived in the most deprived area (a score of 10) compared to 10% of those with no qualifications. Overall, Figure 32 suggests that having no formal qualification is associated with lower NZDep scores while having a high school qualification or higher is associated with higher scores.

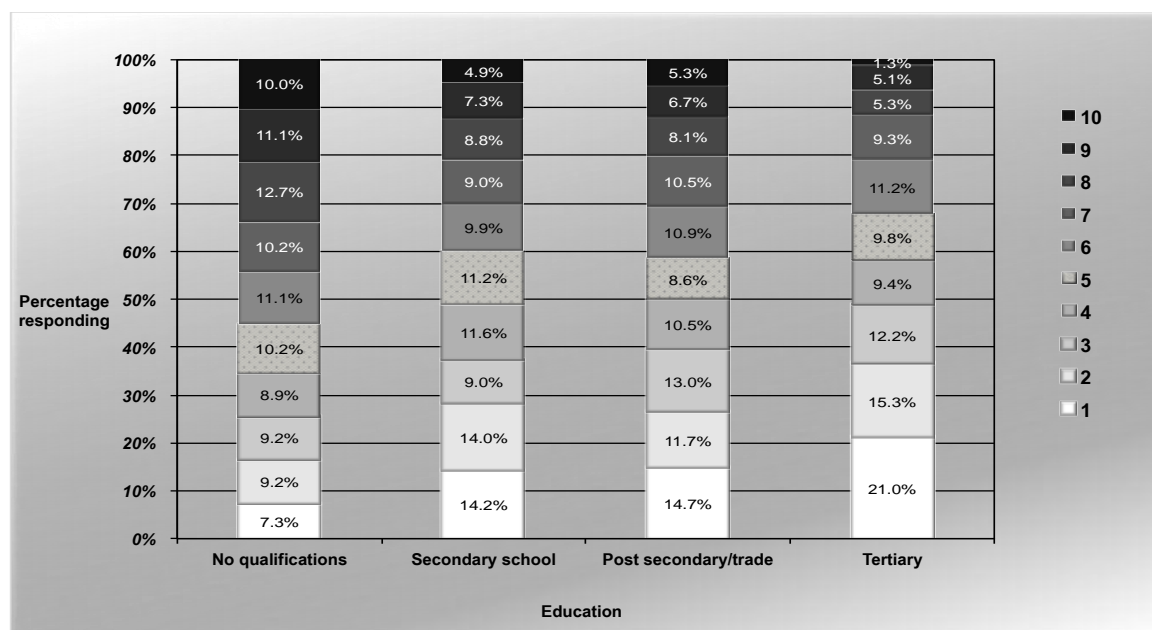


Figure 32. NZDep scores according to educational qualifications.

*Occupation.* Differences in NZDep scores according to main occupation were more pronounced than differences according to educational qualifications ( $p < .001$ ). According to Figure 33, almost 25% of blue-collar workers or former workers resided in the three most deprived categories (8, 9, & 10) compared to approximately 22% of intermediate workers and only 13% of white-collar workers. In contrast only 8% of blue-collar workers lived in the least deprived areas compared to 12.6% of intermediate workers and 20.8% of white-collar workers. Higher personal income was associated with residence in a less deprived area, but the relationship was weaker compared to other individual-level indicators of SES (Figure 34). This is possibly because retired participants may have lower incomes than workers, but may be living in non-deprived areas due to wealth accumulation.

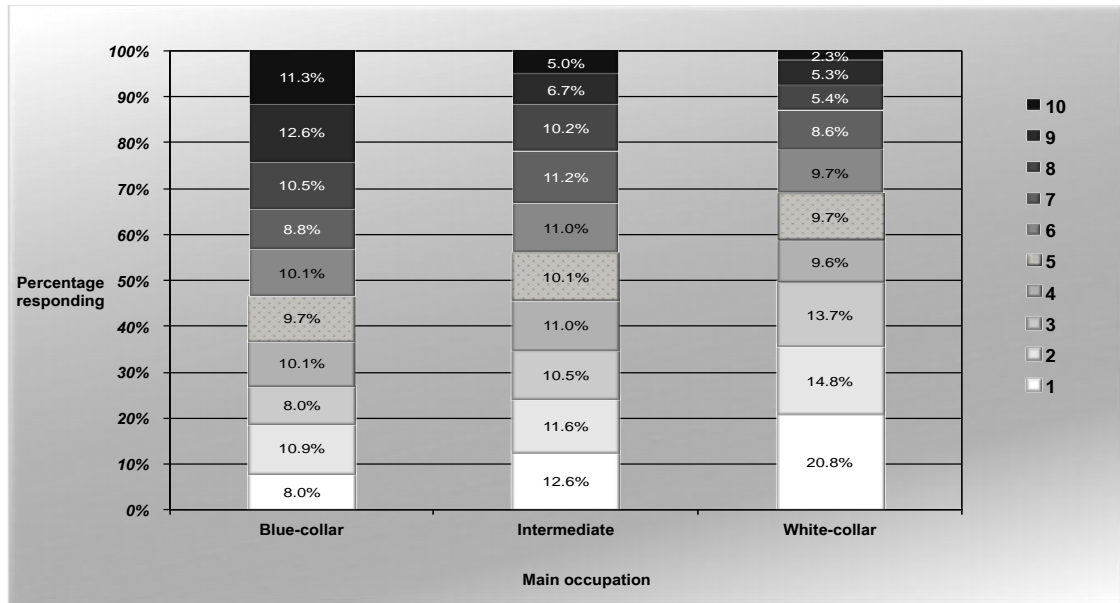


Figure 33. NZDep scores according to main occupation.

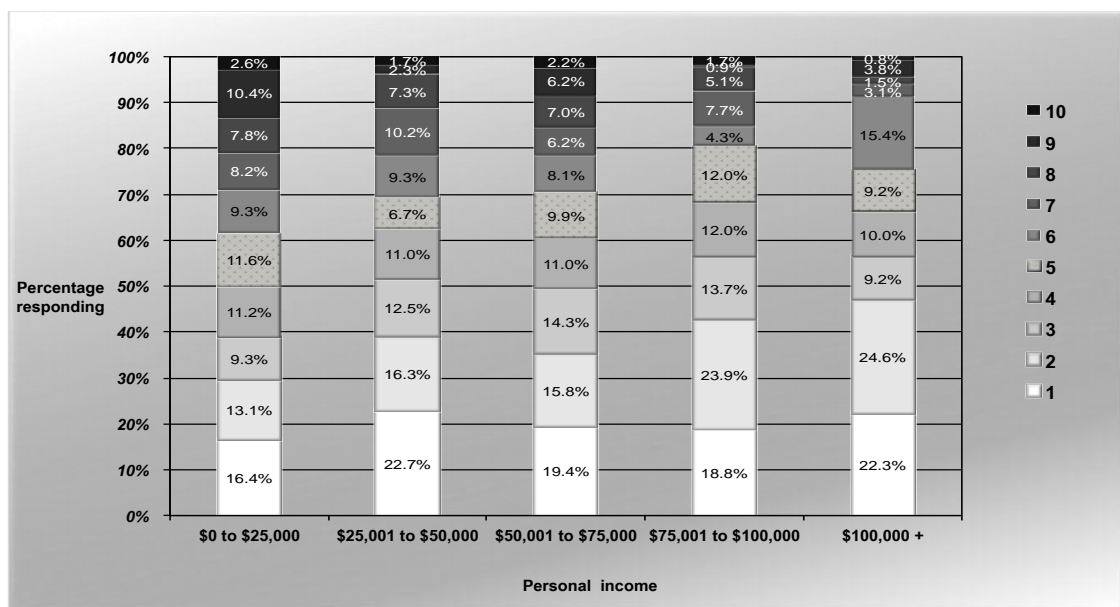


Figure 34. NZDep scores according to personal income.

*Wealth and economic living standards.* Both higher levels of wealth and greater economic living standards were associated with residence in less socioeconomically deprived areas ( $p < .001$ ). According to Figure 35, Almost 20% of the least wealthy group lived in areas with scores of 9 or 10 compared to only 5% of those in the highest wealth category. Figure 36 shows steadily declining levels of economic living standards as community deprivation increased. On the 0-31 scale of ELSI scores, those living in the least deprived areas had an average ELSI score of 25.7 compared to only 19 for those living in the most deprived areas.

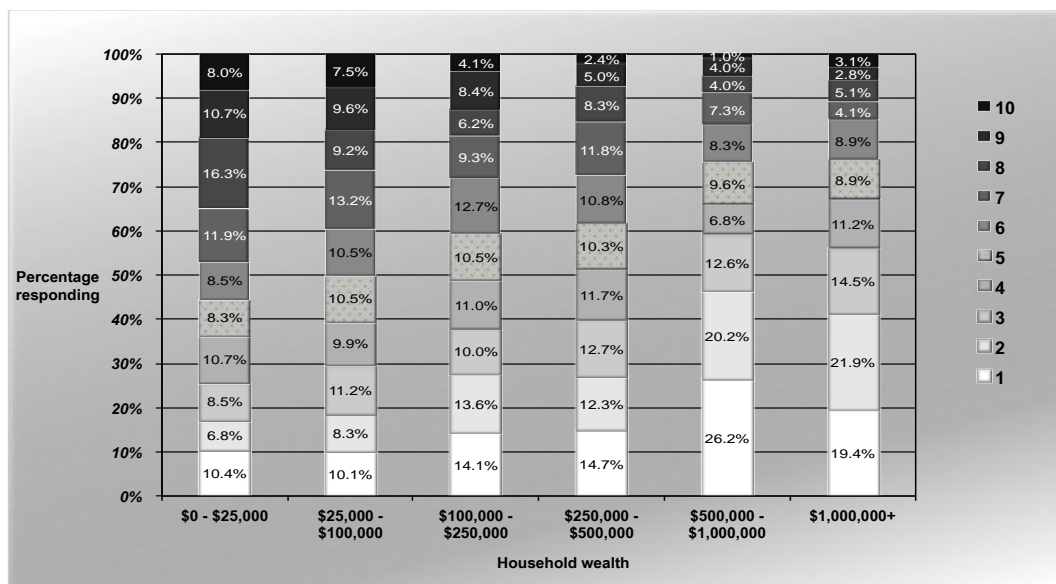


Figure 35. NZDep scores according to household wealth.

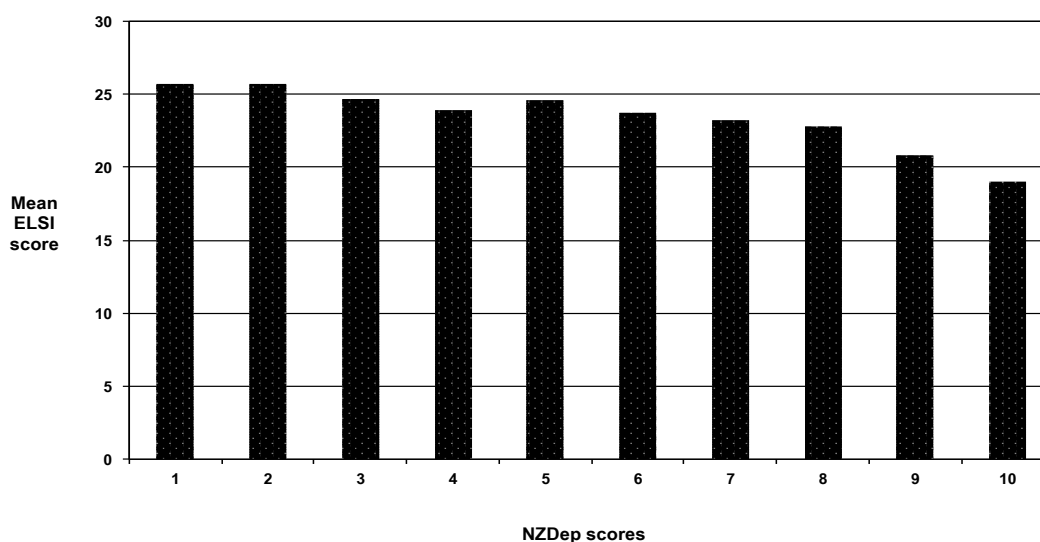


Figure 36. NZDep scores according to economic living standards.

*Individual, household, and community level comparisons.* Although there are clear relationships between the individual- and household-level proxies for SES and the community-level proxies, the relationships were not strong. For instance, 25% of those with the lowest level of wealth were living in low deprivation areas (scores of 1,2 & 3). The same pattern was evident for those with no educational qualifications (25.7%), blue-collar workers (26.7%), and personal incomes less than \$25,000 (39.8%). Thus, area-level deprivation on its own, is an imperfect indicator of SES and must be considered in conjunction with the individual- and household-level SES.

*Demographic predictors.* In terms of the predictors of area-level SES, there were no differences according to age, retirement status, or gender. However, there were notable differences in NZDep scores according to marital status and ethnicity ( $p < .001$ ). For instance, Figure 37 shows that those most likely to live in the least deprived areas were married (16.7%) and co-habiting participants (14.8%) and widowers (12.6%) compared to only 5.9% of divorcees and 3.3% of those who had never married. Those identifying as European, part-European or from other ethnicities lived in communities that were less deprived compared to those identifying only as Māori (Figure 38).

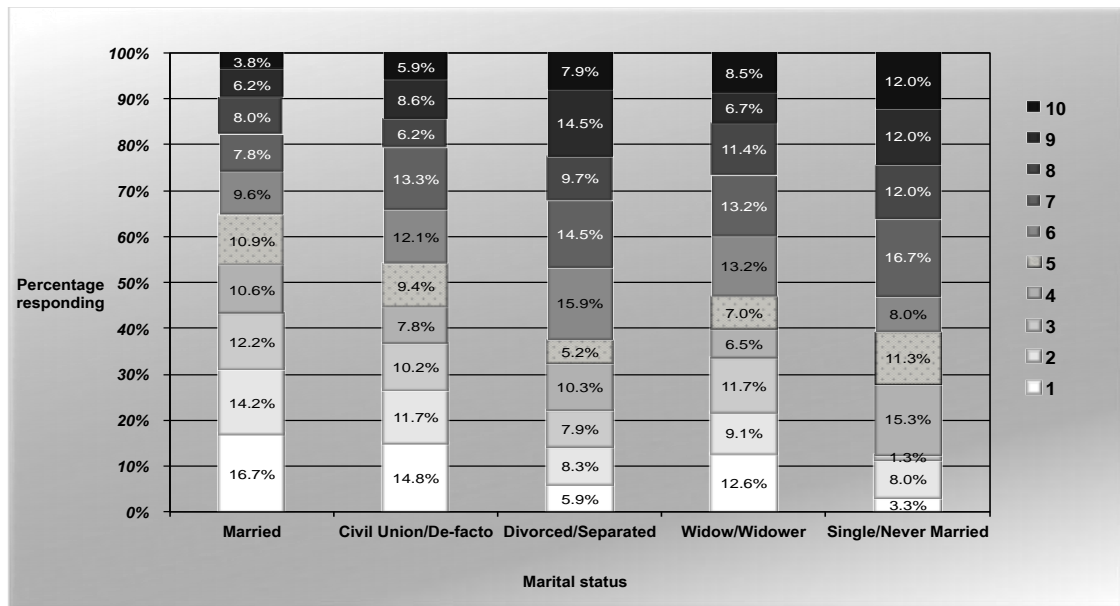


Figure 37. NZDep scores according to marital status.

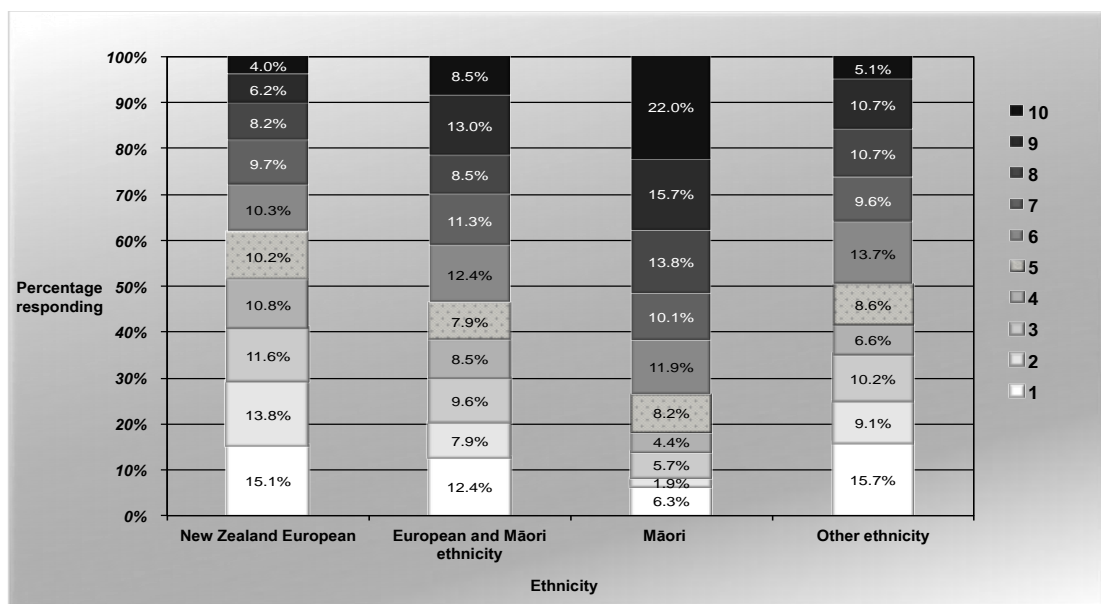


Figure 38. NZDep score according to ethnicity.

## Summary

The individual and household-level indicators of SES and the demographic variables provide only a partial explanation as to why people come to live in particular areas which have been assessed as marking levels of socioeconomic deprivation. However, the household-level indicators explained more of the variation in community-level SES than the individual-level indicators. Ethnicity in particular showed the strongest relationship with the NZDep measure with a substantively higher proportion of Māori living in areas of deprivation compared to other ethnic groups. Consistent with previous research, individual-level SES, household-level SES, and the demographic variables mainly predicted differences in deprivation at the extreme ends of the NZDep scale (McIntyre, 2000). In contrast, individuals residing in areas of moderate or average levels of deprivation were heterogeneous in terms of age, work status, gender, marital status and ethnic backgrounds.

## Change in Economic Living Standards

Improving New Zealanders' economic living standards has been an important goal for successive governments. Accordingly, this final section firstly examines the extent to which living standards have declined or improved for the NZLSA sample from 2010 to 2012. It then considers how changes in living standards may vary according to socioeconomic circumstances and demographic characteristics.

Figure 39 shows that economic living standards for the majority of the sample did not change substantively over the two-year period. However, 36% of the sample reported at least some reduction in living standards and 6% reported a drop of 5 or more ELSI points. In contrast, approximately 55% reported at least some increase in living standards and 6.4% reported an increase of 5 or more ELSI points. Of the NZLSA sample 18.9% reported no change in ELSI scores. Overall, a greater proportion of the sample's living standards increased rather than decreased.

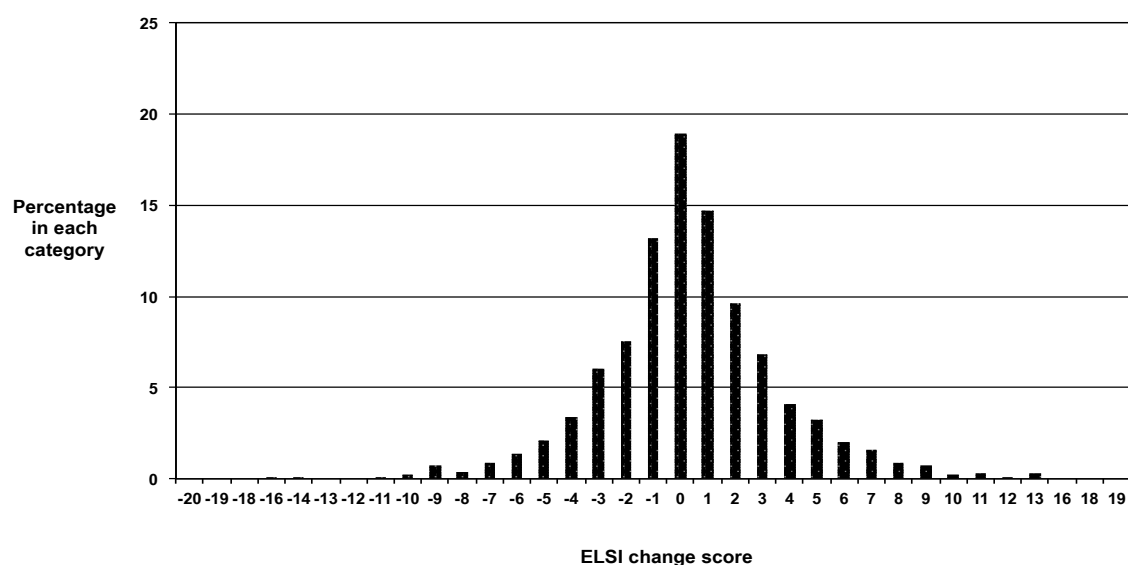


Figure 39. Change in ELSI scores from 2010 to 2012.

In order to identify potential ceiling and floor effects, Figure 40 shows ELSI change scores according to categorised ELSI scores in 2010. The results indicate that those with the poorest living standards in 2010 reported an average *increase* in ELSI scores while those with the highest living standards in 2010 reported an average decrease of  $-.77$  ELSI points ( $p < .001$ ). This result is to be expected, as the scale may not capture increases in living standards for those with already high ELSI scores in 2010. In contrast, decreasing ELSI scores for those with high living standards in 2010 will be captured. The opposite is also true for those with the poorest living standards in 2010. Nevertheless, these results further suggest a tendency for living standards to have improved from 2010 to 2012 for the NZLSA sample.



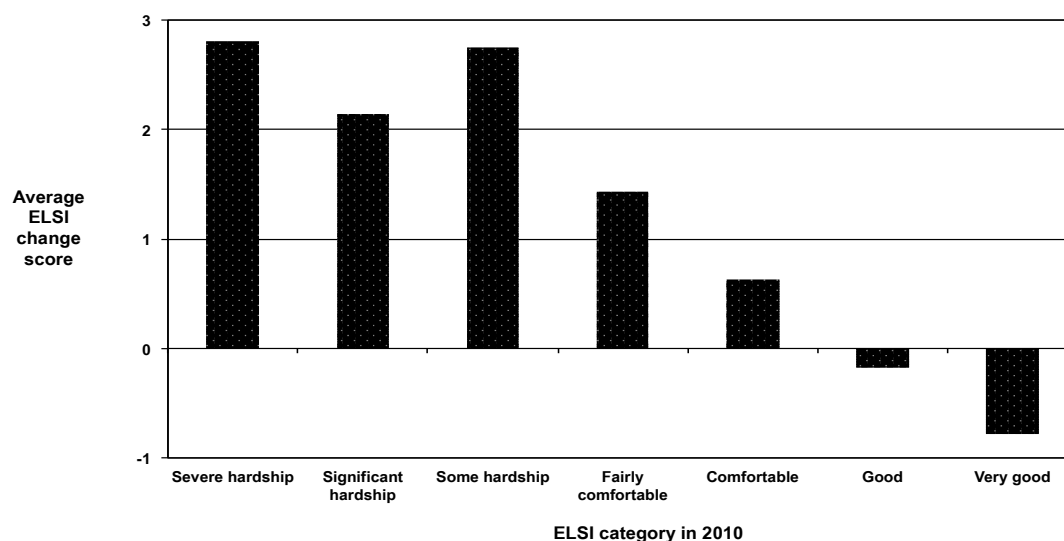


Figure 40. Change in economic living standards according to ELSI scores at baseline (2010).

### Predicting Change in ELSI Scores

To examine the predictors of change in living standards, average change scores were compared according to differing levels of education, main occupation, personal income, age, retirement status, gender, marital status and ethnicity.

Change in economic living standards did not differ according to educational qualifications. However, there were differences according to main occupation ( $p < .001$ ). While all occupation groups reported an improvement in living standards on average, white-collar workers (or former workers) reported a significantly smaller mean change score ( $M = 1.6$  ELSI points) compared to intermediate workers ( $M = 2.1$ ) and blue-collar workers ( $M = 2.4$ ). Lower levels of personal income in 2010 were associated with a decrease in living standards ( $p < .001$ )<sup>8</sup>. Findings also showed that those in the least three deprived areas reported significantly smaller improvements in economic living standards compared to those living in more deprived areas. That is, those in more deprived circumstances showed a greater improvement in economic standards compared to those in less deprived circumstances. This is consistent with the pattern identified in Figure 40.

In terms of the other predictors, age, retirement status, and gender were not associated with change in economic living standards. However, those who had been divorced or separated reported a significantly higher improvement in living standards than married individuals ( $p < .001$ ). Findings also showed that those identifying as Māori only reported a significantly greater increase in living standards ( $M = 2.5$  ELSI points) compared to Europeans (1.9), those identifying as European and Māori ( $M = 2.1$ ), and other ethnicities ( $M = 1.85$ ,  $p < .001$ ).

<sup>8</sup> Due to high levels of missing data, this particular result should be treated with caution. Only 477 participants provided information on personal income and provided ELSI data in 2010 and 2012. Thus, a selection bias is probably in effect.

While these results suggest a greater increase in living standards for more disadvantaged groups, there are caveats that need to be considered. Firstly, ceiling and floor effects are in operation making it difficult to identify decreases in living standards for those already living in difficult circumstances and increases in living standards for those in comfortable living conditions. Also, an increase of, for instance, two ELSI points does not necessarily equate to the same change in living standards for people originally in severe hardship compared to those originally in more comfortable living circumstances. In other words, it may be “easier” to move from 10 to 12 on the ELSI scale than from 20 to 22. Further research, that takes these caveats into account, is needed before further inferences can be made.

## Summary and Concluding Comments

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NZLSA participants varied considerably in their socioeconomic circumstances at every level. Differentiating the advantaged from the disadvantaged according to their demographic characteristics was informative in some ways but less so in others. Māori ethnicity was consistently associated with socioeconomic disadvantage as was female gender, but to a much lesser degree. Increasing age and the shift to retirement was also associated with greater disadvantage, suggesting that gender and ethnic disparities in SES, may compound as the population ages. However, differences in personal income, wealth and economic living standards, according to age and retirement status, were not as large as may have been expected. New Zealand’s universal superannuation plays a role in maintaining an adequate standard of living for New Zealand’s most disadvantaged older adults. This provision will be particularly important for the well-being of approximately 30% of 48-59 year-olds with less than \$100,000 in total wealth (Figure 20) as well as for Māori and women living in socioeconomically deprived circumstances.

Findings were broadly supportive of McMillan et al.’s (2009) sequential model of SES. Higher levels of education were associated with higher status occupation and greater personal income. Higher SES at the individual level was associated with greater wealth, more comfortable living standards, and residence in socioeconomically advantaged communities. However, not all participants with low levels of education were disadvantaged on the other socioeconomic indicators. A substantive minority worked in relatively high status occupations without holding a formal educational qualification. This has allowed some participants to generate substantial wealth despite having a disadvantaged educational background. However, it appears that the opportunity to generate a high income despite educational disadvantage was more apparent in men compared to women.

In terms of the other research findings, small but important inter-generational effects were found. In line with life-cycle economic theory (Browning & Crossley, 2001), older retired groups did report poorer socioeconomic circumstances than the younger workers, likely because they are ‘dissaving’ or consuming their wealth to fund their living costs rather than generating wealth for retirement. Consistent with New Zealand census data (Statistics New Zealand, 2006), older retired groups reported lower levels of education but were not over-represented in blue-collar occupations. However, survivor effects may be influencing these results. Those with

lower educational qualifications tend to work in lower status occupations that carry significant health risks (Blekesaune & Solem, 2005). Such individuals are therefore less likely to live to an older age compared to, for example, white collar workers.

The data showed substantial gender differences in personal income, but smaller gender differences in education and occupation. This suggests that historical disadvantage in older women's education and occupation had lessened for baby boomer women. However, disadvantage in women's income due to over-representation in part-time work and time spent out of the workforce due to greater family demands compared to men (Jaumotte, 2003a, 2003b) is still very apparent for those at late-middle age and beyond.

This report has highlighted the need for further, more detailed research into the antecedents and consequences of socioeconomic disadvantage. A substantial proportion of the NZLSA sample is living in socioeconomically deprived circumstances and this proportion will likely increase with age. It is therefore imperative that further research is conducted in order to proactively manage the social and economic change associated with population ageing.

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