Life Satisfaction and Retirement: A Latent Growth Mixture Modelling Approach

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Introduction

This paper investigates changes in levels of life satisfaction across the retirement transition. The retirement transition includes the pre-retirement years when people are considering retirement, the retirement event itself when people leave the labour force and the post retirement years when people are adjusting to their new status. Life satisfaction is used as a measure of subjective wellbeing to assess quality of life for retirees. The impact of various social and economic resources is also investigated in relation to life satisfaction during the retirement transition period.

The aim here is not just to identify a significant pattern of change over time for the entire population, which may mask important differences within sub-groups, but to identify different sub-groups of people who experience similar patterns of change in life satisfaction over the retirement transition period. Further, this paper aims to investigate the characteristics and resources of the sub-groups identified.

This research has potential implications for social policies designed to improve the welfare and wellbeing of older Australians by providing a better understanding of how retirement is experienced by certain groups of people.

More specifically, this paper has a number of research goals. The first is to establish whether there are distinct phases of change in life satisfaction observed as people move through pre- and post-retirement. The second research goal is to identify whether there are sub-groups of people who experience similar patterns of change in life satisfaction. The third goal is to identify the characteristics of these sub-groups . The fourth goal is to gain an understanding of how levels of access to various social and economic resources change life satisfaction within groups and the factors that distinguish between the sub-groups.

The presence of sub-groups of individuals with different trajectories in life satisfaction suggests population heterogeneity in changes in life satisfaction across the retirement transition which is not accounted for in conventional growth analysis. Methodologically, the sub-groups of individuals are latent sub-populations that experience similar life satisfaction trajectories and who may share similar access to social, cultural and economic resources. To address the presence of these sub-populations of retirees this paper uses Latent Growth Mixture Modelling (LGMM). LGMM is a relatively recent method developed for the analysis of both continuous and categorical latent variables (Muthén, 2008) .

Explaining Changes in Life Satisfaction across the Retirement Transition

For many life events, people can be expected to experience a common reaction. For example, getting a job could be expected to be associated with an increase in life satisfaction for a period of time. Life events such as unemployment, ill health or bereavement are typically accompanied by low levels of life satisfaction (Carroll, 2007; Cole et al., 2009). The effect of retirement on life satisfaction differs for a range of reasons, depending on the individual circumstances surrounding the retirement transition. The associated change may be negative or positive, or there may be no change at all.

Previous research has found that most retirees are satisfied with their lives (Szinovacz, 2003; Calasanti, 1996; Bossé et al., 1991; Ekerdt et al., 1989; Crowley, 1985; Herzog et al., 1991; Midanik et al., 1995; Palmore et al., 1985; Reitzes et al., 1996a; Wan, 1985). Using Australian data De Vaus et al (2003) found "the numbers of people who reported feeling fewer negative emotions or enjoying increased levels of physical and social activity after retirement were substantially larger than the numbers who felt worse or were less active" (de Vaus and Wells, 2004; 2003) According to a recent review (Szinovacz 2003), a significant

minority of retirees (10% to over 30%) reported some problems in retirement or a decline in wellbeing after retirement (Szinovacz, 2003; Kim and Moen, 2002; Richardson and Kilty, 1991; Hardy and Quadagno, 1995; Bossé et al., 1987; Ekerdt et al., 1989). Other research has shown no apparent impact from retirement on an individual's wellbeing (Gall et al., 1997; Stull, 1988). Some researchers have compared retirees with employed people, finding that retirees tend to report lower levels of health and wellbeing (Reitzes et al., 1996b; Ross and Drentea, 1998; Atchley and Robinson, 1982; Kim and Moen, 2002; Richardson and Kilty, 1991).

Retirement usually entails changes to economic circumstances. The loss of paid employment may lead to lower life satisfaction due to financial insecurity and a lower standard of living. On the other hand, for people with substantial financial resources these factors may not be of concern, while for others moving from unemployment to retirement may entail greater financial security if eligible for the aged pension or superannuation funds.

The negative effect of retirement due to financial insecurity may be particularly marked if the retirement is involuntary. Research has found that control over the timing of retirement may be important to higher levels of wellbeing (Quine et al., 2007; Sharpley and Layton, 1998; Szinovacz, 2003; Schulz and Heckhausan, 1997; Mirowsky and Ross, 1989; Herzog et al., 1998; Heckhausan and Schulz, 1995; Seeman and Lewis, 1995).

There are many social circumstances which may change at retirement. The end of working life may be associated with the loss of a role fundamental to personal identity and social status. This can result in disengagement from society due to the loss of social support and networks. Retirees may also experience low motivation and boredom if they are unable to replace the lost role with new activities (Pinquart and Schindler, 2007: 442). Research has

shown that the disruption brought about by retirement may be associated with low levels of life satisfaction and high levels of stress (Szinovacz, 2003; Pearlin et al., 1981; Kessler et al., 1985; Burke, 1991; 1996).

Maintaining prior life style and activities after retirement may bring continuity between working life and retirement (Atchley, 1999). Retirees may have more free time for leisure activities and the development of interests and hobbies. They may find satisfaction in contributing to the community in ways other than paid employment such as by volunteering their time and skills. Life satisfaction may also be enhanced because retirement in Australia is a defined and accepted stage in the life course which for most groups entails some economic support, health care and autonomy over time.

Retirees have to live with and respond to increasing uncertainty. Uncertainty is produced when decisions have to be made about how to conduct one's life in the modern world (Beck and Beck-Gernsheim, 2002: 48). With limited means and capacities available to them, people may feel confused by conditions they are unable to grasp, organise or ignore (Beck and Beck-Gernsheim, 2002: 49). People leaving the workforce may feel overwhelmed making decisions that have the potential to greatly affect their lifestyle and living standards.

This paper takes the view that retirees can adapt to the changes brought about by retirement and therefore considers a retirement transition period consisting of the years leading up to retirement as well as the transition into post retirement. Atchley (1999) has suggested a process model for retirement adjustment that includes anticipatory attitudes and worry about the loss of the work role before retirement, a honeymoon period when people leave the workforce, then disenchantment with everyday life, reorientation and finally stability in retirement.

Previous research has found a fairly homogenous effect of retirement on wellbeing, with a large proportion of people being satisfied with their lives (Szinovacz, 2003). But there is a possibility that the effect of retirement on life satisfaction is more heterogeneous and smaller sub-groups exist that are not being identified due to approaches to data analysis taken in previous studies (Wang, 2007: 455).

For example, Pinquart and Schindler (2007) investigated changes in life satisfaction in 1,456 German retirees using latent growth mixture modelling (Pinquart and Schindler, 2007). They report 3 sub-groups of people who experienced retirement differently. Wang (2007) used an indicator of psychological wellbeing from Waves 1–5 of the US Health and Retirement Survey. His results revealed three latent growth curve patterns of retiree's wellbeing. Both authors directly linked these retiree sub-groups with individual and contextual variables. For instance, Pinquart and Schindler concluded that retirement is not a uniform transition and resource-rich individuals are less likely to experience retirement-related change in satisfaction.

This paper will contribute to the retirement literature using Australian data from the HILDA survey. Sub-groups of individuals who experience changes in life satisfaction differently will be identified and life satisfaction trajectories will be investigated across the pre and post retirement phases.

Predictors of Change in Life Satisfaction across the Retirement Transition

The experience of retirement may vary with differing levels of access to social, cultural and economic resources that are important to life satisfaction. These factors include gender, age at retirement, social support, being in a relationship, general health, employment status before retirement, income levels after retirement and education.

Gender

Retiring men and women may experience different life course transitions and trajectories. Research has principally seen retirement as a predominantly male transition (Kim and Moen, 2001: 85). However, increases in women's labour force participation suggest that this does not reflect the current situation (Kim and Moen, 2001: 85). The labour force participation rate for women 55 years and over has increased from 12 percent in the 1980's to 27 percent in 2010 (ABS, 2010). Additionally, the progression from full-time employment to retirement has never been as clearly defined for women as it has been for men. There are a number of reasons for this.

Women may spend many years out of the workforce caring for others and may move in and out of the workforce more frequently as they juggle work and family roles (Warner-Smith et al., 2008). Therefore the transition from employment to retirement may not have a clearly defined effect on life satisfaction for women because they may have already adapted to changes in employment status earlier in the life course.

But the effects may differ by age. Older women have lower rates of economic participation than similarly aged men and less chance to plan for retirement because they have generally held caring roles within the family leading to employment interruptions (Warner-Smith et al., 2008). This results in lower levels of financial security and a higher reliance on government pensions in retirement due to lower superannuation savings. These lower levels of financial security may lead to lower levels of life satisfaction for women in retirement. Additionally, women have more time in retirement because of increased longevity compared to men. This suggests that women may spend additional years in

retirement with associated financial concerns, possible health problems and the loneliness of living alone in old age.

Finally women are disproportionately responsible for domestic labour in retirement compared to men and are disproportionately assigned a carers' role assisting sick or frail family members after retirement. Therefore women may have lower levels of life satisfaction than men due to having less autonomy over their free time in retirement.

Age at Retirement

In the recent past, retirement from paid employment usually occurred for men at age 65 and for women at age 60, at which time they were probably eligible for the age pension. Retirement was often mandatory. Currently retirement age in Australia has become more variable. People can retire earlier or later and retirement is not mandatory in most organisations. The flexibility in retirement timing may mean that people have to make individual decisions about when they retire (de Vaus and Wells, 2004). It is likely that variation in retirement age will be closely related to differences in other observable factors, such as socio-economic position and health status.

Retirement may be more detrimental to life satisfaction if it occurs unexpectedly, or "off-time" regarding either the institutionalised retirement age or an individuals own expectations and preferences (Szinovacz, 2003: 38). Early retirement may be associated with lower life satisfaction because of increased financial pressures and the overrepresentation of involuntary retirement and health problems among early retirees (Palmore et al., 1984; Williamson et al., 1992). Gill et al (2006) found that retirees below the

conventional retirement age of 65 are more likely to have mental health problems relative to their working peer and retirees above this age (Gill et al., 2006).

Social Support at Retirement

Social networks and support have been found to be predictors of positive well-being across the life course (Fratiglioni et al., 2000: 1317-8; Okabayashi et al., 2004: 2265). Social support and integration in the form of contact with family and friends have been found to facilitate a high level of life satisfaction after retirement (Taylor and Doverspike, 2003; Levitt et al., 1985; Hong and Duff, 1997). The composition of social networks with family members, friends, former co-workers and retired friends may change with retirement (Szinovacz, 2003: 37). These new interactions with different people may offer retirees social support that may improve life satisfaction (Taylor and Doverspike, 2003: 65). This may be particularly important because social networks developed while in the workforce may be suddenly removed (Moen et al., 2000). Research has found that women may be more likely than men to use retirement as an opportunity to increase their social activity (de Vaus and Wells, 2004).

In a Relationship at Retirement

Relationships are important to life satisfaction (Evans and Kelley, 2005; Evans and Kelley, 2004). Research has found that people who are married have higher levels of life satisfaction in retirement than those who are unmarried (Szinovacz, 2003; Atchley, 1992; Reitzes et al., 1996a; Seccombe and Lee, 1986). Thus we would expect that married or cohabitating people will have higher levels of life satisfaction across the retirement transition than those who are single, separated, widowed or divorced.

With retirement there are changes to family structure, roles and responsibilities. Life satisfaction in retirement may be associated with an “empty nest”, change of residence and the possible ill health and death of family members and friends. Research has found that retired men and women may become more involved with the lives of their children and grand children (Kremer, 1985; Szinovacz, 2003). Caring for sick or frail parents or partners may become necessary and this may be detrimental to postretirement plans and life satisfaction (Szinovacz, 2003; Szinovacz, 1989; Dorfman et al., 1988; Szinovacz and Davey, 2004; Myers and Booth, 1996; Vinck and Ekerdt, 1991).

Health at Retirement

Health status is important to life satisfaction at all life stages, including in retirement. For people at retirement age, health problems are common and a great deal of unhappiness is the direct or indirect result of illness (Streib, 1956: 274; Maddox, 1982: 21). People who are healthier can make retirement adjustments more easily (Taylor and Doverspike, 2003: 62; de Vaus and Wells, 2004). Being healthy may allow a greater diversity of activities and opportunities for access to social support. Ill health may be very disruptive to leisure and other satisfying social activities (Shultz et al., 1998).

Siahpush et al (2008) found using HILDA data that people who have high levels of life satisfaction at baseline scored better on various health measures at the 2-year follow-up after adjustment for baseline health, smoking, drinking, physical activity, and socio-demographic factors (Siahpush et al., 2008). These findings indicate the importance of controlling for health when predicting life satisfaction to prevent biased estimates.

Health status and labour force participation are interrelated. Cai (2010) found using HILDA data that health has a positive and significant effect on labour force participation for both males and females and that health status may be particularly important to labour force participation of older workers (Cai and Kalb, 2006; Cai, 2010). Ill health and disability are the most common factors 'pushing' people out of the labour market and are especially significant for those in their 50s and early 60s (Phillipson and Smith, 2005: 1; Shultz et al., 1998). Thus, ill health may be one of the main reasons for retirement and may be associated with discontinuous work histories and early retirement (Zucchelli et al., 2010; Bossé et al., 1991; Calasanti, 1996; Szinovacz, 1989; Crowley, 1985).

Being Employed before Retirement

One of the pre-retirement influences affecting how people adapt to the retirement transition is employment status. Retiring from paid work may be different from the transition to retirement while unemployed. Many people transition to retirement from unemployment due to the large proportion of unemployed people (ABS, 2010). Older people may have difficulties in finding work because of employer preference or because of rapid changes in technology. Being forced into involuntary retirement, may lead to low levels of life satisfaction. On the other hand, transitioning from unemployment to retirement may have a positive effect on life satisfaction due to the possible increase in income and feelings of security after becoming eligible for government or private pensions. The transition from unemployment to retirement may mean a positive role change after leaving the negatively experienced 'unemployment' status (Pinquart and Schindler, 2007: 444).

Income Levels

Retirees with higher incomes, or at least adequate finances, report being more satisfied with life in retirement (Taylor and Doverspike, 2003; Seccombe and Lee, 1986; Crowley, 1986; Fillenbaum et al., 1985; George et al., 1984; Beehr, 1986; Beehr et al., 2000; Mutran et al., 1997; Taylor and Shore, 1995). In Australia, retirees may be self-funded or welfare reliant (Warren and Oguzoglu, 2010). Self funded retirees are people who have accumulated a certain level of superannuation in their working life. Welfare-reliant retirees are eligible for a means-tested aged pension. Ong (2009) found, in a study on prospective retirees who are approaching retirement age that self-funded retirees are more likely to have high educational qualification levels, to have experienced stable employment and to have a higher level of wealth while welfare-reliant retirees are likely to be older women who have gone through marital dissolution (Ong, 2009).

Highest Level of Education

Higher education is related to being employed and earning more (ABS, 2005). A high level of education may provide individuals with high levels of social skills and self-direction. Retirement can be an opportunity to follow meaningful and intrinsically satisfying activities (Reitzes and Mutran, 2004). However, the loss of status from being in a highly professional job before retirement may make the retirement adjustment more difficult.

Research Questions

The four questions examined in this study are:

1. Are there distinct phases in people's adjustment to the retirement transition before and after retirement?
2. Are there sub-groups of individuals that differ in their trajectories of life satisfaction?
3. What is the pattern of change in life satisfaction across the retirement transition for the sub-groups?
4. What explains the growth trajectories in life satisfaction for the sub-groups?

Analytic Strategy

A Multiple Trajectories Approach

Longitudinal methods allow the direct study of change over time. Latent growth curve models can be used to investigate individual changes in life satisfaction across the retirement transition, along with the factors that influence the change. Traditional latent growth analysis assumes population homogeneity in change in life satisfaction, meaning that the method finds a common growth trajectory for the whole population (Tofighi and Enders, 2008: 317). This may not be the most appropriate method for modelling life satisfaction trajectories because there may be groups of retirees who experience change in life satisfaction differently from other groups of retirees. Latent Growth Mixture Modelling enables researchers to take into account population heterogeneity in growth trajectories allowing different average trajectories in life satisfaction for different groups or 'sub-populations' of retirees (Kaplan, 2009: 200). LGMM is a relatively new method for modelling change in longitudinal data.

Modelling Distinct Periods in Life Satisfaction before and after Retirement

Research suggests that life satisfaction may be different before and after retirement. There may be distinct periods of change capturing different 'phases' of life satisfaction before and after retirement. The literature on the life course suggests that the retirement transition is embedded in the pre-retirement and post-retirement trajectory and this gives the transition distinct form and meaning (Elder, 1985: 358; George, 1993). When investigating retirement and life satisfaction it is important to model life satisfaction before the retirement transition takes place. This highlights that instead of modelling life satisfaction as one continuous linear trajectory over time, a piecewise model with multiple linear segments might be more suited to the data (Galatzer-Levy et al., 2010). A piecewise model can accommodate changes in life satisfaction at known transition points (Wu et al., (in press): 7)

Latent Growth Mixture Modelling

LGMM utilises a combination of continuous latent variables and categorical latent variables (Muthén and Muthén, 2010) . As in traditional growth analysis, LGMM estimates the average change in life satisfaction over time allowing for differing individual growth patterns over time (Muthén, 2004). The difference between traditional growth analysis and LGMM is that in LGMM the fixed and random effects estimating change in life satisfaction over time are allowed to be different for each identified sub population (Muthén, 2004). In LGMM categorical latent variables are included to represent the unobserved sub population membership for an individual. This is referred to as a 'latent class variable' and is in the form of the probability of belonging to a subpopulation of individuals. LGMM relaxes the single population assumption to allow for parameter differences across unobserved subpopulations. This implies that instead of considering individual variation around a single

mean growth curve, the growth mixture model allows different classes of individuals to vary around different mean growth curves (Muthén, 2004).

This can be conceptualised as an extension to the univariate latent growth curve model (Muthén, 2001). The equations show a simple model with linear growth in classes k (k = 1, 2, ... , K). The equations represent the multilevel data for the i-th measurement for the j-th individual. η_{0jk} is a random intercept and η_{1jk} is the random coefficient or slope for change over time. w_{ijk} is a time varying covariate and w_{jk} is a time invariant covariate (Muthén, 2001: 297).

The Level 1 growth part of the model is the measurement model.

$$y_{ijk} = \eta_{0jk} + \eta_{1jk}x_j + K_{ik}w_{ijk} + \varepsilon_{ijk}$$

The Level 2 part of the model is the structural model:

$$\eta_{0jk} = \gamma_{0k} + \gamma_{ok}w_{jk} + \varsigma_{ojk}$$

$$\eta_{1jk} = \gamma_{1k} + \gamma_{1k}w_{jk} + \varsigma_{1jk}$$

Muthen (2001) describes another part of a LGMM model which includes predictors of the latent class membership (Muthén, 2001: 297). In this part a multinomial logistic regression gives the logit for the odds of class k relative to class K (Muthén, 2001: 297). There is also a third part of a LGMM model which includes categorical indicators of the latent class variable (Muthén, 2001: 297).

A LGMM model can be represented as a Structural Equation Model (SEM). Figure 1 shows the latent growth mixture model (LGMM) for the final model used to investigate life satisfaction across the retirement transition. In the LGMM the squares represent the life

satisfaction variables observed at different time points. Life satisfaction is measured with error through the error variance terms. The continuous latent growth factor for the intercept is represented by the ellipse. The intercept is a constant for any individual across time. For the intercept all factor loadings are set to 1 on the repeated measures. The random intercept shows the individual differences in life satisfaction at retirement and this term has both a mean and variance parameter. The continuous latent growth factors for the trend in life satisfaction in the different phases of time before and after retirement are represented by the four ellipses (slope 1, slope 2, slope 3 and slope 4). The model has a piecewise time component with four slopes corresponding to the phases of retirement transition.

For simplification of the estimation, growth factor variances and covariances for the slopes were constrained to zero in all models. This implies homogenous change in expected life satisfaction over time within the latent classes. Within class variation was captured in all the models by the intercept parameter used to model life satisfaction at the retirement transition. Variation for the intercept parameter made the models distinct from a Latent Class Growth Analysis (LCGA) which does not include within class variation (Jung and Wickrama, 2008; Muthén, 2008).

Categorical Latent class variable c models the population heterogeneity in growth factors. Variable c represents the latent trajectory classes. Time invariant covariates were added to the model. The arrows from these covariates to the intercept, slope 1, slope 2, slope 3 and slope 4 represent the effect of the covariate on the continuous growth factors. The arrows from these covariates to c represent the effect of the covariates on the latent class indicator.

The starting point for this analysis was to consider the best fitting unconditional model. A series of unconditional models were inspected with linear, quadratic, two component piecewise and 4 component piecewise specifications. These models were chosen because they are most likely to predict the paths in life satisfaction across the retirement transition. Each model was specified with 1 to 5 latent classes. The model of best fit was selected from statistical fit indices as well as conceptual and convergence considerations. Covariates were then added to this model. The conditional model included time invariant covariates. These covariates were regressed on the intercept and slope parameters as well as the class membership variable.

Data

Data for this paper comes from the first nine waves of the Household Income and Labour Dynamics in Australia (HILDA) Survey, which was conducted annually between 2001 and 2009. The HILDA survey is a longitudinal project conducted on behalf of the Australian Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) and is managed by the Melbourne Institute of Applied Economic and Social Research at the University of Melbourne.

The first wave was administered in late 2001 and each subsequent wave was collected at one year intervals. Members of households providing at least one interview in Wave 1 formed the basis of the sample that is followed in subsequent waves. (Summerfield, 2010). This sample has been adjusted to include new respondents across the 9 waves of HIDA data (Summerfield, 2010). The HILDA data was chosen for this paper because it is of high quality, easily accessible and is representative of households across Australia at Wave 1 (Watson and Wooden, 2002a)

Data are collected by a combination of face-to-face interviews and self-complete questionnaire, as well as an interviewer-completed form on household characteristics. The HILDA survey collects data on household, families and individuals over 15 years of age. The Wave 1 survey is comprised of four survey instruments: the 'household form', the 'household questionnaire', the 'person questionnaire' and 'self completion questionnaire'. In later waves the person questionnaire was replaced by two instruments called the 'continuing person questionnaire' which was administered for people already interviewed and the 'new person questionnaire' for people who have never been interviewed (Summerfield, 2010).

The reference population for the HILDA survey is all members of private dwellings in Australia, excluding those living in remote and sparsely populated areas (Watson and Wooden, 2002a). For the first wave, a large multi stage cluster sample of 12,252 dwellings was selected from 488 areas across Australia (Watson and Wooden, 2002b: 8 & 5). A total of 7, 682 households cooperated, an average of 16 responding households per area (Watson and Wooden, 2002b: 8). Members of households aged 15 years and over were personally interviewed. This in turn generated a sample of 15, 127 persons eligible for interview of whom 13, 969 were successfully interviewed (Watson and Wooden, 2002b: 15).

Sample and Construction of Retirement Variable

The analytical sample includes people who transition from being either employed or unemployed to being out of the labour force and completely retired during the course of the HILDA survey. The analytical sample from the first nine waves of HILDA survey includes 600 people (302 Men, 298 Women) who make a single transition to retirement and stay out of the labour force for the remainder of the study period. People who returned to work

were identified but not included in the sample. Figure 2 shows that on average 75 respondents transition to retirement each year. There are no transitions in wave 1 because the data was selected for people transitioning from being employed or unemployed in one wave to being out of the labour force and retired in the next. This means that the transitions happened in the previous 12 months for which there is no data for wave 1.

The retirement status question used to identify people as being retired changed across the 9 waves of HILDA data. Difficulties arise due to the omission of the retirement question in Wave 4 and the presence of a retirement module in Wave 3 and 7. In Waves 2, 5, 6, 8 and 9 retirement status was gauged by a retirement status variable which differentiates people who are 'completely retired' and 'not retired at all'. The retirement module includes a more detailed indicator of retirement status. This variable differentiates people who are 'completely retired', 'partially retired' and 'not retired at all'. For consistency across all waves, only the category of being completely retired was used as an indicator of retirement. This means that people who transitioned to partial retirement in Wave 3 and Wave 7 were not included in the sample.

A different question measuring retirement was used to identify people who retired in Wave 4. This variable is from the self completion questionnaire (SCQ) and looks at life events that happened in the previous 12 months, in which retirement is included as a life event. To have transitioned to retirement in Wave 4, people were either employed or unemployed in wave 3 and people must be out of the labour force in Wave 4.

Using a Cohort Sequential Design (CSD) a 'time variable' was constructed from the nine waves of HILDA data to pool the information about when people retire (Baer and Schmitz, 2000; Bollen and Curran, 2006: 80). In the estimation of the model this time variable was

used to replace 'wave of assessment' (Wave 1 to 9) with time before and after retirement. Figure 3 shows the construction of this time variable. A CSD allows the optimal use of the nine waves of HILDA data by capturing a period of change and development spanning 16 years. Respondents are missing in the time periods not surveyed and all respondents have missing data (Baer and Schmitz, 2000).

By structuring the data in this way, retirement year becomes the reference point for all respondents. This time variable represents the period before retirement (coded -8 to -1), the transition to retirement (coded 0) and the period after retirement (coded 1 to 7) for all respondents included in the sample. This time variable measures the amount of time before and after retirement. For example the response to the life satisfaction question in the HILDA survey at time equals 3 indicates life satisfaction level 3 years after retirement.

Because of the multivariate approach that SEM takes to longitudinal data, separate variables were created for each measurement occasion across the 16 years. The variables capturing observed life satisfaction assessments for respondents were labelled X1 to X16, with X9 capturing life satisfaction at the retirement transition.

Variables

Life Satisfaction

The 'person questionnaire' of the HILDA survey includes a single-item measure of life satisfaction. The question is phrased as “All things considered, how satisfied are you with your life?” Data generated from this question ranges from 0 “completely dissatisfied” to 10 “completely satisfied”. Single item measures of life satisfaction have been widely used in research. While multiple item scales are advantageous, single item scales have been shown to be reliable (Sousa and Lyubomirsky, 2001: 669).

Model Selection

Model fit is a useful indicator of the best model specification and best number of latent classes for that model. Models were considered from Akaike information criterion [AIC], Bayesian information criterion [BIC], Sample size adjusted BIC [SABIC], Lo-Mendell-Rubin's adjusted likelihood ratio test (LRT} and entropy measures (Greenbaum et al., 2005). BIC is an information-based index that is comprised of the log-likelihood of the postulated model and a collection of penalty terms that take model complexity into account (Tofighi and Enders, 2008: 319). This means that BIC is calculated with a correction for the number of parameters estimated in the model and sample size (Tofighi and Enders, 2008: 319). Sclove (1987) suggested a sample size adjustment for BIC (SABIC) which serves to reduce the sample size penalty (Sclove, 1987). SABIC should lead to better performance when the model has either a large number of parameters or a small sample size (Tofighi and Enders, 2008: 319).

The Lo-Mendell-Rubin likelihood ratio test (LMR) is a nested model test that is used to quantify the likelihood that the data could be described by a model with one-less class. The null hypothesis for the LMR is that the restricted model with k-1 classes fits the data as well as the full model with k classes (Tofighi and Enders, 2008: 321). A p-value smaller than 0.05 indicates that the k-1 class model should be rejected in favour of the model with at least k classes. In other words, adding the additional class significantly improves the fit over a model with fewer classes (Lo et al., 2001).

To quantify the uncertainty of classification of subjects into latent classes the entropy value was calculated for models with more than one latent class. The entropy of a model is a measure of classification uncertainty and assesses the degree to which the latent classes are

clearly distinguishable by the data and the model (Wu et al., (in press): 13; Jedidi et al., 1993; Wang, 2007). Entropy is calculated based on an individual's estimated posterior probabilities of being in each of the K classes (Wu et al., (in press): 13). Value of 1.00 means all respondents classified with complete certainty (good fit) while a value of 0.00 means all respondents classified with equal probabilities for all classes (poor fit). In the literature a value of 0.8 or higher is an indication of high entropy (Wu et al., (in press): 14; Wang, 2007: 461).

The best model was chosen for its smaller information criterion values, larger entropy values and a significant Lo-Mendell-Rubin adjusted likelihood ratio test (Greenbaum et al., 2005: 10). Model fit is not the only factor for consideration. Other factors include interpretability, successful convergence, having no less than 1 % of total count in a class and having high posterior probabilities (near 1.00).

Results

Unconditional Latent Growth Mixture Models

Research Question 1: Are there distinct phases in people's adjustment to the retirement transition before and after retirement?

Four differently specified models were examined: a linear, quadratic, two component piecewise and four component piecewise model. Table 1 shows the model fit indices for these different models with 1 to 5 latent classes. Figure 4 shows graphically the Skree Plots of the results for SBIC. Figure 4 shows that the linear and quadratic models performed similarly. The two component piecewise model performed better than the linear and quadratic models after three classes were extracted. The results for SBIC show that a four

piece model is the best model for summarizing the life satisfaction data with 1 through to 5 latent classes. This model had two growth factors before retirement and two growth factors after retirement. Discontinuities were included three years before retirement, at retirement and three years after retirement. These results indicate that there are distinct phases in peoples adjustment to retirement across the retirement transition.

Research Question 2: Are there sub-groups of individuals that differ in their trajectories of life satisfaction?

Based on empirical and substantive considerations, the three class four component piecewise model was selected as optimal. Table 1 compares the results of the four component piecewise models with 1 to 5 latent classes. Compared to the other unconditional models, the four and three class models demonstrated a smaller level of SBIC and BIC. These models yielded high Entropy with values greater than 0.8. The reduction in SBIC when including the additional Class 4 shows that the model with four latent classes is the optimal model. However, to answer research question 4, the model chosen to proceed with analysis needs to be able to demonstrate a conditional LGMM with covariates. When adding covariates to the model with four latent classes the model ran into convergence problems including non-identification with loglikelihood not replicated. Due to these convergence problems, the simpler model with three latent classes was used to proceed with analysis as it did not have the same problems and was still substantively interesting. The three class model also has a lower p value for the adjusted LRT. Thus the results identified three distinct sub-groups that follow different patterns of life satisfaction levels across the retirement transition.

Research Question 3: What is the pattern of change in life satisfaction across the retirement transition for the sub-groups?

The three sub-groups of respondents experiencing different trajectories of life satisfaction across the retirement transition are shown in Figure 5. The largest group (Class 3) comprising 88% of respondents was identified as the 'Maintainers'. These people showed relatively stable life satisfaction and reported the highest overall levels of life satisfaction both before and after retirement. They maintained a relatively constant level of life satisfaction across the retirement transition with only relatively small changes at slope 2 (before transition) and slope 4 (after transition) (Class 3 - int = 8.626, SE = 0.053, p< 0.000; Variance int = 0.535, SE = 0.064 ; s1 = -0.005, SE = 0.020, p< 0.792; s2 = 0.050, SE = 0.021, p< 0.019; s3 = -0.019, SE = 0.018, p< 0.288; s4 = -0.083, SE = 0.022, p< 0.000).

The second largest group (Class 1), comprising 7% of respondents was identified as the 'Adapters'. These people experienced a decline in life satisfaction in the three years leading up to retirement (slope 2), followed by an increase after retirement (slope 3). In this group life satisfaction at the retirement transition is at the lowest level of all the sub-groups at 4.785 (Class 1 - int = 4.785, SE = 0.325, p< 0.000; Variance int = 2.385 SE = 0.675; s1 = -0.144, SE = 0.107, p< 0.177; s2 = -0.981, SE = 0.149, p< 0.000; s3 = 0.964, SE = 0.234, p< 0.000; s4 = -0.072, SE = 0.115, p< 0.534).

The third and final group (Class 2) was identified as the 'Decliners' and comprised 5% of respondents. For these people life satisfaction steadily declined in the three years after retirement (slope 3). In this group estimated life satisfaction at the retirement transition is higher than for the second group at 7.108 but drops off considerably (Class 2 - int = 7.108, SE = 0.447, p< 0.000; Variance int = 1.177 SE = 0.416; s1 = 0.340, SE = 0.218, p< 0.118; s2 =

0.252, SE = 0.260, p< 0.332; s3 = -0.716, SE = 0.262, p< 0.006; s4 = 0.029, SE = 0.328, p< 0.930).

Research Question 4: What explains the growth trajectories in life satisfaction for the sub-groups?

By identifying the predicted class for each individual, analysis assessed how demographics and levels of access to social, cultural and economic resources differed for the three sub-groups. These include gender, age at retirement, being in a relationship, levels of social support after retirement, being employed before retirement, household income after retirement, highest level of education, living in a lone household and general health (See Table 2 for summary of variables). Table 3 shows women comprised a larger proportion of the Decliners (0.58) than the Maintainers (0.50) and the Adapters (0.38). The Maintainers were older at retirement (62.16) than the Adapters (60.45) and the Decliners (58.26). More Maintainers were in a relationship at retirement (0.82) than the Decliners (0.77) or the Adapters (0.57). The Maintainers had a higher mean level of social support at retirement (0.61) than the Adapters (0.55) or the Decliners (0.52). More Maintainers were employed before retirement (0.95) than the Adapters (0.88) or the Decliners (0.81). The Adapters had a higher mean level of household income ($73,100) than the Maintainers ($67,600) or the Decliners ($47,700). More Decliners (0.68) had a bachelor or higher degree than the Adapters (0.57) or the Maintainers (0.49). More Adapters (0.36) lived alone at retirement than the Decliners (0.19) or the Maintainers (0.14). Maintainers had the higher mean level of General Health (66.81) than Decliners (50.17) or Adapters (41.26). These results show that the Maintainers tend to be older at retirement, in a relationship, employed before retirement, not living alone, healthier and to have higher levels of social support. Adapters

had a higher proportion of people living in lone households and the highest mean levels of household income. Decliners had a higher proportion of females and people with a bachelor or higher degree.

Conditional Latent Growth Mixture Model with Predictors

The unconditional 3 Class LGMM was expanded to include time invariant covariates. The model with covariates included: (a) gender (1 = female), (b) age at retirement, (c) being in a relationship at retirement (1 = married or cohabitating, 0 = separated, widowed, divorced or single), (d) social support at retirement (1= daily or weekly interaction, 0 = less interaction), (e) household income after retirement, (f) level of education (1 = bachelor or higher degree) and (g) general health at retirement (See Table 2 for summary of variables). The covariates chosen are time invariant and each is regressed on the intercept factor and 4 slope growth factors as well as the categorical latent class variable c.

Modelling life satisfaction trajectories within latent classes is similar to adding covariates into a traditional growth analysis. Table 4 presents the results from the conditional model. In interpreting the results I will present the findings regarding the estimated life satisfaction at retirement (as shown by the intercept parameter) controlling for the effects of covariates in the four phases before and after retirement. Surprisingly, the results show that for the Adapters higher life satisfaction at retirement is associated with low levels of social support. This finding may be due to these people being more self reliant and independent. Research has found that some social interactions can be stressful and lead to low levels of life satisfaction due to the associated 'costs' in terms of demands placed on retirees by others (Krause, 1995). For the Maintainers higher life satisfaction at retirement is associated with higher household income ($p=0.057$) and being in better health at retirement. For the

Decliners higher life satisfaction at retirement is associated with being male, older at retirement and in a relationship, having high levels of social support, lower levels of household income, lower levels of education and better health.

The categorical latent class variable c was regressed on the covariates. In the analysis these covariates are predictors of class membership in a series of weighted multinominal logistic regressions based on each participant's probability of being in each latent class.

Maintainers versus Others

Table 5 shows the results from this analysis with the Maintainers as the reference category. This reference was chosen because it describes the trajectory in life satisfaction for the largest proportion of people. These people also showed the least retirement related change in life satisfaction across time. The results comparing the Adapters with the reference class show that people who are in good health at retirement are more likely to belong to the reference category. Similarly, the results comparing the Decliners with the reference class show that being healthier is a characteristic of the reference class.

Adapters versus Others

Table 6 shows the results comparing the Decliners and the Maintainers with a reference category of the Adapters. This analysis may capture some of the complexity of the two smaller groups of respondents. The results show no additional significant findings between the two smaller groups when comparing these multinominal logistic regressions.

To summarize, when adding covariates within the three groups, higher expected life satisfaction at retirement was associated with general health, being male, older at retirement and in a relationship, having high or low levels of social support and household

income and not having a bachelor or higher degree. To distinguish between the three groups, being healthier was identified as determining the high and stable levels of life satisfaction observed for the Maintainers.

Summary and Discussion

This paper has investigated changes in life satisfaction across the retirement transition using Latent Growth Mixture Modelling. It found that there are distinct phases of change in life satisfaction observed as people move through pre- and post- retirement. The results show that a model with discontinuities 3 years before retirement, at retirement and 3 years after retirement is the optimal model for summarizing variations in life satisfaction compared to linear, quadratic and two component piecewise models. Using this model the overall trajectory in life satisfaction for individuals was broken-up into multiple linear segments with two phases before retirement and two phases after retirement.

The second research goal was to indentify whether there are sub-groups who experience similar patterns of change in life satisfaction. The results identified a model with three latent classes. This represents three subpopulations of people who experience similar change in life satisfaction across the retirement transition and who may share similar access to social, cultural and economic resources influencing their life satisfaction.

The third goal was to identify the trajectories in levels of life satisfaction for the sub-groups. Three different trajectories of life satisfaction were identified. Maintainers comprised 88% of respondents and showed relatively stable life satisfaction reporting the highest overall levels of life satisfaction both before and after retirement. Adapters comprised 7% of respondents and experienced a decline in life satisfaction in the three years leading up to

retirement, followed by an increase after retirement. Decliners comprised 5% of respondents and experienced a steady decline in life satisfaction in the three years after retirement.

The last goal was to investigate an explanation for growth trajectories in life satisfaction for the three subpopulations. When adding covariates within the three groups, higher expected life satisfaction at retirement was associated with general health, being male, older at retirement and in a relationship, having high or low levels of social support and household income and not having a bachelor or higher degree. To distinguish between the three groups, being healthier was identified as determining the high and stable levels of life satisfaction observed for the Maintainers who comprised the majority of respondents.

This study has investigated how the effect of retirement on trends in life satisfaction over time is different for individuals and groups of individuals. It did not assume a single trajectory for the whole population and using LGMM was able to separate people with similar trends in life satisfaction. It then looked at the characteristics and resources of those groups. Results from traditional growth analysis may show very little retirement related change due to the large number of respondents who report high and stable life satisfaction over time. This study was able to identify people showing high and stable levels of life satisfaction as the Maintainers and allowed different sub-groups to vary around different mean trajectories. The results show that there are latent subpopulation of respondents who experience significant retirement related change in life satisfaction over time. These findings indicate the benefit of identifying different groups with varying trajectories as opposed to simply examining overall trends.

People's life satisfaction across the retirement transition was found to be influenced by access to certain social, economic and cultural resources. This research has found that there are some important retirement related determinants that influence life satisfaction. In particular better health was shown to be related to high life satisfaction for retirees. The measure of health used in this analysis looked at general health at retirement thus capturing health status at the transition.

Currently people at retirement age are more independent and are living longer than previous generations. While the results show that the majority of people experience little retirement related change in life satisfaction, I was able to identify subpopulations showing more significant change. The characteristics of the two smaller subpopulations show how retirement may have either a positive or negative effects on life satisfaction for people leaving the labour force. For the Adapters life satisfaction increases after retirement from a very low level and for the Decliners life satisfaction steadily declines after retirement from a higher level.

Tables and Figures

Figure 1 : Structural Equation Model (SEM) for Final LGMM

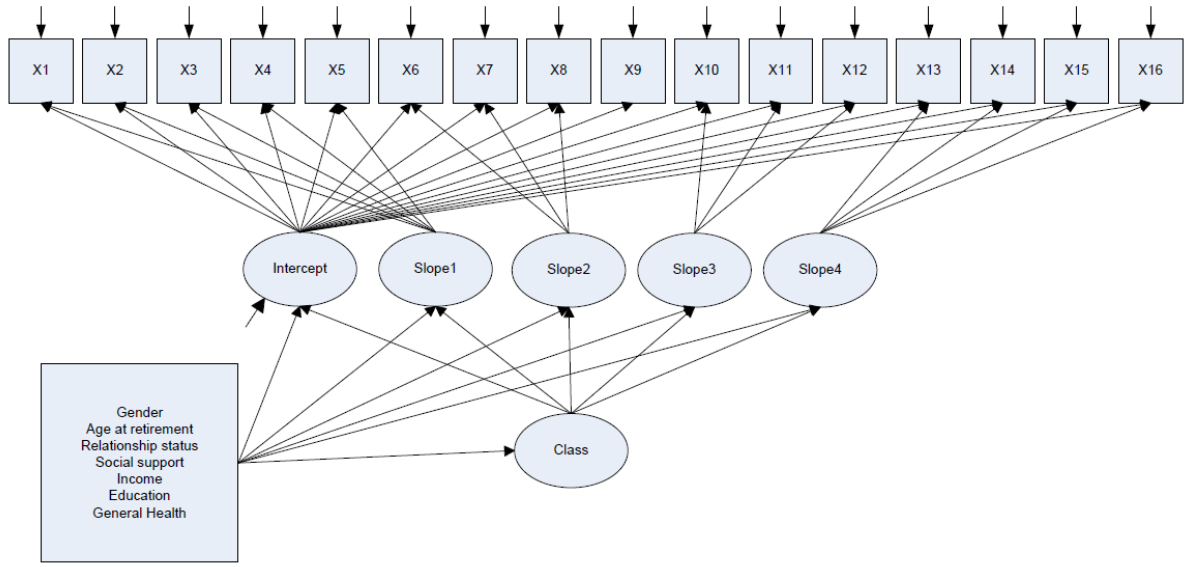

Figure 2 : Number of Transitions in each Wave

Wave 1 2001	Wave 2 2002	Wave 3 2003	Wave 4 2004	Wave 5 2005	Wave 6 2006	Wave 7 2007	Wave 8 2008	Wave 9 2009	Total
-	106	79	54	52	84	74	71	80	600

Figure 3 - Construction of Variable Measuring Time Before and After Retirement

VALUE OF TIME	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
People who transitioned in Wave 2								W1	W2	W3	W4	W5	W6	W7	W8	W9
People who transitioned in Wave 3							W1	W2	W3	W4	W5	W6	W7	W8	W9	
People who transitioned in Wave 4						W1	W2	W3	W4	W5	W6	W7	W8	W9		
People who transitioned in Wave 5					W1	W2	W3	W4	W5	W6	W7	W8	W9			
People who transitioned in Wave 6				W1	W2	W3	W4	W5	W6	W7	W8	W9				
People who transitioned in Wave 7			W1	W2	W3	W4	W5	W6	W7	W8	W9					
People who transitioned in Wave 8		W1	W2	W3	W4	W5	W6	W7	W8	W9						
People who transitioned in Wave 9	W1	W2	W3	W4	W5	W6	W7	W8	W9							

Figure 4 : Results Comparing Skree Plots of SBIC for Differently Specified Unconditional LGMM

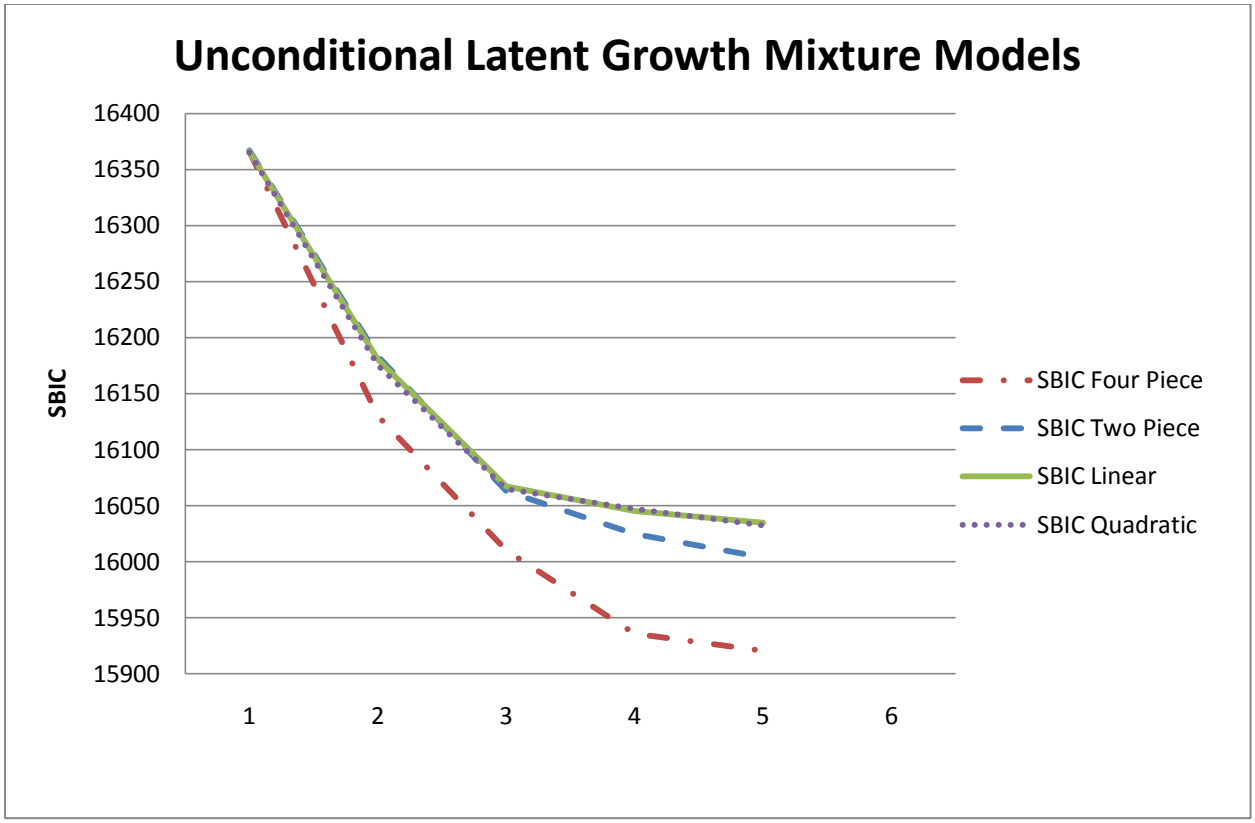

Figure 5 : Results showing Estimated Means from Four Component Piecewise Model with Three Latent Classes (Unconditional Model)

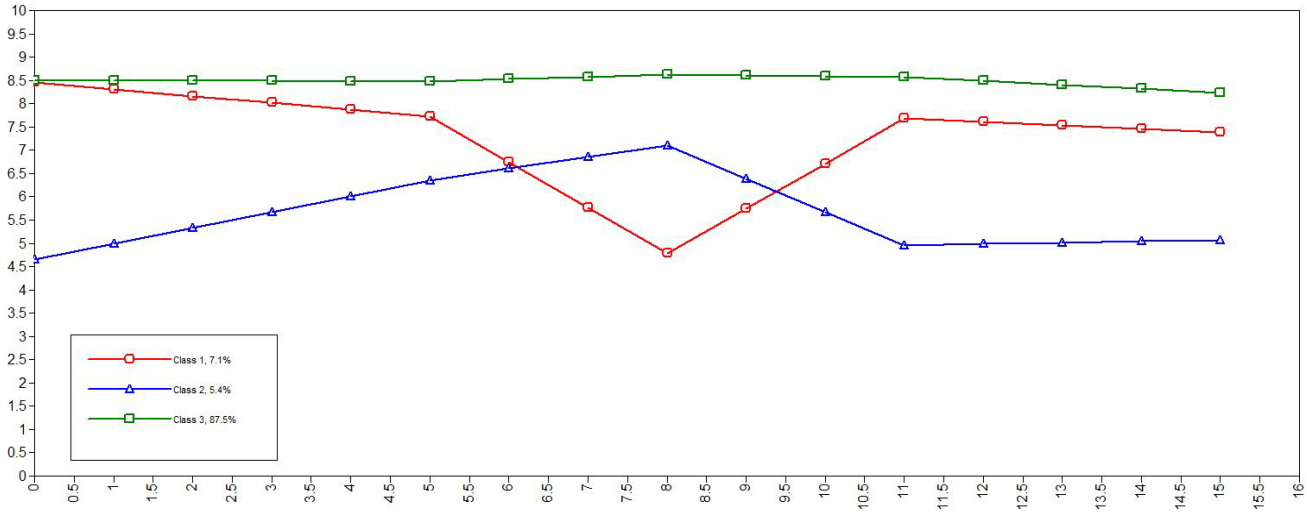

Table 1 : Results Comparing Model Fit Indices from Unconditional Latent Growth Mixture Models

Linear Model:

Classes	LL	AIC	BIC	SBIC	LMR LRT	Entropy
1	-8152	16343	16426	16366	-	-
2	-8053	16153	16254	16181	0.15	0.94
3	-7990	16034	16153	16067	0.02	0.88
4	-7973	16007	16144	16045	0.09	0.89
5	-7961	15992	16146	16035	0.58	0.72

Quadratic Model:

Classes	LL	AIC	BIC	SBIC	LMR LRT	Entropy
1	-8150	16341	16429	16365	-	-
2	-8047	16145	16255	16175	0.13	0.94
3	-7984	16028	16160	16065	0.03	0.88
4	-7967	16005	16158	16047	0.21	0.88
5	-7952	15983	16159	16032	0.81	0.77

Piecewise Model - 2 Component:

Classes	LL	AIC	BIC	SBIC	LMR LRT	Entropy
1	-8151	16343	16431	16367	-	-
2	-8053	16154	16259	16183	0.07	0.96
3	-7983	16026	16158	16063	0.22	0.88
4	-7956	15982	16136	16025	0.53	0.82
5	-7938	15955	16131	16004	0.09	0.92

Piecewise Model - 4 Component:

Classes	LL	AIC	BIC	SBIC	LMR LRT	Entropy
1	-8148	16339	16436	16366	-	-
2	-8018	16095	16222	16130	0.06	0.95
3	-7947	15966	16124	16010	0.29	0.92
4	-7899	15883	16072	15936	0.49	0.95
5	-7881	15861	16076	15920	0.23	0.94

Table 2 : Summary Statistics of Covariates Used

Variable Name	Coding	Wording	Summary Statistics (n=600)
Gender	Dummy Variable: 1 Female, 0 Male		Female = 0.50
Age at Retirement	Continuous Variable ranging from 45 to 89		Age = 61.86 years (sd = 7.05)
In a Relationship at Retirement	Dummy Variable: 1 Married or Cohabiting; 0 Separated, Divorced, Widowed, Single		In a relationship = 0.80
High Social Participation/Support at Retirement	Dummy Variable: 1 Weekly/Daily; 0 Monthly or Less than monthly	"In general, about how often do you get together socially with friends or relatives not living with you?"	High Social Support = 0.60
Health at Retirement SF36 – General Health	Continuous Variable Ranging from 0 – 100		Health = 64.18 (sd = 22.46)
Income at Retirement Household Income/10,000	Continuous Variable Ranging from 0 to 94 (Original Variable Ranges from 0 to 940, 000)		Income = 6.738 ($67, 000)
Highest level of education achieved at Retirement	Dummy Variable: 1 Bachelor or Certificate; 0 Year 12 or below		Certificate or higher = 0.50
Employment status before retirement	Dummy Variable: 1 Employed; 0 Unemployed or Not in Labour Force		Employed before retirement = 0.94
Lone Household at Retirement	Dummy Variable: 1 Lone Household, 0 Not Lone Household – Constructed from Household Type		Lone Household = 0.164

Table 3 : Results from Summary Statistics for Respondents in the Three Latent Classes (Unconditional Model)

Variable		Class 1 (n=42) "Adapters"		Class 2 (n=31) "Decliners"		Class 3 (n=527) "Maintainers"	
		Mean	S.D	Mean	S.D	Mean	S.D
Female	(1=female)	0.381	(0.492)	0.581	(0.502)	0.501	(0.500)
Age Retired	Years	60.452	(8.676)	58.258	(6.762)	62.161	(6.833)
Relationship	(1=cohab or marriage)	0.571	(0.501)	0.774	(0.425)	0.818	(0.386)
Social Support	(1=high level support)	0.548	(0.504)	0.516	(0.508)	0.613	(0.488)
Employed Before	(1= employed before retirement)	0.881	(0.328)	0.806	(0.402)	0.950	(0.218)
Income	HH income/10,000	7.309	(14.420)	4.766	(6.580)	6.758	(8.498)
Education	(1=bachelor or higher degree)	0.571	(0.501)	0.677	(0.475)	0.486	(0.500)
Lone	(1 = lone household)	0.357	(0.485)	0.194	(0.402)	0.144	(0.352)
Health	(SF36 - General Health - 1-100)	41.262	(24.927)	50.172	(23.080)	66.810	(20.883)

Table 4 : Results from Conditional Latent Growth Mixture Model with Covariates

	Adapters				Maintainers				Decliners			
	Uncond. (n=42)		Cond. (n=49)		Uncond. (n=527)		Cond. (n=509)		Uncond. (n=31)		Cond. (n=33)	
	Est.	S.E.	Est.	S.E.	Est.	S.E.	Est.	S.E.	Est.	S.E.	Est.	S.E.
Intercept												
INT	4.785	0.325	3.091	1.955	8.626	0.053	7.829	0.789	7.108	0.447	-1.529	1.920
FEMALE			0.896	0.579			0.046	0.131			-1.769	0.453
AGE RET			0.048	0.029			0.000	0.011			0.063	0.031
RELATIONSH			0.565	0.505			0.153	0.203			2.280	0.593
SOCSUP			-1.126	0.431			-0.036	0.097			2.848	0.491
INCOME			-0.017	0.013			0.008	0.004			-0.205	0.049
EDUCATIONN			0.120	0.509			-0.051	0.120			-1.404	0.515
HEALTH			0.006	0.013			0.010	0.003			0.060	0.009
Slope 1												
INT	-0.144	0.107	1.865	1.102	-0.005	0.020	-0.124	0.252	0.340	0.218	-1.807	0.348
FEMALE			-0.221	0.181			0.021	0.049			-0.172	0.288
AGE RET			-0.023	0.016			0.001	0.004			0.027	0.006
RELATIONSH			0.144	0.302			-0.035	0.067			-0.926	0.494
SOCSUP			0.083	0.269			-0.040	0.049			-0.151	0.234
INCOME			-0.013	0.005			0.001	0.001			0.002	0.050
EDUCATIONN			-0.038	0.217			0.006	0.043			0.608	0.260
HEALTH			-0.010	0.004			0.002	0.001			0.005	0.006
Slope 2												
INT	-0.981	0.149	-1.522	1.191	0.050	0.021	0.402	0.235	0.252	0.260	0.286	0.645
FEMALE			0.745	0.324			0.032	0.037			-1.008	0.176
AGE RET			0.002	0.016			-0.007	0.003			-0.008	0.010
RELATIONSH			0.439	0.362			-0.021	0.065			0.485	0.256
SOCSUP			-0.298	0.232			-0.037	0.036			0.618	0.220
INCOME			-0.017	0.005			0.001	0.002			-0.090	0.013
EDUCATIONN			0.866	0.304			0.029	0.047			-2.003	0.184
HEALTH			0.006	0.007			0.001	0.001			0.029	0.003
Slope 3												
INT	0.964	0.234	3.014	3.043	-0.019	0.018	-0.310	0.235	-0.716	0.262	3.607	0.565
FEMALE			-1.201	0.528			0.027	0.035			-0.073	0.118
AGE RET			-0.030	0.040			0.006	0.003			-0.053	0.010
RELATIONSH			-1.001	0.307			-0.008	0.046			-0.717	0.149
SOCSUP			0.761	0.191			-0.030	0.036			-0.957	0.301
INCOME			0.004	0.014			0.002	0.002			0.229	0.014
EDUCATIONN			-0.769	0.400			-0.006	0.034			-0.223	0.324
HEALTH			0.008	0.005			-0.001	0.001			-0.005	0.004
Slope 4												
INT	-0.072	0.115	-0.614	1.291	-0.083	0.022	0.199	0.297	0.029	0.328	-5.190	0.684
FEMALE			0.153	0.294			-0.028	0.052			0.999	0.185
AGE RET			0.014	0.022			-0.007	0.004			0.046	0.013
RELATIONSH			-0.100	0.259			-0.058	0.069			1.006	0.096
SOCSUP			0.023	0.185			-0.093	0.049			1.641	0.190
INCOME			0.009	0.085			-0.004	0.006			-0.208	0.023
EDUCATIONN			0.151	0.352			0.100	0.054			-0.365	0.201
HEALTH			-0.007	0.006			0.003	0.002			0.044	0.004

Table 5 : Results from Multinomial Logistic Regression of Latent Class Variable on Covariates

Variable (Reference Class = Maintainers)	Estimate	SE
Adapters ON		
FEMALE	0.068	0.771
AGE RET	-0.029	0.070
RELATIONSH	-0.851	0.966
SOCSUP	-0.956	0.604
INCOME	0.013	0.013
EDUCATIONN	0.306	0.644
HEALTH	-0.047	0.011
Decliners ON		
FEMALE	-0.832	0.597
AGE RET	-0.048	0.053
RELATIONSH	-0.943	0.542
SOCSUP	-0.334	0.552
INCOME	-0.022	0.038
EDUCATIONN	0.844	0.490
HEALTH	-0.043	0.012

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