lifecoursecentre

ARC Centre of Excellence for Children and Families over the Life Course

Inequalities in Objective and Subjective Social Wellbeing

Mark Western

Institute for Social Science Research, The University of Queensland

Wojtek Tomaszewski

Institute for Social Science Research, The University of Queensland

No. 2014-01
September 2014

THE UNIVERSITY OF QUEENSLAND AUSTRALIA

THE UNIVERSITY OF MELBOURNE

THE UNIVERSITY OF WESTERN AUSTRALIA

THE UNIVERSITY OF SYDNEY

Australian Government
Australian Research Council

Life Course Centre Working Paper Series
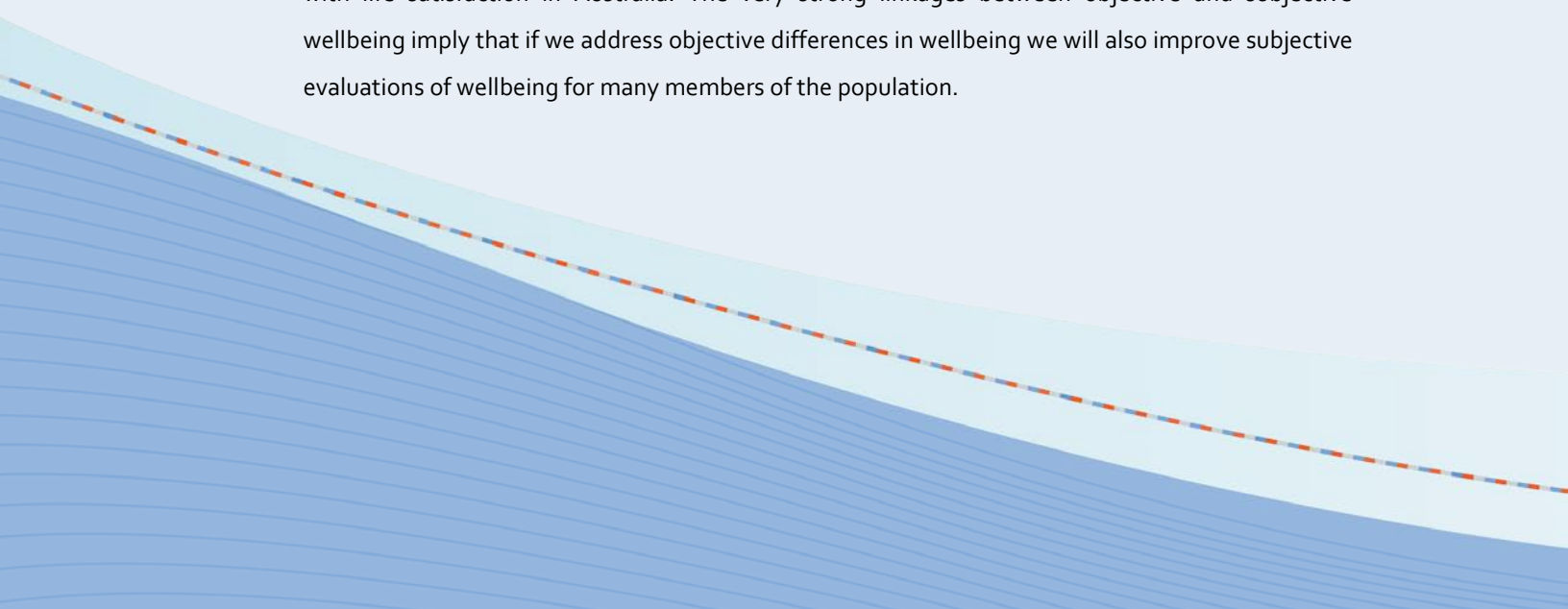
NON-TECHNICAL SUMMARY

In recent years policy makers and social scientists have turned their attention to the direct measurement of social wellbeing, a multidimensional construct that refers to the capacity of humans to live healthy, creative and fulfilling lives. In this approach, social wellbeing has objective components based in the social, economic, political and environmental conditions of individuals and families, and subjective components that encompass people's own assessments of these conditions.

The objective measures of wellbeing investigated in the paper include degree of financial hardship, access to adequate food, clothing, housing, care, health and social connections, and access to leisure time. The subjective dimension is represented by people's satisfaction with their lives.

We use data from three annual rounds of the Living in Queensland Social Wellbeing Study, a new representative study of Queensland households, to investigate how objective measures of wellbeing are associated with gender, class, age, ethnicity and Indigenous status, which are major sources of inequalities in many countries. We also examine the relationships between objective dimensions of social wellbeing and life satisfaction.

Australia is a pertinent case in which to investigate inequalities in objective and subjective wellbeing. As a country with very high levels of aggregate wellbeing and comparatively limited inequality in at least some measures of objective wellbeing, we might anticipate Australia to exhibit weaker associations between wellbeing dimensions than countries with greater inequality. However, our results demonstrate that objective features of wellbeing are not equally distributed, even in a highly developed and egalitarian society such as Australia. Women, Aboriginal people and Torres Strait Islanders, people from non-English speaking backgrounds and those in more disadvantaged occupational categories experience worse objective wellbeing than men, non-Indigenous Australians, English speaking Australians, and those in middle class jobs.

Furthermore, we also find that objective aspects of wellbeing have strong and persistent associations with life satisfaction in Australia. The very strong linkages between objective and subjective wellbeing imply that if we address objective differences in wellbeing we will also improve subjective evaluations of wellbeing for many members of the population.

ABOUT THE AUTHORS

Mark Western is the Director of the Institute for Social Science Research at The University of Queensland, a Fellow of the Academy of Social Sciences in Australia, and a sociologist. Mark is currently involved in a number of projects including studies of social, economic and educational inequality, research into social networks, and developments in survey research methods. His empirical research primarily relies on analyses of Australian and international cross-sectional and longitudinal surveys, but he is increasingly also working with aggregate and administrative data. Mark is the Program Leader for Program 1: Disadvantage Systems and leads the Life Course Centre Project on Social and Economic Mobility. Email: m.western@uq.edu.au

Wojtek Tomaszewski is a Research Fellow in the Employment and Education Program within the Institute for Social Science Research at The University of Queensland. Wojtek's recent work has focused on the links between disadvantage and educational and early employment outcomes of young people, as well as on various aspects of wellbeing. Recent articles have been published in the *Journal of Youth Studies, Social Indicators Research and Journal of Sociology*. Email: w.tomaszewski@uq.edu.au

(ARC Centre of Excellence for Children and Families over the Life Course)
Institute for Social Science Research, The University of Queensland
St Lucia, Qld 4072, Telephone: +61 7 334 67477
Email: lcc@uq.edu.au, Web: www.lifecoursecentre.org.au

Abstract

In recent years policy makers and social scientists have turned their attention to the direct measurement of social wellbeing, a multidimensional construct that refers to the capacity of humans to live healthy, creative and fulfilling lives. In this approach, social wellbeing has objective components based in the social, economic, political and environmental conditions of individuals and households, and subjective components that are cognitive and affective evaluations of these conditions. This paper uses three waves of a representative state-level household panel study from Queensland, Australia to investigate how objective measures of wellbeing are socially distributed by gender, class, age, ethnicity and Indigenous status. These are major sources of categorical inequality in many countries. We next examine the relationships between objective dimensions of social wellbeing and life satisfaction. The objective measures of wellbeing investigated in the paper include degree of financial hardship, access to adequate food, clothing, housing, care, health and social connections, and access to leisure time. The results indicate that objective aspects of wellbeing are unequally distributed by gender, age, class, ethnicity and Indigeneity in ways that imply these are categorical inequalities in Australia, and that categorical inequalities and objective aspects of wellbeing also have strong and persistent associations with life satisfaction.

1. Introduction

Among social scientists and policy makers there has been a growing interest in the nature and consequences of inequality and the nature and determinants of social wellbeing. The interest in inequality has been motivated by the increased economic disparities in many countries since the late 1970s and early 1980s (cf Neckerman 2004a; Grusky and Kanbur 2006), stronger international evidence of world-wide differences in poverty and inequality, and accumulating evidence about the macro-level (e.g. Wilkinson 2005; Wilkinson and Pickett 2009) and individual-level (including intergenerational) effects of poverty and inequality (Neckerman 2004b; Duncan and Murnane 2011). The interest in social wellbeing largely reflects conceptual work in welfare economics by Amartya Sen (1973, 1976) about how to measure poverty and inequality. From this base, Sen's (1992, 1999) work broadened to address the capabilities individuals should have to enable them to live fulfilling lives. Capabilities are valued ways of living that are potentially realisable for individuals. Sen further argued that societal development should aim to promote human capabilities and that capabilities indicated social progress and social development goals more accurately than economic output indicators based on GDP or National Income[1].

These ideas have been extremely influential. In political theory, scholars such as Nussbaum (2000) have listed human capabilities - life, bodily health, bodily integrity, the ability to use the senses to think and to imagine, the ability to express emotions, to exercise practical reason and autonomy with respect to one's own life, to affiliate, to live with dignity, to live in and with nature, to play, and to control one's own political and economic environment, through education, work and political and social participation - and argued they should be enshrined in constitutional guarantees.

In social indicators measurement, Sen's work informs national and international statistical indicators such as The United Nations Development Programme Human Development Index, the OECD's Better Life initiative, and the French government's Commission on the Measurement of Economic Performance and Social Progress (Stiglitz, Sen, Fitoussi 2009).

---

[1] Sen discusses social development and well-being in terms of capabilities and functionings. Capabilities refer to an individual's ability across multiple domains to live the life she/he chooses (Robeyns 2005). Functionings refer to the actual life an individual lives from within her/his capability set (Sen and Dreze, 1989; Sen 1985).

In this paper we examine inequalities in dimensions of wellbeing in Australia. We adopt a broad conception of wellbeing that includes objective dimensions measuring human capabilities in different spheres of life (social, economic, political, environmental), and subjective aspects based in cognitive evaluations of one's satisfaction with life. Our objective measures include social, economic and physical components noted by Stiglitz, Sen and Fitoussi (2009) and reflect the lists of central capabilities proposed by Nussbaum (2006)[2]. We examine how objective aspects of wellbeing are linked to gender, class, age, and Indigenous status and ethnicity, and importantly, we examine how objective aspects of wellbeing are linked to life satisfaction, a key subjective component of wellbeing. We also rely on longitudinal (panel) data, addressing calls (e.g. Arthaud-Day & Near 2005, p. 536) for more research to examine changes in individual wellbeing. Our approach allows us to examine changes in individual wellbeing and group differences.

2. Research questions and hypotheses

We address three distinct but interrelated research questions in this paper:

1. How are objective features of social wellbeing distributed according to socioeconomic and sociodemographic characteristics that indicate categorical relations of inequality or "durable inequalities", class, gender, age, Indigenous statusor ethnicity (Tilly 1998)?

2. How are objective aspects of wellbeing related to subjective assessments of social wellbeing (life satisfaction)?

3. How is the relationship between the categorical inequalities and subjective wellbeing mediated by objective aspects of wellbeing?

The socioeconomic and sociodemographic factors we examine are structural sources of inequality in many societies. Social relations associated with them potentially lead to long-lasting systematic differences in life-chances and social rewards. The primary categorical inequalities we focus on are gender, age, class, ethnicity and Indigenous status. These are key

---

[2] The key dimensions we do not consider include objective conditions based in the environment and politics.

stratifying principles in contemporary societies. The objective features of wellbeing we examine are core economic, social and physical components including financial hardship, material deprivation, household income, leisure time, social connections to family and friends, and health (cf Nussbaum (2006)). With subjective wellbeing, they encapsulate a number of the quality of life dimensions of the Stiglitz-Sen-Fitoussi (2009) report.

In common with other societies, in Australia, gender, class, age and ethnicity systematically shape access to resources, rewards and life-chances. Rewards and outcomes in different social domains are correlated, and advantages and disadvantages therefore potentially compound over the lifecourse (Neckerman 2004b). For instance, socioeconomic and class differences in the family of origin are associated with socioeconomic differences in educational achievement (De Bortoli et al. 2010), and in health (Spurrier at al. 2003) which themselves are associated with variations in employment outcomes in later life (Zucchelli et al. 2010). Tilly (1998) locates these differences in long-lasting relations of inequality that allow privileged groups to secure advantages through exploitation and opportunity hoarding. Exploitation arises when one group secures a disproportionate amount of a reward at the expense of another, while opportunity hoarding occurs when one group denies another access to an opportunity to secure a reward.

Given the nature of categorical inequalities we would expect those privileged by gender, class, age, ethnicity and Indigenous status to be advantaged with respect to objective measures of wellbeing. However we also anticipate particular links between some inequality relations and some objective aspects of wellbeing. Class relations are fundamentally linked to the economic conditions of people's lives, whether through mechanisms such as opportunity hoarding associated with market-based skills and processes of social closure, or relationships of domination and exploitation associated with owning and controlling economic resources such as property, economic capital, or organisational resources (Goldthorpe 2007; Wright 2009). We anticipate class relations to be most strongly related to economic aspects of objective wellbeing with more privileged classes being more advantaged economically than less privileged classes.

In contemporary societies gender relations sharply stratify economic outcomes (Blau, Brinton and Grusky 2006), and social outcomes involving interactions with others (Ridgeway 2013). The ubiquity of gender-based inequalities reflects opportunity hoarding by men, but also depends on pervasive cultural norms about gender-specific appropriate behaviours (e.g. Charles and Grusky

2004) which are linked to status-beliefs about competence and agentic capacity (Ridgeway 2013). Gender inequalities are ubiquitous across objective dimensions of well-being and in day-to-day interactions because gender differences are typically seen as essentialist and because cross-gender interactions occur frequently in most settings and social situations (e.g. work, family, neighbourhood). We therefore anticipate men to be advantaged over women with respect to most objective aspects of inequality.

We expect age stratification with respect to most objective inequalities for reasons noted by life course theorists: life changes take place over long periods of human lives with prior life history affecting later life outcomes; life course processes reflect individual and personal characteristics and collective (e.g. families, organisations), institutional and cultural contexts, and occur across multiple domains of life such as work and family (Mayer 2009). The implication of these arguments is that life course structured outcomes occur throughout people's lives across multiple capability domains and that outcomes in different domains are linked because of the importance of prior life history. These arguments do not translate into simple predictions, instead they suggest that objective wellbeing measures will be age stratified but that specific differences will reflect the objective wellbeing measure being examined, previous and current circumstances, and institutional and contextual factors.

Ethnicity is categorical source of inequality in Australia, particularly when linked to English language proficiency. English is the national language and the formal test for Australian citizenship is both a knowledge test and a test of basic English language (Department of Immigration and Border Protection, 2013). Australia's immigration policy is also increasingly selective on education and human capital (Markus and Semyonov 2010), and English proficiency is linked to both economic and social outcomes (Chiswick and Miller 1995), among other things, for instance, explaining a large part of the wage gap between immigrants and the native born (Islam and Parasnis 2014). We expect English language proficiency to be positively related to all objective wellbeing dimensions.

Finally, according to established research, Indigenous status is a profound source of inequality in Australia on "almost any conceivable measure of socio-economic wellbeing" (Dockery 2010), in part because Indigenous inequality is a "wicked problem" (Rittel and Webber 1973), in which

policy and program delivery is inherently difficult (Head 2009). We expect Indigenous status to be associated with negative well-being on all objective measures.

We also investigate how categorical inequalities and objective aspects of social wellbeing are related to life satisfaction. Conceptually, life satisfaction is an overall subjective assessment of wellbeing arising from the different circumstances and conditions of one's life. Domains such as material well-being, work, health, leisure, social and family connections are particularly important for subjective wellbeing (Cummins 1995). When economists, psychologists and sociologists examine how categorical inequalities such as gender, age and class are related to life satisfaction they assume that mechanisms are based in different life domains. For example, economic research on the effects of unemployment and income on life satisfaction (Frijters et al. 2004) focuses on whether or not pecuniary or non-pecuniary mechanisms are at work. In other words, are unemployment and income effects on life satisfaction the result of effects associated with varying objective living conditions (material well-being) or psychological factors such as depression, anxiety or self-esteem (Frijters et al 2004) (emotional well-being, linked to factors such as leisure, family connectedness and so on). By incorporating direct measures of objective well-being in different capability domains, along with categorical measures of inequality, we examine whether or not durable categorical inequalities affect subjective wellbeing *directly* or *indirectly* through their effects on objective dimensions of wellbeing. We hypothesise, in particular, that if life-satisfaction is an overall cognitive evaluation reflecting the circumstances of one's life, there will be strong direct relationships between objective measures of well-being and life-satisfaction. However, independently of objective circumstances, there is little reason to believe that categorical inequalities will directly influence life satisfaction.

Our empirical analysis relies on 3 waves of a longitudinal household panel study conducted in Queensland, the third largest state of Australia. Australia is a pertinent case in which to investigate inequality in objective and subjective wellbeing. For the last five years, Australia has ranked second behind Norway on the Human Development Index, and since 1980 Australia has typically ranked either second or first (UNDP 2011, Table 2). Moreover Australia also ranks second on the Inequality Adjusted HDI (UNDP 2011, Table 3), which incorporates inequalities in each of the three dimensions of wellbeing (education, life expectancy, income) measured by the HDI. As a country with very high levels of aggregate wellbeing and comparatively limited inequality (i.e. variance) in at least some measures of objective wellbeing, we might anticipate

Australia to exhibit weaker associations between wellbeing dimensions than countries with greater inequality. To the extent that we find robust associations between wellbeing dimensions, and social and demographic variations in objective and subjective wellbeing we might expect these associations and inequalities to be even more pronounced in other countries that show both lower average wellbeing and more inequality.

2. Data and methods

2.1. Data and sample

We use data from the Living in Queensland Social Wellbeing Study, a new longitudinal Australian panel survey that started in 2008, and follows a representative sample of Queensland households. The study is designed to operationalise and examine multidimensional inequality and wellbeing. The sample covers respondents aged 18 and over living in private households. At the first wave of the survey, one person per household was selected using random sampling stratified by region, age and gender and this person completed the Personal form. A person from the sampled household was then asked to provide information about household as a whole. The respondents to the personal questionnaire were followed over the course of three annual interviews (2008, 2009, and 2010) with complementary household information obtained at each wave. We used an unbalanced panel design, which resulted in 7,987 person-year observations used for analyses in this paper (3,367 persons interviewed in wave 1, 2,403 in wave 2, and 2,217 in wave 3 of the survey).

Queensland is the third largest state in Australia, containing approximately 20 per cent of the country's population. It includes the fastest growing population region in the country, largely because of internal migration linked to the strong state economy. In terms of age and sex, Queensland is highly representative of Australia. In 2009 the Queensland median age was 36.2 years, while the median age of the Australian population was 36.9 years (Australian Bureau of Statistics 2010: Table 3)**.** Queensland's sex ratio in 2009 was 100.0 while the Australian sex ratio was 99.2 (Australian Bureau of Statistics, 2010: Table 5).

2.2. Key variables

Table 1 describes the key measures used in the paper – the indicators of objective and subjective wellbeing. Our subjective wellbeing indicator is the *Satisfaction With Life Scale* (SWLS; Diener et al. 1985), a widely used and well-validated instrument (e.g. Pavot et al.).

The objective aspects of wellbeing are included as individual indicators in our models, rather than combined into an aggregate index as has been sometimes done (e.g. Bellani & D'Ambrosio 2010). This is because we are interested in how these are potentially differently distributed among different groups, and also potentially relate differently to subjective wellbeing. We also included two key control variables that are used in regression models predicting subjective wellbeing: indicators of positive and negative events that the respondents experienced over the past 12 months. In Western societies, responses to general subjective wellbeing or life satisfaction questions, tend to be subject to "homeostasis", that is most people report positive life satisfaction with a tendency to return to the same values over time (a "set point"). Such homeostatic "set point" for individuals can be altered in the short term by happy or sad events (Cummins et al. 2003), and in the long term (Headey 2010) by major life events such as repeated unemployment (Clark et al. 2004) or marriage (Lucas et al. 2003). To address this issue we add controls for positive and negative life events.

Our analysis of categorical inequalities focuses particularly on gender, class, age, ethnicity and Indigenous status with additional socio-structural and demographic control variables that are likely related to objective and subjective well-being. The key predictors of wellbeing in our analyses are:

Gender (Male, Female);

Age (coded as a categorical variable: 17-34, 35-44, 45-54, 55-64, 65+);

Class – based on labour force status, employment relations if employed, and occupation and skill level as classified by the Australian and New Zealand Standard Classification of Occupations (Australian Bureau of Statistics 2006)[3]. The measure has connections to the employment

---

[3] The Australian and New Zealand Standard Classification of Occupations is the official statistical classification for occupations in Australia and New Zealand. ANZSCO is a skill-based classification that uses information about job title and job tasks to code jobs and occupations according to level of skill and area of skill specialisation. ANZSCO groups

relations based account of Goldthorpe (2000) and the relations of production account of Wright (1997). Employer (self-employed and having employees), Petty bourgeoise (self-employed & working on their own), Skilled managers (ANZSCO Major Group 1; skill Level 1), Other managers (Major Group 1; other skill levels), Professionals (Major Group 2), Skilled technical (Major Group 3; skill Level 1), Other technical (Major Group 3; other skill levels), Skilled white collar (Major Groups 4,5 & 6; skill Level 2), Other white collar (Major Groups 4,5 & 6; other skill levels), Skilled blue collar (Major Groups 7 & 8; skill Level 4), Other blue collar (Major Groups 7 & 8; other skill levels), Not working

Aboriginal or Torres Strait Islander (ATSI; Yes, No)

Non-English Speaking Background (NESB; Yes, No); Note that this variable is proxying English language proficiency, which is not measured directly in our data.

Our control variables include marital status*;* the presence of children in the household (dependent children under 18; and preschool children under 6); education; labour force attachment (whether work is main activity of the respondent) and home ownership status.*,*

Initially data were screened for outliers and inconsistencies.We used Confirmatory Factor Analysis to test whether the measures of financial difficulties and material deprivation each formed a single underlying construct. The results were satisfactory, with both measures achieving high values of goodness-of-fit statistic (financial hardship: RMSEA=0.02, CFI>0.99; TLI=0.99; material deprivation: RMSEA=0.05, CFI=0.99; TLI=0.99) and good reliability(financial hardship: alpha=0.65; material deprivation: alpha=0.81).

---

occupations into 8 major groups at five levels of skill, ranging from level 1 (commensurate with a Bachelor degree or higher) to level 5 (commensurate with completed secondary skill or a level 1 vocational certificate).

Table 1 Wellbeing indicators

Dimension of wellbeing	Measure
Subjective wellbeing	
Life satisfaction	Average of five items measured on a 7-point scale each (Satisfaction With Life Scale (SWLS)): (*In most ways my life is close to my ideal; The conditions of my life are excellent; I am Satisfied with life in general; So far I have gotten the important things I want in life; If I could live my life over, I would change almost nothing*) (higher score = more satisfied)
Objective wellbeing	
Income	Log total household income: before tax, last financial year, equivalized using square root household size;
Financial hardship	Count of the number of problems over the past 12 months from a list of 5 items (*Couldn't keep up with payments for water, electricity, gas or telephone; Got behind with the rent or mortgage; Moved house because the rent/mortgage was too high; Had to pawn or sell something, or borrow money from a money lender; Had to ask a welfare agency for food, clothes accommodation or money*). (higher score = more hardship)
Material deprivation	Average score based on eight items measuring frequency the respondents' family could not afford the following goods or services over the past 12 months on a 4-point scale (*Warm clothes and bedding if it is cold; Decent meal; Medicines; A decent and secure home; Heating in at least one room of the house; Outings with friends; Visits to a doctor when you or a family member was sick; Visits to a dentist when you or a family member needed to*). (higher score = more deprived)
Leisure time	Log leisure time (in hours per week)
Health	Self-reported health status, measured on a 5-point scale (*Excellent, Very good, Good, Fair, Poor*). (higher score = better health)
Contacts with family	Self-reported variable measuring how often the respondent spends time with parents children or other relatives, measured on a 6-point scale (higher score = more contact)
Contacts with friends	Self-reported variable measuring how often the respondent spends time with their friends measured on a 6-point scale (higher score = more contact)
Indicators of events potentially affecting wellbeing	
Negative events	Number of the following events experienced over the past 12 months: *Family illness; Lost job; Experienced a major financial crisis; Failed an important exam; Serious illness; Separated; Immediate family member died; Close family member died; A friend died; Was a victim of a property crime; Was assaulted; Served a prison sentence; Family member served a prison sentence.*
Positive events	Number of the following events experienced over the past 12 months: *Was promoted; Got married; Passed an important exam; Reconciled with a partner; Gave birth/adopted a child (either respondent or the partner.*

To prevent the loss of data, we used imputation to eliminate missing values on the measures of wellbeing[4]. Our statistical models included a set of dummy variables indicating imputation as control variables. Those imputation controls are not reported in the regression tables because their effects were – with one exception – not statistically significant; the exception is noted in a relevant place.

2.3. Empirical strategy

Our empirical strategy is as follows. We begin by inspecting some distributional features of objective and subjective wellbeing. Next we use regression models for longitudinal data to examine the relationships between the sociodemographic variables and the wellbeing measures to provide information about sociodemographic distribution of social wellbeing. Variations in objective well-being by gender, class, age, ethnicity and Indigenous status provide some evidence of the existence of durable categorical inequalities. Finally, we regress subjective wellbeing on objective wellbeing and the sociodemographic variables, including our key indicators of durable categorical inequalities. These last analyses enable us to assess whether objective differences in wellbeing are mechanisms that link sociodemographic inequalities to differences in life satisfaction.

The main analytical method used in the paper is a mixed effects hybrid model for longitudinal data (Allison 2009), which can be expressed as:

$$Y_{ij} = \mu + \beta_1 * (X_{ij} - \overline{X}_i) + \beta_2 * \overline{X}_i + v_{ij}$$

In a longitudinal dataset for different individuals observed at different times (survey waves), there are two sources of variation in the response variable. The between-individual variation is the variation in respondents' mean values (i.e. averaged over time) on the dependent variable. The within-individual variation is the variation that a single respondent's time-specific score exhibits around his/her mean response score. A standard random effects estimator produces regression coefficients that are a weighted average of the between-individual and within-

---

[4] We used two methods of imputation: mean-values and within-person averages based on the data available for the same individual in other waves. Both methods yielded the same substantive results.

individual variation. A hybrid model extends a random effects model by transforming the original independent variables into group-mean deviations and adding their group-means as additional independent variables. This provides a way of relaxing the assumption in the random-effects estimator that observed variables are uncorrelated with the unobserved variables, which was originally proposed by Mundlak (1978) and allows estimates of the between and within-effects.[5]

In the results section, we decompose the total variance into the between and within components to gain insights into the cross-sectional and temporal distribution of inequalities in wellbeing, and subsequently present the between- and within- effects estimated by the hybrid models. The analytical strategy we employ enables us to integrate the random and fixed effects modelling frameworks, which is important from the point of view of this paper. The within estimator, typically obtained using a fixed effect model, provides a means of controlling for unobserved, time-invariant characteristics of individuals, such as psychological profiles, depression, anxiety or self-esteem. On the other hand, the between estimators provides us with coefficients for some of the indicators of durable categorical inequalities, such as gender or ethnicity, which are stable over time and therefore would not be estimated by the fixed effect model. Therefore, using hybrid models allows us to benefit from both these analytical frameworks.

3. Results

We start the empirical section of the paper by presenting descriptive results on inequalities in objective and subjective wellbeing in Australia. Table 2 shows two measures of inequality – relative mean deviation and the coefficient of variation[6] – calculated for all wellbeing dimensions. Financial hardship shows the highest levels of inequality, although this is largely due to the fact that it is a count variable. The dimension of objective wellbeing that is most prone to direct interventions from policy, namely income, is characterised by the lowest level of inequality. However, when material situation is measured more directly, using a material deprivation indicator, we observe markedly higher inequality. The level of inequality in

---

[5] A Stata command 'mundlak' offers a convenient way of estimating both the original Mundlak model and the hybrid model.
[6] For discussion of these and other measures of inequality, see e.g. Temkin (1993).

subjective wellbeing (i.e. life satisfaction) is also relatively high – on par with inequalities in aspects such as health or the frequency of contacts with family.

Table 2 Selected inequality measures of objective and subjective wellbeing

	Relative mean deviation	Coefficient of variation
Income	0.07	0.20
Material depr	0.12	0.37
Financial hardship	0.79	2.68
Health	0.12	0.30
Leisure time	0.09	0.27
Contacts w/ family	0.14	0.33
Contacts w/ friends	0.10	0.28
Life satisfaction	0.13	0.32

What is important from the perspective of this paper is that various aspects of objective and subjective wellbeing may overlap for certain groups of people, defined by particular socio-demographic characteristics. This would be consistent with the existence of categorical inequalities, to which analysis we now turn.

3.1. Investigating the socio-demographic distribution of objective wellbeing

The second stage of the analysis involved investigating how the objective wellbeing dimensions are distributed according to key socio-demographic characteristics. We first decomposed the total variance for each outcome variable into the between-person and within-person components to gain insights into cross-sectional and temporal variation in objective wellbeing in our data (Table 3).

Table 3 Decomposition of variance for objective wellbeing indicators

	Income	Financial hardship	Material depriv	Health	Leisure	C w/ family	C w/ friends
Variance							
Between-persons	0.65	0.51	0.35	0.83	0.55	1.24	0.84
Within-persons	0.41	0.35	0.29	0.55	0.65	0.88	0.73

ICC	0.71	0.68	0.58	0.70	0.41	0.66	0.57

Looking at the variance components, overall, there is more variation in objective wellbeing between persons than variation over time for the same persons, as evidenced by the intra-class coefficient (ICC) values over 0.5. This is not surprising as the observation period in our study is relatively short (3 years).Most objective components of wellbeing are rather stable over this time period. Despite this, there is still a considerable within-person variation on all of these measures, ranging from about 30% for health to 59% for leisure time. This indicates that objective wellbeing is still quite fluid and there is considerable mobility over time with regards to all of its dimensions.

We next estimated a hybrid model for each of the wellbeing measures.[7] Table 4 presents the 'between' and 'within' effects estimated by the hybrid model for our key indicators of categorical inequalities: gender, age, class, ethnicity and race.

As hypothesised, many dimensions of objective wellbeing are stratified by gender: women are disadvantaged in terms of income, report higher levels of material deprivation and spend less time on leisure. They do, however enjoy better health than men, and have more frequent contacts with family.

The within-person estimator suggests significant changes in individuals' circumstances as they move through the lifecourse (the between-person estimator shows consistent albeit weaker associations). Reported health status and contacts with friends worsen with age, compared to the youngest age group. The oldest age groups, particularly those over 65, also experience a drop in their incomes as well as less frequent contacts with family. Older people, however, have more leisure time than younger age groups. They also report fewer financial problems and less material deprivation, a pattern found previously in research on poverty (e.g. Gordon et al., 2000),

---

[7] The models we estimate assume that the dependent variable is linear, which is potentially problematic for some of our measures of objective wellbeing, particularly financial hardship, material deprivation, health, contact with family, and contact with friends. To check the robustness of the estimates against non-linearity, we re-estimated models for these variables using ordinal random effects logit procedure and compared them with corresponding random effects linear models. The results of these analyses were substantively the same: the direction of all associations remained the same and all coefficients that were statistically significant in the linear model remained statistically significant in the ordinal logit model. This is consistent with findings reported previously in the wellbeing literature, whereby the error introduced by assuming cardinality for ordered variables has been shown to be negligible (Ferrer-i-Carbonell and Frijters 2004).

and typically explained by changes in expectations for, and perceptions of, their standard of living, or the effects of unmeasured variables such as other wealth or savings.

Table 4 Between and within effects from mixed-effects hybrid regression models on objective wellbeing indicators

	Income	Financial hardship	Material depriv	Health	Leisure	C w/ family	C w/ friends
BETWEEN EFFECTS							
Female	-0.05*	0.03	0.05**	0.08*	-0.17***	0.14**	-0.05
Age							
17-34							
35-44	-0.05	-0.07	-0.07	-0.03	0.03	0.11	-0.11
45-54	-0.00	-0.13*	-0.07	-0.16	-0.03	0.05	-0.27
55-64	0.02	-0.12	-0.13*	-0.25*	0.02	-0.10	-0.37*
65+	-0.02	-0.10	-0.16*	-0.33*	0.13	-0.19	-0.28
Class							
Petty bourgeoise	0.10	-0.07	0.03	0.10	-0.00	-0.14	-0.23*
Employer	0.24***	-0.04	0.01	-0.02	-0.17*	-0.29*	-0.16
Skilled managers (L1)	0.20***	-0.03	-0.01	0.01	-0.25**	-0.42***	-0.18
Other managers	0.28**	-0.04	-0.06	0.13	-0.02	0.01	-0.07
Professionals	0.17***	0.03	0.01	0.09	-0.12	-0.15	-0.17*
Skilled technical (L2)	0.16	0.03	0.04	-0.16	-0.16	-0.06	-0.18
Other technical	0.21**	0.05	0.04	0.20	-0.27*	-0.36*	-0.39**
Skilled white-c (L2)	0.20**	-0.02	-0.01	0.06	-0.15	-0.27*	-0.19
Other white-c	0.14**	0.08*	0.08**	0.03	-0.22**	-0.17	-0.26**
Skilled blue-c (L4)	0.16*	-0.03	-0.00	0.28**	0.07	-0.07	-0.11
Other blue-c	0.24***	-0.10	-0.01	0.02	-0.13	-0.24	-0.25*
Not working							
ATSI	-0.23*	0.32***	0.10	-0.21	-0.15	-0.26	-0.06
NESB	-0.16***	0.02	0.13***	-0.00	-0.20***	0.13	-0.11
WITHIN EFFECTS							
Female	.	.	.	.	.	.	.
Age							
17-34							
35-44	-0.04	-0.06	0.04	-0.22***	-0.01	-0.11	-0.15*
45-54	-0.02	-0.04	0.04	-0.31***	0.07	-0.07	-0.24***
55-64	-0.10*	-0.13***	-0.02	-0.26***	0.15**	-0.44***	-0.27***
65+	-0.27***	-0.19***	-0.07*	-0.25***	0.31***	-0.67***	-0.16
Class							
Petty bourgeoise	-0.01	0.09	0.07	0.22	-0.26**	-0.01	-0.01
Employer	0.28***	-0.03	-0.04	0.41***	-0.23**	0.11	-0.00
Skilled managers (L1)	0.48***	-0.10	-0.08	0.30**	-0.13	0.09	-0.10
Other managers	0.21	-0.03	-0.03	0.24	-0.06	0.18	0.30
Professionals	0.27***	-0.11*	-0.01	0.31***	-0.12	0.12	-0.11
Skilled technical (L2)	0.23*	-0.19*	-0.04	0.11	0.05	0.59**	0.07
Other technical	0.11	-0.08	-0.06	0.27*	-0.07	-0.05	-0.10

Skilled white-c (L2)	0.34***	-0.12	-0.00	0.20	-0.06	-0.08	-0.13
Other white-c	0.14*	-0.05	-0.00	0.28**	-0.03	0.15	-0.06
Skilled blue-c (L4)	0.11	0.05	0.08	0.17	-0.11	-0.16	-0.10
Other blue-c	-0.10	0.07	0.07	0.28*	-0.02	-0.14	-0.12
Not working							
ATSI	.	.	.	.	.	.	.
NESB	.	.	.	.	.	.	.
Constant	3.84***	0.10	1.06***	3.41***	2.95***	4.22***	4.18***
N	7987	7987	7987	7987	7987	7987	7987

Note: The models also includes controls for marital status; the presence of children in the households; education; labour market attachment and tenure.

As expected, there is a strong class gradient to income. The within and between estimators suggest that skilled managers and professionals, and skilled white-collar workers have higher average incomes and better health. However, they also have less leisure time and less frequent contacts with family than other groups. Moving between classes is also associated with changes in financial hardship. In particular, post-hoc tests confirm that moving between blue collar classes and small-scale self-employment, on one hand, and professional and skilled technical classes on the other is associated with less financial hardship.

Also as expected, Indigenous and ethnic stratification is also present, Indigenous respondents have lower equivalised income than non-Indigenous respondents and more financial hardship. People of non-English speaking background report higher material deprivation lower income and less leisure time than English speakers.

3.3. Analysing the associations between objective and subjective wellbeing

In the final stage of analysis we investigate the links between objective and subjective of wellbeing. We also explore how the relationship between durable categorical inequalities and subjective wellbeing is mediated by objective aspects of wellbeing. We estimated two separate hybrid models at this stage of analysis (Table 5): Model 1 only contained the baseline socio-demographic characteristics of respondents as predictors of subjective wellbeing, while in Model 2 we also included the objective indicators of wellbeing.

Excluding objective wellbeing measures, model 1 reveals associations between higher subjective wellbeing and categorical inequalities that are consistent with previous research. The within estimator predicts a u-shaped relationship between age and life satisfaction, corroborating the pattern typically reported by others (Blanchflower & Oswald 2008). All else being equal,

women report higher subjective wellbeing, despite being objectively disadvantaged (cf. Table 4), which mirrors the findings reported earlier for Australia (Cummins et al. 2003). There are also within effects for class with movements between professional and petty bourgeois classes and not working being associated with higher life satisfaction, and movements between professional and petty bourgeois locations and other managerial classes being associated declining life satisfaction.

Table 5 Between and within effects from mixed-effects hybrid regression models on subjective wellbeing (Satisfaction with Life Scale)

	BETWEEN EFFECTS		WITHIN EFFECTS	
	Model 1	Model 2	Model 1	Model 2
Female	0.13**	0.16***	.	.
Age				
17-34				
35-44	0.00	-0.01	-0.28***	-0.12
45-54	0.01	0.04	-0.43***	-0.22**
55-64	-0.06	-0.02	-0.23*	-0.05
65+	-0.14	-0.10	0.06	0.14
Class				
Pet bourg	-0.21	-0.22	0.52**	0.52***
Employer	-0.04	-0.02	0.25	0.08
Skilled managers (L1)	-0.03	-0.02	0.21	0.02
Other managers	-0.01	-0.04	-0.25	-0.44*
Professionals	-0.10	-0.10	0.30*	0.15
Skilled technical (L2)	-0.03	0.02	0.09	-0.08
Other technical	-0.34*	-0.33	0.19	0.06
Skilled white-c (L2)	-0.13	-0.13	0.25	0.15
Other white-c	-0.08	-0.05	0.20	0.07
Skilled blue-c (L4)	0.16	0.10	0.09	0.10
Other blue-c	-0.12	-0.10	0.10	0.07
Not working				
ATSI	0.26	0.51**	.	.
NESB	-0.10	-0.02	.	.
Income		0.04		-0.04
Financial hardship		-0.08		-0.19***
Material deprivation		-0.14**		-0.60***
Health		0.16***		0.38***
Leisure		0.05*		0.13***
Contacts w/ family		0.02		0.03
Contacts w/ friends		0.06**		0.17***
Positive events		-0.01		-0.01
Negative events		0.00		-0.09***

Constant	4.91***	3.18***	4.91***	3.18***
N	7987	7987	7987	7987

Note: The models also includes controls for marital status; the presence of children in the households; education; labour market attachment and tenure

The within effects for Model 2 reveals strong positive associations between several objective measures of wellbeing and life satisfaction. Better health, more leisure time more frequent contacts with friends and less material deprivation and less financial hardship were all independently associated with higher subjective wellbeing. However, income and contacts with family which did not appear to have independent effects on life satisfaction, once other aspects of objective wellbeing have been accounted for. The lack of an income effect is noteworthy, because there is substantial debate about whether income and life satisfaction are related (Kahneman and Deaton 2010) but we do not know of studies that also control for changes in deprivation and financial hardship when they measure shifts in relative income. We also find a statistically significant association between the incidence of negative events and lower life satisfaction, but we do not see a mirror effect for positive events.

Differences in life satisfaction associated with categorical inequalities generally persist even once objective differences in wellbeing have been taken into account (Model 2), which is counter to our expectations. In fact the positive coefficients on subjective wellbeing for women, and even more so for Indigenous people, increase once the objective aspects of wellbeing are accounted for. These findings imply processes of life satisfaction adaptation for women and Indigenous respondents that are partly masked when gender and Indigenous differences in objective wellbeing indicators are not taken into account. They can also suggest differences in expectations and aspirations between gender and ethnic categories (Tomaszewski & Perales 2013). Finally, although moving to the petty bourgeoisie from other classes was associated with lower objective wellbeing on several measures, moving into the petty bourgeoisie from management, technical work or not working is associated with higher life satisfaction.

4. Conclusions

This paper has provided one of the first longitudinal analyses of inequalities in objective and subjective wellbeing in Australia and one of the first internationally to link objective wellbeing

measures with subjective evaluations of life satisfaction. We have attempted to capture a number of aspects of objective and subjective wellbeing and take into account critical factors that could moderate them, such as the incidence of positive and negative events in people's lives. We were also able to use multiple measures from the same individuals over time and decompose variation in objective and subjective wellbeing into the between-persons and within-persons components.

Our research shows a number of key findings. First, objective features of wellbeing are not equally distributed, even in a "highly developed" (on the HDI scale) and egalitarian society such as Australia. Women, Aboriginal people and Torres Strait Islanders, people from non-English speaking backgrounds and those in more disadvantaged classes experience worse objective wellbeing than men, non-Indigenous Australians, English speaking Australians, and those in middle class jobs. There are also some more nuanced differences in objective well- being with respect to age. These results suggest that gender, age, class, ethnicity and Indigenous status are sources of categorical inequality of the kind described by Tilly (1998). They confirm our first hypotheses about structural sources of inequality.

Importantly, objective wellbeing is also strongly associated with subjective satisfaction with life – better (worse) objective wellbeing linked to better (worse) life satisfaction. Thus even though there is a strong tendency in Australia and other Western societies for people to report high levels of life satisfaction (Cummins and Nistico 2002), subjective wellbeing is still strongly shaped by the objective conditions of people's lives. The within effects show that life satisfaction varies with changes in people's economic and social circumstances. We do not have enough data to know if short or long term changes in people's social and economic conditions (i.e. objective wellbeing) have long term effects on their subjective wellbeing (cf. Headey 2010) but the fact that changes in objective wellbeing net of short term life events influence subjective wellbeing provides some evidence that individual life satisfaction is variable. This finding parallels cross-national comparative findings that population subjective wellbeing at the country level varies with country-level differences in objective wellbeing (Diener at al., 2010) and also indirectly supports arguments that longitudinal variations in life-satisfaction imply that homeostatic set-points can be reset (Headey 2010).

Furthermore, contrary to what we expected, durable categorical inequalities, such as gender, Indigenous status and class have effects on life satisfaction that are independent of objective

differences in wellbeing. It is likely that various mechanisms are at work here. The Nussbaum (2006) has argued that women's generally high reported life satisfaction in many countries, despite objectively worse circumstances, is very likely due to adaptive preference formation – making do, in the presence of a bad situation. A similar gender difference is typically found with respect to work satisfaction (Clark 1997) and with women's satisfaction with the gender division of labour in the home (Baxter and Western 1998). These findings are typically explained by adaptive preference formation and lower expectations among women than men, or by related arguments about women's "intrinsic" or "constitutional" high levels of satisfaction (Cummins et al. 2003). Because we find large positive effects of Indigenous status on life satisfaction, when objective inequalities are controlled, a similar argument could apply to Australians from Aboriginal and Torres Strait Islander backgrounds who experience arguably the most profound disadvantage in Australia (Dockery 2010).

Moreover, although life-satisfaction is grounded in the circumstances and experiences of people's lives, our objective well-being measures do not necessarily capture all relevant elements of these circumstances. In addition to objective conditions, peoples' lives are grounded in relationships of social evaluation, esteem and comparison in which they both judge and are judged. Our research does not consider how these processes are related to life satisfaction. The persistence of categorical differences in life-satisfaction despite controlling for objective differences in well-being may reflect these kinds of unmeasured mechanisms, which if time varying, would not be addressed through the hybrid models used here..

However, the very strong linkages between objective and subjective wellbeing imply that if we address objective differences in wellbeing we will also improve subjective evaluations of wellbeing for many members of the population. One of the critical target groups, for policy, however, is the segment of the population experiencing the most profound levels of objective disadvantage, that is, the lowest level of objective wellbeing on multiple indicators. In future research we intend to identify this group, based on their relative positioning on each of the objective measures, and track entry and exit into and out of this state. The policy responses to extremely low objective wellbeing are quite different if it is a temporary rather than enduring feature of people's lives.

References

Arthaud-Day, M. L. and Near, J.P. 2005 'The wealth of nations and the happiness of nations: Why "accounting" matters', Social Indicators Research, 74:511-48.

Australian Bureau of Statistics 2006 ANZSCO - Australian and New Zealand standard classification of occupations, Canberra: Australian Bureau of Statistics.

Australian Bureau of Statistics 2010 Demographic Statistics, June 2010, Canberra: Australian Bureau of Statistics.

Baxter, J. H., and Western, M.C. 1998 'Satisfaction with Housework: Examining the Paradox', Sociology, 32:101-20.

Bellani, L. and D'Ambrosio, C. 2011 'Deprivation, social exclusion and subjective well-being', Social Indicators Research, 104(1): 67-86.

Blanchflower, D. & Oswald, A. 2008 'Is well-being U-shaped over the life cycle?', Social Science & Medicine, 66(8):1733-1749.

Blau, F, Brinton, M and Grusky D 2006, The Declining Significance of Gender? New York, Russell Sage Foundation.

Charles, M. and Grusky, D. 2004. Occupational Ghettos: The World- wide Segregation of Women and Men. Stanford, CA: Stanford University Press.

Chiswick, B. R., & Miller, P. W. (1995). TheEndogeneity Between Language and Earnings: International Analyses. Journal of Labor Economics 13, 246-288.

Clark, A.E. 1997 'Job Satisfaction and Gender: Why are Women so Happy at Work?' Labour Economics, 4, 341-72.

Clark, A. E., Georgellis, Y., Lucas, R. E., and Diener, E. 2004 'Unemployment alters the set point for life satisfaction', Psychological Science, 15:8–13.

Cummins, R. A. 1995 'On the trail of the gold standard for subjective well-being', Social Indicators Research, 35:179-200.

Cummins, R. A., Eckersley, R., Pallant, J., Van Vugt, J., and Misajon, R. 2003 'Developing A National Index Of Subjective Wellbeing: The Australian Unity Wellbeing Index', Social Indicators Research, 64:159-90.

Cummins, R. A., and Nistico, H. 2002 'Maintaining Life Satisfaction: The Role Of Positive Cognitive Bias', Journal Of Happiness Studies 3:37-69.

De Bortoli, L. and Thomson, S. 1010. 'Contextual factors that influence the achievement of Australia's Indigenous students: Results from PISA 2000–2006', Camberwell: ACER Press.

Department of Immigration and Border Protection 2013. Australian Citizenship: Our Common Bond. Canberra: Commonwealth of Australia.

Diener, E., Helliwell, J. F., and Kahneman, D. (eds) 2010 International Differences in Wellbeing, New York: Oxford University Press.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. Journal of Personality Assessment, 49, 71-75.

Dockery, A.M. 2010. Culture and Wellbeing: the Case of Indigenous Australians. *Social Indicators Research*. 99: 315-332.

Duncan, G.J., & Murnane, R. (eds.), (2011). *Whither Opportunity.* New York: Russell Sage;

Ferrer-i-Carbonell, A. & Frijters, P. (2004). How Important is Methodology for the estimates of the determinants of Happiness?, The Economic Journal, 114(497), 641-59.

Frijters, P., Haiskens-DeNew, J.P. and Shields, M. 2004. 'Investigating the Patterns and

Determinants of Life Satisfaction in Germany Following Reunification'. The Journal of Human Resources, XXXIX, 649-674.

Goldthorpe, J. H. 2007 On sociology (2nd ed.) Stanford, CA: Stanford University Press.

Gordon, D., Adelman, L., Ashworth, K., Bradshaw, J., Levitas, R., Middleton, S., Pantazis, C., Patsios, D., Payne, S., Townsend, P. and Williams, J. (2000) Poverty and social exclusion in Britain, York: Jospeh Rowntree Foundation.

Grusky, D. B., and Kanbur, R. 2006 Introduction: The Conceptual Foundations of Inequality and Poverty Measurement in D. B. Grusky and R. Kanbur (eds) Poverty and Inequality (pp. 1-29), Stanford, CA: Stanford University Press.

Head, B.W. 2008. Wicked Problems in Public Policy. 3: 101-118.

Headey, B. 2010 'The Set Point Theory of Well-Being Has Serious Flaws: On the Eve of a Scientific Revolution?' Social Indicators Research, 97:7-21.

Islam, A. and Paransnis, J. 2014. Immigrant-Native Wage Inequality Across Occupational Sectors in Australia. Department of Economics Discussion paper. Melbourne, Monash University.

Kahneman, D and Deaton, A. 2010. High income improves evaluation of life but not emotional well-being. Proceedings of the National Academy of Science. 107: 16489-16493.   doi: 10.1073/pnas.1011492107.

Lucas, R. E., Clark, A. E., Georgellis, Y., and Diener, E. 2003 'Reexamining adaptation and the set point model of happiness: Reactions to change in marital status', Journal of Personality and Social Psychology, 84:527–39.

Markus, A and Semyonov M 2010. Introduction in Immigration and National Buidling: Australia and Israel Compared. Cheltenham, Edward Elgar.

Mayer, K. U. 2009. 'New Directions in Life Course Research'. Annual Review of Sociology, 35: 413-433.

Mundlak, Y. 1978. On the pooling of time series and cross-section data. Econometrica, 46, pp. 69–86.

Neckerman, K. 2004a Introduction. In K. Neckerman (ed.) Social Inequality (pp. xvii-xxvi), New York: Russell Sage.

Neckerman, K. 2004b Social Inequality, New York: Russell Sage.

Nussbaum, M. C. 2000 Women and human development: the capabilities approach, Cambridge: Cambridge University Press.

Nussbaum, M. C. 2006 Poverty and Human Functioning: Capabilities as Fundamental Entitlements in D. B. Grusky and R. Kanbur (eds), Poverty and Inequality (pp. 47-75), Stanford, CA: Stanford University Press.

Pavot, W. G., Diener, E., Colvin, C. R., & Sandvik, E. (1991). Further validation of the Satisfaction with Life Scale: Evidence for the cross-method convergence of well-being measures. Journal of Personality Assessment, 57, 149-161.

Ridgeway, C 2014 Why status matters for inequality, American Sociological Review, 79, 1-16

Rittel, H.W.J, and Webber, M.M. 1973. Dilemmas in a General Theory of Planning. *Policy Sciences*. 4(2): 155-169

Sen, A. 1973 On economic inequality, Oxford: Clarendon Press.

Sen, A. 1976 'Poverty: An Ordinal Approach to Measurement', Econometrica, 44, 219-31.

Sen, A. 1985. Commodities and Capabilities, Amsterdam: North-Holland.

Sen, A. 1992 Inequality re-examined, New York: Russell Sage Foundation.

Sen, A. 1999 Development as freedom, Oxford: Oxford University Press.

Sen, A. and Drèze J. 1989. Hunger and Public Action. Oxford: Clarendon Press.

Spurrier, N. J., Sawyer, M. G., Clark, J. J. and Baghurst, P. 2003, 'Socio-economic differentials in the health-related quality of life of Australian children: results of a national study'. Australian and New Zealand Journal of Public Health, 27: 27–33.

Stiglitz, J. E., Sen, A., and Fitoussi, J.-P. 2009. Report by the Commisson on the Measurement of Economic Performance and Social Progress.

Temkin, L. 1993. Inequality, Oxford: Oxford University Press.

Tilly, C. 1998. Durable Inequality. Berkeley: University of California Press.

Tomaszewski, W. & Perales, F. 2013. 'Who Settles for Less? Subjective Dispositions, Objective Circumstances, and Housing Satisfaction', Social Indicators Research, doi: 10.1007/s11205-013-0420-x.

United Nations Development Programme (UNDP) 2011 Sustainability and Equity: A Better Future for All, New York and Basingstoke: United Nations Development Programme and Palgrave Macmillan.

Wilkinson, R. G. 2005 The impact of inequality: how to make sick societies healthier, New York: The New Press.

Wilkinson, R. G., and Pickett, K. 2009 The spirit level: why more equal societies almost always do better, London: Allen Lane.

Wright, E. O. 1997 Class counts: comparative studies in class analysis, Cambridge: Cambridge University Press.

Wright, E. O. 2009 Understanding class: towards an integrated analytic account, New Left Review, 101-116.

Zucchelli, E., Jones, A., Rice, N. and Harris. A. 2010. The effects of health shocks on labour market exits: Evidence from the HILDA survey. Australian Journal of Labour Economics, 13(2):191-218.