

# Social Support and Life Satisfaction among Entrepreneurs: A Latent Growth Curve Modelling Approach

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## Abstract

**Purpose:** Social support has been identified as a valuable resource that could help entrepreneurs maintain goal directness in their endeavours and increase their life satisfaction. However, to date scant research has examined the effect of perceived social support on life satisfaction during the transition from paid employment to self-employment. This paper uses the Job Demand Resource Model (JD-R) as a theoretical lens to investigate this relationship.

**Methodology:** Drawing on the Household Income and Labour Dynamics in Australia (HILDA)<sup>1</sup> survey, we use latent growth curve modelling (LGCM) to investigate the trajectories of entrepreneurs' perceived social support and life satisfaction (n=1,303) up to five years after their transition into self-employment.

**Findings:** Results suggest that entrepreneurs experience a boost in life satisfaction in the transition phase, followed by a declining trend in the years that follow. We find that both the initial perception and the evolution of perceived social support are positively related to life satisfaction over time across gender groups. However, we find that females may benefit more from early social support soon after the transition into self-employment to forestall declines in life satisfaction over the long-term.

**Originality/value:** This study extends the JD-R literature by examining the transition into self-employment, considered an "active job" characterised by high demands and high decision latitude. LGCM modelling captures how both initial levels and changes in social support affect life satisfaction during entrepreneurship entry and over time.

**Research limitations/implications:** The generalisability of the research findings beyond the Australian context is undefined. Future research needs to examine to what extent these results can generalize to other samples within different cultural and institutional frameworks.

**Practical implications:** Since perceived social support is a strong buffering mechanism that helps mitigate job demands, entrepreneurs need to be proactive in building a strong network. Individuals who switch to self-employment should carefully map and build a strong social network that can help them weather the challenges and setbacks in their new job.

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<sup>1</sup> This paper uses unit record data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey. The HILDA Project was initiated and is funded by the Australian Government Department of Social Services (DSS) and is managed by the Melbourne Institute of Applied Economic and Social Research (Melbourne Institute).

## 36 **1. Introduction**

37 A considerable amount of research effort has been expended on improving our understanding  
38 of entrepreneurs' life satisfaction in recent times (Binder, 2018; Dijkhuizen *et al.*, 2017;  
39 Georgellis and Yusuf, 2016; van der Zwan *et al.*, 2018). These studies have shown that  
40 entrepreneurs are in general more satisfied with their lives than paid workers are. Scholars  
41 attribute this markedly higher satisfaction to the job of the entrepreneur being characterised by  
42 autonomy, flexibility, skill utilisation and a greater variety of tasks (Benz and Frey, 2008;  
43 Blanchflower, 2000).

44 Recent research has focused on within-individual variation of the returns to entrepreneurship,  
45 investigating individual entrepreneurs as they transition into self-employment (Chadi and  
46 Hetschko, 2017; van der Zwan *et al.*, 2018). This stream of literature suggests that  
47 entrepreneurs enjoy only a temporary boost in job satisfaction during the transition phase. Over  
48 time, they go back to the base line 'adaption process' once the 'honeymoon-hangover effect'  
49 dissipates (Georgellis and Yusuf, 2016; Hanglberger and Merz, 2015). The same pattern of  
50 trajectory applies to life satisfaction (Binder and Coad, 2013, 2016; van der Zwan *et al.*, 2018).

51 Quitting paid employment to start a new venture can be a very lonely experience (Stephan,  
52 2018). In addition, entrepreneurship is like a rollercoaster journey where breakthroughs are  
53 interspersed with numerous failures, setbacks and near misses (Clarke and Holt, 2016). In this  
54 context, social support has been identified as a key resource to help entrepreneurs cope with  
55 stressful situations (Boz Semerci and Volery, 2018; Davidson *et al.*, 2010). This concept  
56 captures the individual's perception that he or she is cared for, valued, and has people on whom  
57 they can relate to at the time (Zhu *et al.*, 2017). Social support helps entrepreneurs to share a  
58 wide range of issues with others, to obtain empathy and to try out new perspectives and ideas  
59 (Boz Semerci and Volery, 2018).

60 Drawing on the Job Demands-Resources (JD-R) model (Bakker and Demerouti 2007;  
61 Demerouti and Bakker, 2011), the objective of this study is to investigate the role of perceived  
62 social support (PSS) on life satisfaction during entrepreneurship entry. Specifically, we posit  
63 that PSS is an important resource and we examine whether the initial level of PSS and its  
64 evolution over time affects entrepreneur life satisfaction during the transition into self-  
65 employment and beyond. Furthermore, recognising the influence of gender on vocational  
66 behaviour (Ahl, 2006; Marlow, 1997) and support-relevant social interactions (Eagly, 1997;

67 Matud *et al.*, 2003), we examine gender differences around the nexus of entry into self-  
68 employment, PSS, and life satisfaction.

69 Entrepreneur well-being is an area of research still in its infancy, with studies mainly from the  
70 economics and labour economic disciplines (Georgellis and Yusuf, 2016; van der Zwan *et al.*,  
71 2018). The recent years have seen a shift in focus away from comparing well-being across  
72 individuals to comparing within individuals over time, motivated by increased availability of  
73 longitudinal data and the need to gain insight into the rate of change and how initial PSS levels  
74 affect an entrepreneur's subjective well-being over time. In this study, we adopt the hedonic  
75 approach to subjective well-being (Stephan, 2018), namely life satisfaction, and we use both  
76 terms interchangeably. This approach characterises well-being through the attainment of  
77 pleasure, avoidance of pain, and satisfaction with various domains of life.

78 The contribution of the study is threefold. Firstly, at a theoretical level, this study extends the  
79 JD-R literature by examining the transition into self-employment, considered an 'active job'  
80 characterised by high demands and high autonomy. In this context, our results suggest that job  
81 decision latitude only partly buffers against the negative effects of high demands on  
82 entrepreneur life satisfaction and that social support is a key resource to maintain satisfaction.  
83 Secondly, from a methodological perspective, we adopt a sophisticated modelling approach,  
84 namely Latent Growth Curve Modelling (LGCM), to explore the trajectory of life satisfaction  
85 among entrepreneurs. Our study assesses within-individual variation of the returns from  
86 entrepreneurship, which effectively eliminates unobservable pooling effects (Åstebro and  
87 Chen, 2014). In addition, the method allows us to simultaneously investigate how initial levels  
88 and changes in social support relate to life satisfaction. Thirdly, our approach provides a  
89 longitudinal perspective on entrepreneur well-being. This is critical since entrepreneurship is a  
90 long-term process which requires an understanding of the evolution of the rewards before and  
91 after entrepreneurship entry (Clarke and Holt, 2016). We draw on 16 waves from the  
92 Household, Income and Labour Dynamics in Australia (HILDA) survey and follow within this  
93 period individual PSS and life satisfaction trajectories for up to five years after a transition into  
94 self-employment.

## 95 **2. Theoretical anchor and hypothesis development**

### 96 *2.1. Job Demands-Resources and life satisfaction of entrepreneurs*

97 The Job Demands-Resources (JD-R) model (Bakker and Demerouti, 2007; Demerouti and  
98 Bakker, 2011) provides a theoretical lens for conceptualising the characteristics of self-  
99 employment and their implications for life satisfaction. Broadly conceived, it proposes that  
100 well-being across occupations, after controlling for personality, stems from two general job  
101 related sources: job demands and job resources (Bakker *et al.*, 2010). Job demands refer to the  
102 physical, psychological, social and organisational aspects of a job that require sustained  
103 physical, mental and emotional effort and are therefore associated with physiological costs  
104 such as stress or exhaustion (Bakker *et al.*, 2007; Nahrgang *et al.*, 2011). Examples of job  
105 demands include conflicting demands, job ambiguity, workload, and time pressure.  
106 Conversely, job resources refer to physical, psychological, social and organisational aspects of  
107 the job that help achieve work goals, reduce job demands and the associated physiological or  
108 psychological costs, or, stimulate learning and personal development (Bakker *et al.*, 2007;  
109 Schaufeli and Bakker, 2004). Examples of job resources include autonomy, social support and  
110 performance feedback.

111 JD-R theory draws on the well-established Job Demand-Control (JDC) model (Karasek, 1979),  
112 which states that two occupational characteristics of the work environment, job demand and  
113 job control, interact to influence worker well-being and health. In addition to the  
114 aforementioned job demands, JDC considers job control, the decision latitude over job  
115 performance that relates to factors such as how and when a job task is completed. The basic  
116 prediction of the JDC model is the ‘strain hypothesis’: job demand increases work-related  
117 stress, whereas job control decreases it in an additive fashion. The second prediction, in line  
118 with the first prediction, is the ‘buffer hypothesis’, which entails a multiplicative effect of job  
119 demand and job control on well-being (van der Doef and Maes, 1999), in such a way that  
120 control can moderate the negative effects of high demands on well-being. In other words, job  
121 control enhances one's feelings of being able to cope with job demands (Karasek, 1979). JDC  
122 suggests that the most detrimental consequences on well-being arise when the psychological  
123 demands of the job are high and the decision latitude of the worker is low (Theorell and  
124 Karasek, 1996).

125 JD-R expands the JDC model by reasoning that different job resources, not just control, can  
126 act as buffers for a variety of different job demands (Bakker *et al.*, 2005). The central

127 assumption in the JD-R Model is that work-related strain develops when certain job demands  
128 are high but job resources are limited, undermining well-being and work engagement (Bakker  
129 *et al.*, 2007). In contrast, when job resources are high, the motivational process is activated,  
130 leading to work engagement and higher work performance (Schaufeli and Bakker, 2004;  
131 Bakker *et al.*, 2005).

132 Self-employment typically combines high decision control and high job demand, a situation  
133 characterised as an ‘active job’. Running your own business entails autonomy, flexibility, task  
134 identity and task variety, all of which can potentially induce higher job satisfaction (Benz and  
135 Frey, 2008; Blanchflower, 2000). In addition, entrepreneurship enhances subjective well-being  
136 by meeting vital psychological needs. It has been suggested that freedom and autonomy  
137 provide a ‘procedural utility’, as entrepreneurs value not so much the outcomes, but the  
138 conditions and processes leading to these outcomes (Benz and Frey, 2004). Thus, entrepreneurs  
139 derive happiness from being able to do what they like (Nikolova, 2018).

140 Nonetheless, self-employment is a high-demand job. Entrepreneurs tend to work longer and  
141 more irregular hours than employees (Åstebro and Chen, 2014; Levine and Rubinstein, 2012);  
142 and their work is characterised by high pace, brevity and fragmentation. Entrepreneurs running  
143 a business with employees must also cope with multiple demands and diverging expectations  
144 (Cowling *et al.*, 2004). Self-employment could worsen life satisfaction if it entails loneliness,  
145 reduced socialisation, immersion in business, and the pressure to achieve (Cardon and Patel,  
146 2015; Jamal, 1997). However, in ‘active jobs’ the combination of high job control with high  
147 job demand leads to ‘desirable stress’ (Karasek, 1979; Theorell and Karasek, 1996), as  
148 individuals are likely to learn new things and develop new skills. Therefore, self-employment  
149 can be considered as motivating and stimulating, and this reduces the downward impacts on  
150 life satisfaction.

151 Although the literature provides considerable support for the strain hypothesis, support for the  
152 buffer hypothesis – stating that control can moderate the negative effects of high demands on  
153 well-being – is less consistent (Binder and Coad, 2016; van der Zwan *et al.*, 2018; van der Doef  
154 and Maes, 1999). This suggests that job control only partly buffers against the impact of job  
155 demands on entrepreneur well-being.

156 As nascent entrepreneurs pass the initial euphoric launch stage and struggle to establish their  
157 business, many of them realise the gruelling reality of self-employment and that their venture  
158 may end up failing. This scenario is particularly plausible because of the overt optimism

159 characterising most self-employed individuals (Cassar, 2010). In this vein, The Economist  
160 (2014, p. 66) remarked: “It is fashionable to romanticize entrepreneurs. But the reality can be  
161 as romantic as chewing glass: first-time founders have the job security of zero-hour contract  
162 workers, the money worries of chronic gamblers and the social life of hermits.” As the harsh  
163 reality of running their own business becomes apparent, entrepreneurs are likely to experience  
164 a decline in life satisfaction, bringing it back to the baseline (Georgellis and Yusuf, 2016).

165 Recent empirical studies suggest that while individuals experience a boost in satisfaction when  
166 entering self-employment, this feeling declines in the years following the transition to self-  
167 employment (Hanglberger and Merz, 2015; van der Zwan *et al.*, 2018). The organizational  
168 psychology literature called this short-lived spike “the honeymoon effect” (Boswell *et al.*,  
169 2005), capturing the effect of a new job in general. Using the German Socio-Economic Panel  
170 Study, Chadi and Hetschko (2017) identified a similar ‘anticipation and adaption effect’ when  
171 studying job satisfaction. In the same vein, van der Zwan *et al.* (2018) found few rewards in  
172 terms of life satisfaction, and that higher work satisfaction may come at the cost of decreased  
173 individual satisfaction in the important life domain of leisure. Thus, we hypothesize that

174 **H1:** When switching from paid to self-employment, entrepreneurs will experience an  
175 immediate boost in their life satisfaction and then a decline over time.

## 176 2.2. *Perceived social support*

177 JD-R research indicates that effective buffering takes place when job demands and resources  
178 (and not only control) interact to predict engagement, which enhances well-being. A high level  
179 of control over the work situation, manageable work demands and pertinent resources are  
180 crucial factors an employee needs to be able to experience for a high level of job and life  
181 satisfaction (de Lange *et al.*, 2003; van Woerkom *et al.*, 2016). We posit that social support is  
182 a key resource for entrepreneurs attempting to cope with stressful situations, especially during  
183 the transition into self-employment, when they leave their familiar work environment and co-  
184 workers to start a venture on their own.

185 PSS refers to an individual’s perception of the support acquired from their environment. It is a  
186 complex construct that encompasses a sense of connection and relatedness (Barrera, 1986).  
187 PSS can either be emotional, material, or informational (Keat *et al.*, 2011). It is an individual’s  
188 perception of receiving support which is critical; in fact, research indicates that perceived

189 support contributes just as much to health and well-being outcomes compared to the existence  
190 of actual support (i.e. received social support) (Lakey, 2013).

191 In addition, the entrepreneur's direct or tacit support from social ties contributes significantly  
192 to his or her success in business (McDowell *et al.*, 2019). For instance, social support increases  
193 the chance of business survival and helps the entrepreneur in manoeuvring various business  
194 hurdles that come in the form of financial constraints or legal troubles (Kar, 2017). Similarly,  
195 social support provided by family members reduces the exit likelihood from entrepreneurship  
196 (Revilla *et al.*, 2016; Zhu *et al.*, 2017). Without adequate social support systems, entrepreneurs  
197 find it harder to succeed as they will have to rely on their (limited) own knowledge and  
198 expertise (Bird and Wennberg, 2016).

199 We recognise the potential bidirectionality between social support and life satisfaction.  
200 Individuals who receive social support are likely to experience greater life satisfaction, but the  
201 level of life satisfaction may also cause changes in perceptions of social support. Because the  
202 impetus behind this research is to identify the buffering mechanism of PSS during  
203 entrepreneurship entry (rather than the longitudinal causality between PSS and well-being), we  
204 posit that social support drives well-being outcomes. Specifically, we propose that people will  
205 enter self-employment with different levels of PSS, and that those who initially report higher  
206 levels will have a higher life satisfaction. A high level of PSS will slow down the decline in  
207 life satisfaction, once entrepreneurs pass the "honeymoon phase" in the years following the  
208 transition to self-employment. Thus,

209 **H2a:** The initial level of social support will positively influence the initial level of life  
210 satisfaction.

211 **H2b:** Social support will slow down the declining slope of life satisfaction in the years  
212 following the transition into self-employment.

### 213 2.3. *Gender perspective*

214 A vast stream of the literature in entrepreneurship suggests that female entrepreneurs and the  
215 characteristics of their ventures are significantly different from that of men (Ahl, 2006). Among  
216 other things, female founders report being more satisfied with their business in comparison to  
217 male entrepreneurs (Carree and Verheul, 2012; Crum and Chen, 2015).

218 However, the transition into self-employment poses a number of challenges for female  
219 entrepreneurs. Traditional gender norms appear to be strongly reflected amongst the self-

220 employed (Ahl, 2006). Eib and Siegert (2019, p. 1) recently remarked in this respect that,  
221 “Many women-operated firms reflect feminized working patterns, such as working part-time  
222 or basing the business within the home, which, as a result, reinforces the perception of women  
223 as mothers and care-takers first”. This view follows social role theory (Eagly, 1997), suggesting  
224 that men are more likely to fulfil roles outside the home and be the main breadwinner, whereas  
225 women are generally responsible for childrearing and other domestic tasks. Because of the  
226 demands associated with their dual role of child-rearing and entrepreneurship, women tend to  
227 experience a higher prevalence of work-family conflicts and parenting stress (Cabrera and  
228 Mauricio, 2017; Marlow, 1997).

229 In addition, women are more likely to experience financial and social stressors during a  
230 business launch. Chadwick and Raver (2019), found that female entrepreneurs tend to feel  
231 more stressed when they face high financial need and when they perceive low social support  
232 in their environment. These higher stress appraisals among women persist several months later  
233 during business operation compared with their male counterparts (Chadwick and Raver, 2019).

234 Against this backdrop, social support is a key resource to help coping with stressful situations  
235 (Boz *et al.*, 2018). However, a gender-stratified analysis reveals a different pattern between  
236 males and females in respect to social support and its impact on life satisfaction. Firstly,  
237 empirical studies suggest that women have more extensive, better and varied social relations  
238 than men (Fuhrer and Stansfeld, 2002). They provide and receive more support and have a  
239 wider “net of concern” than men; that is to say, they spend more time involved in responding  
240 to requests and support from other people (Johansson *et al.*, 2016). Furthermore, women have  
241 a greater propensity to seek social support especially during stressful events and they can more  
242 readily mobilise support when in need (Liebler and Sandefur, 2002). Women also have larger  
243 social networks outside of work (Johansson *et al.*, 2016).

244 Secondly, women tend to perceive, seek, and use social support differently. For example, when  
245 examining the differences between genders with respect to the effect of perceived job demands,  
246 control, and support, Rivera-Torres *et al.* (2013) found that social support has a stronger  
247 weakening effect on the levels of job stress for women than men. Thus, we formulate the  
248 following hypothesis:

249 **H3a:** Female entrepreneurs will gain a larger increase in life satisfaction from perceived social  
250 support than men when entering self-employment.



251 **H3b:** Over time, the effect of perceived social support on life satisfaction will be stronger for  
252 female entrepreneurs than for male entrepreneurs.

### 253 **3. Data and method**

254 This study draws on 16 waves of Household, Income and Labour Dynamics in Australia  
255 (HILDA) survey data. This nationally representative household-based panel study began in  
256 2001 and covers around 9,835 households. Entrepreneurs were identified based on their  
257 occupational status, and we use the terms ‘entrepreneurs’ and ‘self-employed’ interchangeably.  
258 Our definition of self-employment follows Wooden and Watson (2007), in that it includes all  
259 types of entrepreneurs regardless if they had incorporated their business or not. In other words,  
260 both owner-managers who operate their own incorporated businesses and people who operate  
261 their own unincorporated business were included in the study.

262 Further, we define entrepreneurship transition as the change in the occupational status from  
263 one year to the next, i.e change from paid employment in year (t) to being self-employed in  
264 year (t+1). This identification approach is customary in economics and entrepreneurship  
265 research (Nikolova, 2018; van der Zwan *et al.*, 2018). A total of 2,711 individuals who made  
266 the transition from paid employment to self-employment at some stage (unbalanced panel)  
267 were identified. In a second stage, 467 observations involving multiple spells of self-  
268 employment were excluded; this focus helps us filter out “job hoppers” (Failla *et al.*, 2017).

269 The baseline for the analysis was set to one year before the transition to self-employment and  
270 five years after the transition; This baseline provides an optimal initial status measure to  
271 consider the impact of PSS in shaping the trajectories of life satisfaction. Those who change  
272 their status between waves to any other labour status but self-employment were excluded  
273 automatically. Of the original sample, 39% remained self-employed in the fifth year. To  
274 capture the (linear or non-linear) trajectory after the transition into self-employment and the  
275 parallel processes of PSS and life satisfaction, any individual with less than four waves of  
276 measurement was excluded. This procedure was intended to identify true change from  
277 measurement errors (Preacher *et al.*, 2008). Following these different steps, the final sample  
278 included 1,303 individuals. Missing data arising from this sampling strategy are discussed in  
279 the results section.

280 3.1. *Measurement*

281 Life satisfaction was measured using self-reported level of satisfaction with life on a scale from  
282 0 (completely dissatisfied) to 10 (completely satisfied). The exact question was “All things  
283 considered, how satisfied are you with your life?” and it was included in all waves of HILDA.  
284 This single item was adopted in several past studies (Benz and Frey 2008; Blanchflower, 2000),  
285 and it is considered very similar to more psychometrically established multiple-item scales  
286 (Andersson, 2008; Binder and Coad, 2016; Binder, 2018). Following Hahn's *et al.* (2015)  
287 approach, we mean-centred the life satisfaction score within each wave in relation to the  
288 average value for the total HILDA sample. This procedure allows controlling for any other  
289 major life events and facilitates the interpretation of the coefficients. Further, the trend of the  
290 centered scores followed the same trend as the raw data averages over time, implying the  
291 absence of any systematic changes that could have been hidden by the centering procedure.

292 PSS was measured with 10 items (Table 1) capturing the entrepreneur's beliefs and  
293 expectations about the assistance and advice that he/she may receive from his/her social groups.  
294 The construct was measured using a seven-point Likert scale (1 = strongly disagree to 7 =  
295 strongly agree). The first seven items were adopted from Henderson *et al.* (1978), while the  
296 last three items were from Marshall and Barnett (1993). Confirmatory factor analysis was  
297 applied and confirmed the factorial invariant across measurement waves with acceptable fit  
298 (CFI = 0.93, TLI = 0.92, RMSEA = 0.034) and a significant  $\chi^2$  difference test compared to the  
299 fully constrained model ( $\Delta\chi^2(78) = 214.663, p < 0.001$ ). The factor scores were calculated by  
300 weighting items based on the factor loadings from the CFA, with a higher score indicating that  
301 a person perceives to have a strong social support.

302

303 - Insert Table 1 here -

304 3.2. *Statistical analysis*

305 The Latent Growth Curve modelling (LGCM) technique was used to examine the intra-  
306 individual change and inter-individual change over time (Preacher *et al.*, 2008). LGCM helps  
307 to circumvent limitations of past studies on life satisfaction, which relied on fixed effect  
308 regression analysis. These studies have been unable to examine social support and life  
309 satisfaction together in a single model except by splitting the sample into low and high social  
310 support categories. Recent studies (e.g. Milner *et al.*, 2016) typically used fixed effect  
311 regression to examine the effect of perceived social support on mental health for employed and

312 unemployed individuals. However, these studies were not able to explain the dynamic of the  
313 developmental processes of social support and mental health over time using regression.

314 LGCM offers several advantages. Firstly, it allows researchers to simultaneously investigate  
315 how initial levels and changes in PSS are linked to life satisfaction. Secondly, LGCM  
316 techniques estimate the average rate of change of the sample over time, as well as the variability  
317 of that change within the sample. This facilitates understanding of both the average change in  
318 life satisfaction among entrepreneurs and also the individual variation, shedding some light  
319 about the role PSS plays and why some entrepreneurs experience changes and others do not  
320 (i.e the individual differences in initial status and in the growth over time). Thirdly, LGCM has  
321 the capability to explicitly assess and model measurement error variance at particular time  
322 points (Preacher *et al.*, 2008). Finally, LGCM can reduce the bias introduced by attrition rate  
323 which is expected in longitudinal studies (Curran *et al.*, 2010).

324 In implementing LGCM, we followed a two-step procedure (Preacher *et al.*, 2008). The  
325 conceptual model is shown in Figure 1. In the first step, we measured the changes in PSS and  
326 life satisfaction over the course of five years after the transition into self-employment.  
327 Unconditional LGCM models were computed separately for PSS and life satisfaction. In  
328 LGCM, the intercept describes the initial values of the variable, and since it is constant for each  
329 subject over time, it has a factor loading of 1. The slope describes change over time, which can  
330 take a linear or non-linear developmental form. Several forms of growth were tested: (1) a free  
331 LGCM with unspecified growth function which allowed us to freely estimate the slope means  
332 and determine the best fit based on the data (i.e., the parameterization of time in the factor  
333 loading matrix were freely estimated after the transition -1, \*, \*, \*, \*, \*, and 1); (2) a linear  
334 LGCM that tested the assumption of a linear increase or decrease in the construct (i.e., fixing  
335 the loadings of the slope to 0, 1, 2, 3, 4, 5, 6); and (3) a quadratic LGCM by adding a quadratic  
336 slope (i.e., fixing the loadings to 0, 1, 4, 9, 16, 25, 36) testing the assumption that the construct  
337 followed a curvilinear pattern.

338 In the next step, in order to investigate the extent to which entrepreneur PSS predicts the level  
339 of and the changes in life satisfaction, a parallel process model was computed. This captured  
340 the developmental process of the two latent variables simultaneously. Finally, a parallel process  
341 model was testing differences between females and males.

342

343

- Insert Figure 1 here -

344 The following fit indexes are reported:  $\chi^2$ , Root Mean Squared Error of Approximation  
345 (RMSEA), Akaike's Information Criterion (AIC), Bentler Comparative Fit Index (CFI), and  
346 Tucker Lewis Index (TLI). For RMSEA, a value less than .05 will be taken as evidence of a  
347 good fit. For AIC, the lower the value the better fit. Both CFI, and TLI values greater than 0.95  
348 indicate excellent fit. All analyses were conducted using the maximum likelihood estimation,  
349 a suitable approach to handling missing observations in AMOS 25 (Arbuckle, 2014).

## 350 **4. Results**

### 351 *4.1. Sample Characteristics and preliminary analysis*

352 Table 2 reveals that the average age of participants in the year before the transition was 39, and  
353 the majority (64.9%) were male. The level of educational attainment was as follows: 13.6%  
354 postgraduate degree, 26.6% undergraduate degree, and the majority (59.8%) had a vocational  
355 degree or had completed high school. The average income in the baseline year was around  
356 A\$10,430. The majority of people (55.5 %) in our sample were married and the minority (15%)  
357 were suffering from a long-term health condition, and 35.1% of people in the sample did not  
358 have children.

359 As stated previously, since LGCM uses maximum likelihood estimation, it does not require  
360 complete data to estimate an average intercept and rate of change. Therefore, missing data do  
361 not affect the parameter estimate (Curran *et al.*, 2010). However, a minimum of four  
362 observations was deemed necessary to establish the trajectory. Missing data analysis was  
363 conducted to identify any substantial baseline differences between the included (n = 1,303) and  
364 excluded data (n = 870) (Table 3). Compared with entrepreneurs in the analytic sample, those  
365 who had less than four waves of data were younger, mostly female, with lower income, and  
366 lower educational attainment. However, all the aforementioned differences are marginal, with  
367 a small effect size.

368

369 - Insert Table 2 here –

370 - Insert Table 3 here –

371

372 4.2. *General trends*

373 Figure 2 and 3 illustrate the general trend in PSS and life satisfaction based on the raw average  
374 score. PSS decreased in the first two years after the transition and levelled up after the third  
375 year. Furthermore, PSS remained almost constant for both genders. However, women reported  
376 higher levels of PSS compared to men. The trend for life satisfaction indicates that the means  
377 generally increased over the first period of the transition. The biggest positive change occurred  
378 in the first year after transition and increased at a slower rate thereafter. In terms of the average  
379 life satisfaction, there is a different pattern of change by gender. Figures 2 and 3 suggest that  
380 there is sufficient variability in PSS and life satisfaction scores for testing the parallel process  
381 model.

382 - Insert Figure 2 here -

383 - Insert Figure 3 here -

384

385 4.3. *Unconditional LGCM social support*

386 The Likelihood ratio tests for nested models (Table 4) were applied to determine which model  
387 provided the best fit to the data. The linear model was adapted for its parsimony and  
388 consistency with other models used in developmental studies (Pettit *et al.*, 2011). The linear  
389 LGCM for social support matched the data well ( $\chi^2 = 36.245$ ,  $df = 23$ ,  $RMSEA = 0.021$ ,  
390  $TLI=0.995$ ,  $CFI = 0.996$ ,  $AIC=60.245$ ). The intercept's mean was around 0.005 and the slope's  
391 mean indicated a non-significant general change over time (-0.034;  $p = 0.320$ ). Furthermore,  
392 the initial start and rate of change were heterogeneous among the group given the significant  
393 variance around the mean slope (0.005;  $p < 0.001$ ) and the mean intercept (0.604;  $p < 0.001$ ).  
394 The estimated covariance between the slope and intercept was not significant (-0.007;  $p =$   
395  $0.122$ ), suggesting that the rate of decline in perceived social support over time was similar for  
396 individuals who initially started with either high or low scores.

397 Running a multi group LGCM by gender reveals interesting results. Females have a slightly  
398 upward trajectory as indicted by the mean intercept (-0.002;  $p = 0.831$ ) and mean slope (0.175;  
399  $p < 0.001$ ). In contrast, males have a declining trajectory suggested by the mean intercept  
400 (0.009,  $p = 0.160$ ) and mean slope (-0.150;  $p < 0.001$ ). The analysis of variance in the trajectory  
401 of both males and females showed a significant variation in the initial start (0.594,  $p < 0.001$   
402 for males, 0.554,  $p < 0.001$  for females) and rate of change (0.006,  $p < 0.001$  for males, 0.003,  
403  $p < 0.001$  for females).

404 *4.4. Unconditional LGCM life satisfaction*

405 Among the several forms of growth tested (Table 4), the free LGCM was selected, where the  
406 optimal growth trajectories can be determined from the observed data ( $\chi^2 = 35.579$ ,  $df = 19$ ,  
407  $RMSEA = 0.031$ ,  $TLI = 0.993$ ,  $CFI = 0.996$ ,  $AIC = 64.269$ ). The free LGCM best captures the  
408 complexity of the observed trajectories within the data; it describes the boost and downturn  
409 over time beyond what is predicted by the nonlinear factor (Figure 4 illustrates the estimates  
410 of single average growth and a single variance of the LGCM parameters, which are distinct  
411 from the observed means displayed in Figure 3). The slope loading estimates were also used in  
412 the parallel process model. The predicted trajectory of life satisfaction shows a significant  
413 decline especially between year 0 and year 5, suggesting a “honeymoon-hangover” effect,  
414 which confirms H1. There was a significant difference in the initial level of life satisfaction in  
415 the sample around a mean intercept ( $-0.081$ ,  $p = 0.006$ ) and mean slope ( $-0.021$ ;  $p < 0.001$ ). In  
416 addition, we found a significant variance of the intercept ( $0.998$ ;  $p < 0.001$ ) and the slope  
417 ( $0.162$ ;  $p < 0.001$ ) confirming the variability of life satisfaction trajectories.

418 The multigroup analysis revealed a difference between the female and male trajectories. The  
419 parameter estimates showed a mean intercept of  $-0.145$  ( $p < 0.001$ ) and a mean slope of  $-0.035$   
420 ( $p < 0.001$ ), indicating a slight downward trajectory for males. The mean intercept of  $0.020$  ( $p$   
421  $< 0.001$ ) and a mean slope of  $-0.020$  ( $p < 0.001$ ) indicated a modest downward trajectory for  
422 females. The analysis of variance in the trajectory of life satisfaction showed that the variability  
423 in the initial status and the growth rate of life satisfaction were significant for both males and  
424 females, indicating the presence of gender differences in the growth of life satisfaction.

425

426 - Insert Table 4 here -

427 - Insert Figure 4 here -

428

429 *4.5. Parallel Process Model*

430 The parallel process model showed a good fit with data as detailed in Table 5. In Model-A, we  
431 estimated the effect of the intercept and slope of PSS on the intercept and slope of life  
432 satisfaction. In both cases, there was a statistically significant positive effect. This indicates  
433 that the initial level of PSS is related to the initial level of life satisfaction ( $\beta = 0.555$ ;  $p < 0.001$ )

434 and that the change of PSS is related to the change of life satisfaction ( $\beta = 0.680$ ;  $p < 0.001$ ),  
435 thus supporting H2a and H2b.

436 In Model-B (Table 5), we estimated the effect of the initial status of PSS on the change of life  
437 satisfaction. The results indicate that any increase in the level of PSS in the initial phase will  
438 slow the decline of life satisfaction ( $\beta = -0.056$ ;  $p < 0.001$ ). Comparing the two nested models  
439 using the likelihood ratio  $\chi^2$  difference test ( $\Delta \chi^2 = 34.551$ ;  $\Delta df = 1$ ;  $p < 0.001$ ); suggests that  
440 adding the extra parameter (i.e the path from the intercept of social support to the slope of life  
441 satisfaction) is significant. These results further support H2b.

442

443 - Insert Table 5 here -

444

445 When comparing between male and female entrepreneurs, the significant relationship between  
446 the intercept and slope of both processes remained, lending support to H3a (Table 6). However,  
447 the effect of the initial level of perceived social support on the change rate of life satisfaction  
448 (Model-B, Table 6) was significant only for female entrepreneurs ( $\beta = -0.155$ ;  $p < 0.001$ ) and  
449 not for males ( $\beta = -0.028$ ;  $p > 0.050$ ). The gender moderation test reveals that females and  
450 males differ significantly with respect to the impact of the initial level of social support on life  
451 satisfaction ( $\Delta \chi^2 = 13.712$ ;  $\Delta df = 8$ ;  $p = 0.022$ ); partially supporting H3b. This means that the  
452 female entrepreneurs value social support more than male counterparts, and as they feel  
453 socially connected, they enjoy higher life satisfaction and experience a smaller decline over  
454 time.

455 - Insert Table 6 here

## 456 **5. Discussion and Conclusion**

457 In this study we examine the role of PSS on entrepreneur life satisfaction during the transition  
458 into self-employment and beyond. Drawing on the Job Demands-Resources (JD-R) model, we  
459 argued that PSS is a key resource for entrepreneurs to cope with stressful situations, especially  
460 during the transition into self-employment. We adopted a sophisticated and rigorous approach,  
461 LGCM, to show that PSS is associated with changes in life satisfaction and to uncover how  
462 gender affects this co-development process over time.

463 Our findings provide evidence of a boost in life satisfaction in the transition phase, followed  
464 by a declining trend in the years that follow. This is in line with recent research on life  
465 satisfaction and entrepreneurship entry (Georgellis and Yusuf, 2016; Hanglberger and Merz,

466 2015; van der Zwan *et al.*, 2018). Our results suggest that the “honeymoon-hangover effect”  
467 or “adaption process” (Boswell *et al.*, 2005; 2009), does not just affect employees changing  
468 jobs but is applicable to nascent entrepreneurs as well. These findings also challenge the  
469 traditional assumption that entrepreneurs are generally highly satisfied (Benz and Frey , 2008;  
470 Schneck, 2014). Indeed, our analysis provides a contrasting picture, showing that the increase  
471 in life satisfaction is temporary, and that becoming an entrepreneur is often not the rosy, life-  
472 improving experience often portrayed by scholars and the public media alike.

473 In addition, our findings extend the JD-R and JDC theory by examining the transition into self-  
474 employment, a typically “active job”. Specifically, it appears that job decision latitude only  
475 partially buffers against the negative effects of high demands of the entrepreneur’s job. This  
476 lends support to the recent literature, which has cast doubts about the predictive value of the  
477 buffer hypothesis (Binder and Coad, 2016; van der Zwan *et al.*, 2018).

478 The analysis confirmed our prediction that the longitudinal effects of PSS on entrepreneur life  
479 satisfaction are statistically significant, and that both the initial perception and evolution of  
480 PSS are positively related to life satisfaction over time. In line with JD-R, our results suggest  
481 that PSS can serve as a strong personal buffer, especially in stressful times (Boz Semerci and  
482 Volery, 2018). Entrepreneurs who reported a higher initial level of social support experienced  
483 less decline in life satisfaction after their transition into self-employment, perhaps because the  
484 emotional, informational, and physical resources drawn from their social network helped them  
485 to persist after launching their business. In other words, PSS helps mitigate the “hangover  
486 effect” that follows job change (Boswell *et al.*, 2005). In particular, social support can help  
487 entrepreneurs manoeuvre the numerous hurdles (e.g., resource constraints, legal challenges,  
488 lack of reputation) in the early stages of their start-up. Our findings therefore contribute to the  
489 JD-R model, showing that PSS translates into higher levels of life satisfaction, which can  
490 potentially prevent job disengagement (Bakker and Demerouti 2007; Demerouti and Bakker,  
491 2011). This is all the more important given that entrepreneurs often have a very low propensity  
492 for help-seeking behaviour (Williams *et al.*, 2019).

493 Individuals who switch to self-employment should therefore carefully map and build a strong  
494 social network that can help them weather the challenges and setbacks in their new job. The  
495 results indicate that the perception of a strong social network reducing job demands that are  
496 associated with starting a new venture is pertinent. This means that social support may enhance  
497 nascent entrepreneur ability to cope with “occupational loneliness”, a perennial issue in self-  
498 employment (Fernet *et al.*, 2016). Identifying social support is the first step in building a more



499 comprehensive resource kit that helps entrepreneurs to handle their job demands and achieve  
500 their personal objectives.

501 Our multigroup analysis indicated that gender matters. This suggests that perceived social  
502 support is more important for females than for males and that social support enhances life  
503 satisfaction for females as they transition to self-employment and beyond. These findings  
504 confirm that gender has an important influence on support-relevant social interactions, thereby  
505 affecting the seeking and giving of social support in personal relations (Matud *et al.*, 2003).  
506 Female entrepreneurs appear to be opportunistic in the way they leverage their social support  
507 and mobilise resources within their network, especially during stressful events such as  
508 launching a new business venture (Johansson *et al.*, 2016).

509 Policy-makers interested in promoting entrepreneurship and improving entrepreneur well-  
510 being outcomes should adopt a customised approach based on gender. Furthermore, they need  
511 to focus on the quality of entrepreneur social relationships and aim at influencing would-be  
512 entrepreneur's mind-sets, since PSS is a cognitive assessment of the existence of the supportive  
513 network. Accordingly, the development of socialisation programs that target female  
514 entrepreneurs developing their feelings of relatedness and social connection could potentially  
515 improve their life satisfaction.

516 Our findings have practical implications for entrepreneurs too. Since PSS is a strong buffering  
517 mechanism that helps mitigate job demands, entrepreneurs need to be proactive in building a  
518 strong network. Stakeholders in the entrepreneurship ecosystems and educators can play a  
519 significant role by helping entrepreneurs overcome the sense of loneliness and isolation during  
520 their venture creation. The emergence of co-working spaces that allow entrepreneurs to work  
521 alongside their peers, to share different business ideas, and to network with a variety of  
522 stakeholders is a step in the right direction to develop social support.

523 There are a number of limitations in this study. Firstly, as in all panel studies, sample attrition  
524 is inevitable, and selection bias might occur. Nevertheless, we tried to overcome this limitation  
525 by using LGCM modelling, a technique that has tolerance to missing values (Preacher *et al.*,  
526 2008). Additionally, since the research focuses on five years after the transition to self-  
527 employment, a potential sampling bias might arise. The entrepreneurs who survive the first  
528 five years are those who may have a strong positive perception about their network support.  
529 Secondly, although our study was based on a large and diverse sample of Australians, the  
530 generalisability of the research findings may be problematic. Future research needs to verify to

531 what extent these results can be extrapolated to other contexts within different cultural and  
532 institutional frameworks. Thirdly, PSS in HILDA is a unidimensional scale, capturing mainly  
533 emotional social support. Future research may explore a different mode of social support, such  
534 as instrumental or financial support, which may have different effects on an individual's life  
535 satisfaction. Another research avenue might be to rely on a richer data set to provide a more  
536 granular picture of the impact of PSS during the transition into self-employment. Ethnographic  
537 studies drawing on in-depth interviews with key informants, observations or diary studies  
538 might provide further insight about how entrepreneurs mobilise their social network to help  
539 them weather through the ups and downs during start-up and remain happy.

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543

544

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734 **Appendix**

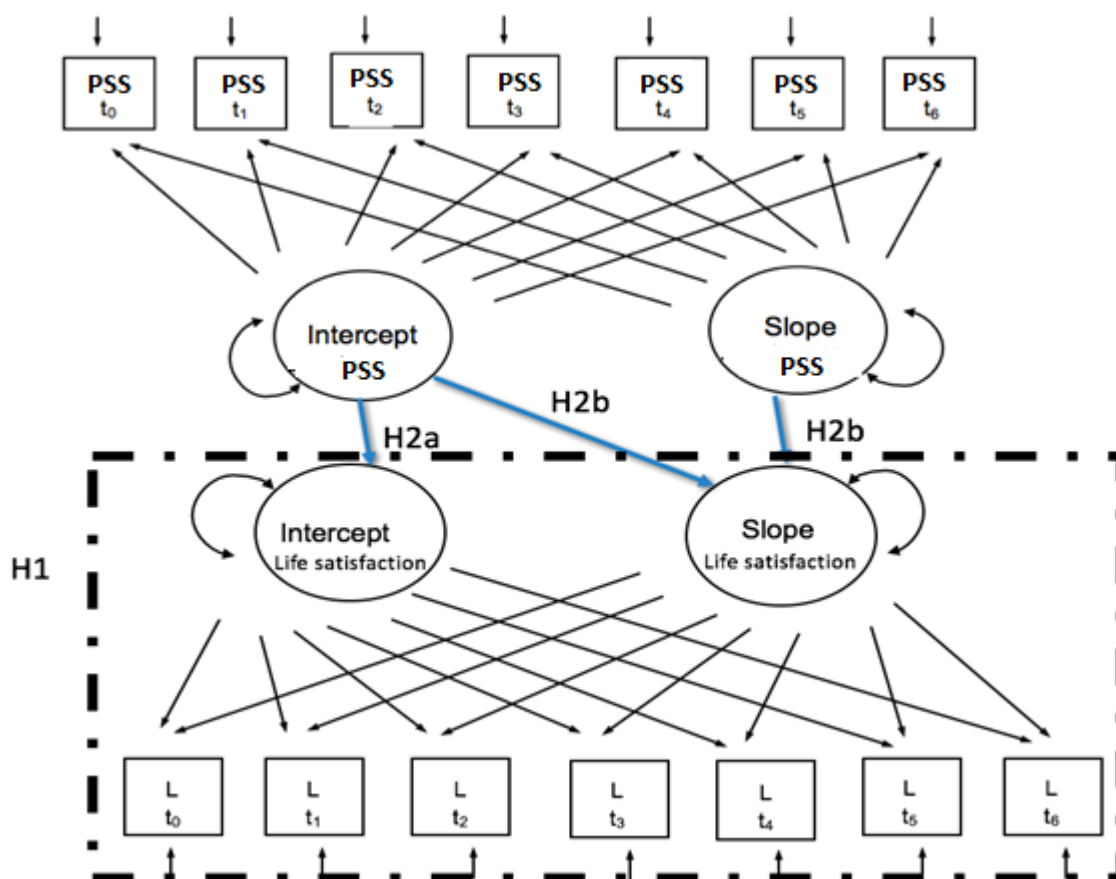
735 Table 1: Factor loading results for perceived social support (PSS) construct

	Items	Factor loading	Uniqueness
1	There is someone who can always cheer me up when I'm down	0.7269	0.4716
2	I seem to have a lot of friends	0.4976	0.7524
3	I enjoy the time I spend with the people who are important to me	0.5132	0.7366
4	When I need someone to help me out, I can usually find someone	0.7383	0.4549
5	When something is on my mind, just talking with the people I know can make me feel better	0.5583	0.6883
6	I often need help from other people but can't get it (R)	0.5727	0.6720
7	People don't come to visit me as often as I would like (R)	0.7339	0.4614
8	I don't have anyone that I can confide in (R)	0.5611	0.6852
9	I have no one to lean on in times of trouble (R)	0.4496	0.7978
10	I often feel very lonely (R)	0.5803	0.6633

736 Note: R = reverse coded item, pooled data over the seven waves of the HILDA survey (n=6,490).

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738 Figure 1: Conceptual model



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740 Note: PSS= perceived social support, L= life satisfaction, t<sub>0</sub> -t<sub>6</sub> represent time measurements.

741 The factor loading is fixed to 1, and the slope loading varied in each model specified.

742 Table 2: Demographic characteristics of the sample

	<b>One year before the transition</b>	<b>Transition year</b>	<b>One year after the transition</b>	<b>Two years after the transition</b>	<b>Three years after the transition</b>	<b>Four years after the transition</b>	<b>Five years after the transition</b>
Sample size	<b>n=1303</b>	<b>n=1303</b>	<b>n=1085</b>	<b>n=910</b>	<b>n=756</b>	<b>n=617</b>	<b>n=516</b>
	<b>M (SD) or %</b>	<b>M (SD) or %</b>	<b>M (SD) or %</b>	<b>M (SD) or %</b>	<b>M (SD) or %</b>	<b>M (SD) or %</b>	<b>M (SD) or %</b>
Age	39 (12.0)	40 (11.9)	41( 11.8)	42 (11.5)	44(11.8)	44 (11.75)	45 (11.34)
<b>Sex</b>							
Male	846 (64.9%)	846 (64.9%)	710 (65.4%)	591 (64.3%)	486 (64.2%)	395 (64.0%)	340 (65.8%)
<b>Marital status</b>							
Married	666 (55.5%)	758 (58.2%)	660 (60.8%)	586 (63.9%)	493(65.2%)	412 (66.8%)	339 (65.7%)
Divorced or Separated	334 (27.8%)	348 (26.7%)	280 (25.8%)	243 (26.5%)	184 (24.3%)	149 (24.2%)	123 (23.8%)
Single	200 (16.7%)	197 (15.1%)	145 (13.4%)	89 (9.6%)	79 (10.5%)	56 (9.0%)	54 (10.5%)
Income (log)	10.43 (2.1)	10.15 (3.2)	9.70 (3.9)	9.86 (3.8)	10.04 (3.4)	10.25 (2.9)	10.32 (3.1)
<b>Education completed</b>							
Postgraduate	177 (13.6%)	179 (13.7%)	153 (14.1%)	134 (14.6%)	112 (14.8%)	93 (15.1%)	71 (13.8%)
Undergraduate	347 (26.6%)	353 (27.1%)	295 (27.2%)	250 (27.2%)	213 (28.2%)	165 (26.7%)	136 (26.4%)
Vocational	381 (29.2%)	396 (30.4%)	333 (30.7%)	272 (29.6%)	218 (28.8%)	178 (28.9%)	150 (29.1%)
Year 12 and bellow	398 (30.6%)	375 (28.8%)	304 (28.0%)	262 (28.5%)	213 (28.2%)	181 (29.3%)	159 (30.8%)
<b>Long-term health condition</b>							
Yes	196 (15.0%)	197 (15.0%)	173 (15.9%)	148 (16.1%)	144 (19.0%)	110 (17.8%)	107 (20.7%)
<b>Present of children</b>							
No children ever	458 (35.1%)	414 (31.7%)	317 (29.2%)	230 (25.0%)	169 (22.3%)	130 (21.0%)	106 (20.5%)

Note : Data pooled across 16 waves from HILDA dataset, and set at the around the baseline (the transition year).

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746 Table 3: Differences between the retained and excluded individuals, established on the baseline (the transition year) demographics

	Retained (n=1,303)	excluded (n= 870)	$\chi^2$ or t	p-value	Cohen's d	[95% Conf. Interval]	
	% or M (SD)	% or M (SD)					
<b>Age</b>	40 (11.9)	36.83 (13.21)	2.553	0.010	0.110	0.025	0.196
<b>Sex (Male)</b>	64.9%	57.8%	9.269	0.002	-0.132	-0.217	-0.047
<b>Marital status</b>							
Married	58.2%	53.8%	18.472	0.000	0.102	0.086	0.257
Widowed, divorced or separated	26.7%	27.0%					
Single	15.1%	19.2%					
<b>Income (log)</b>	10.15 (3.2)	9.82 (3.22)	2.961	0.003	0.128	0.043	0.213
<b>Education completed</b>							
Postgraduate	13.7%	9.0%	10.949	0.012	-0.131	-0.217	-0.045
Undergraduate	27.1%	24.9%					
Vocational	30.4%	26.4%					
Year 12 and below	28.8%	39.7%					
<b>Long-term health condition (Yes)</b>	15.0%	16.2%	1.688	0.194	0.056	-0.028	0.1428
<b>Presence of children (No)</b>	31.7%	42.4%	7.042	0.080	-0.115	-0.200	-0.030

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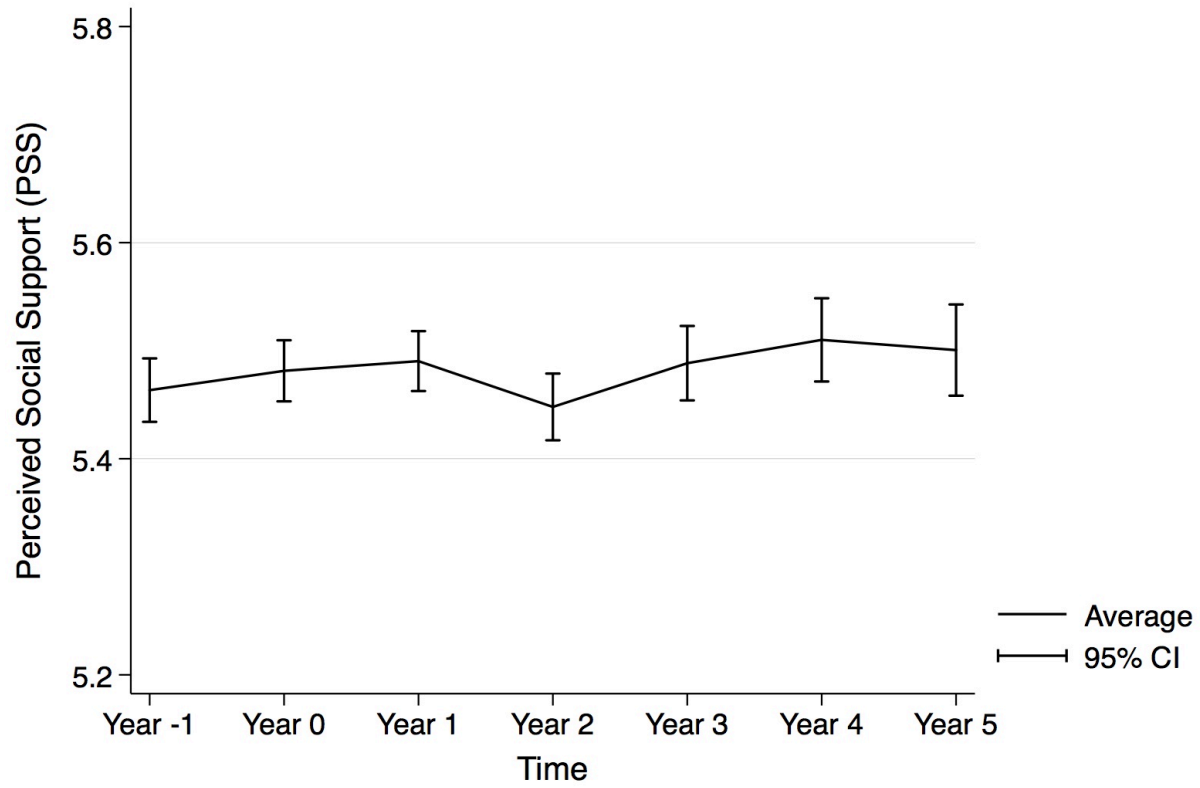
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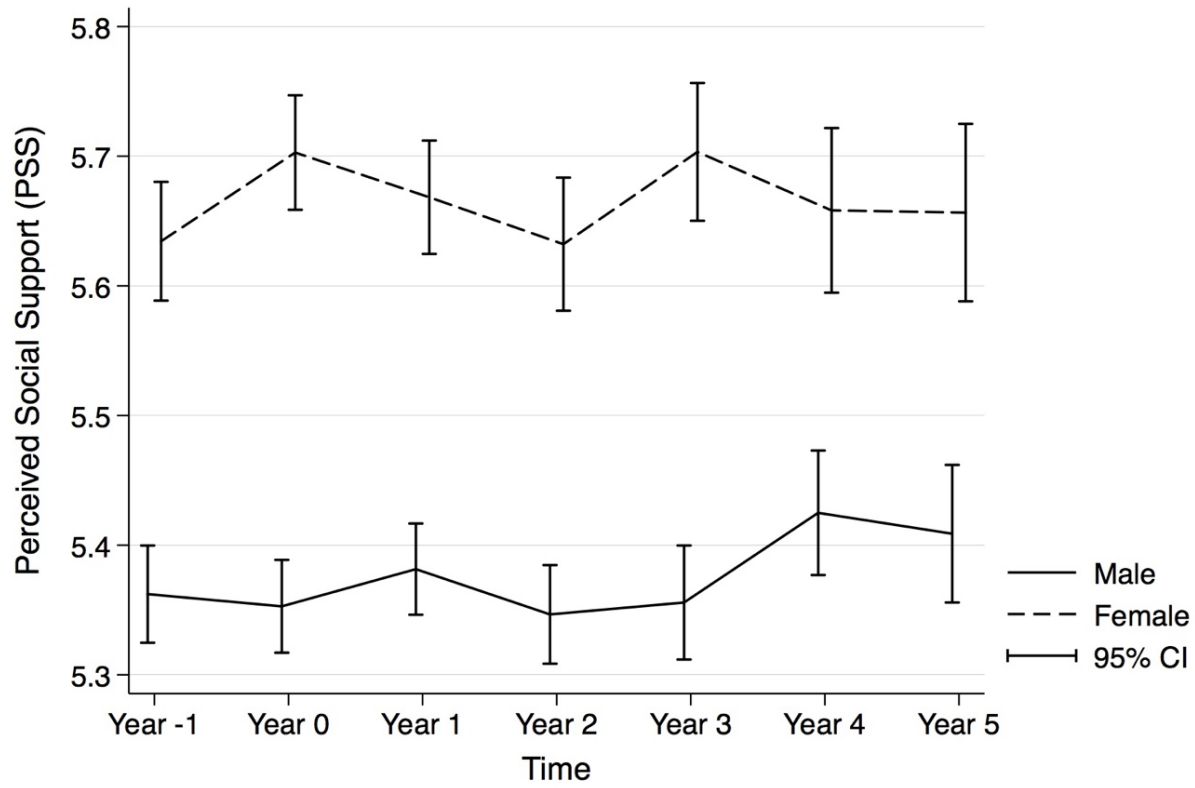
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755 Figure 2: The sample average of perceived social support (PSS) over time, presented overall (a) and by gender (b) (n=1,303 unbalanced panel)



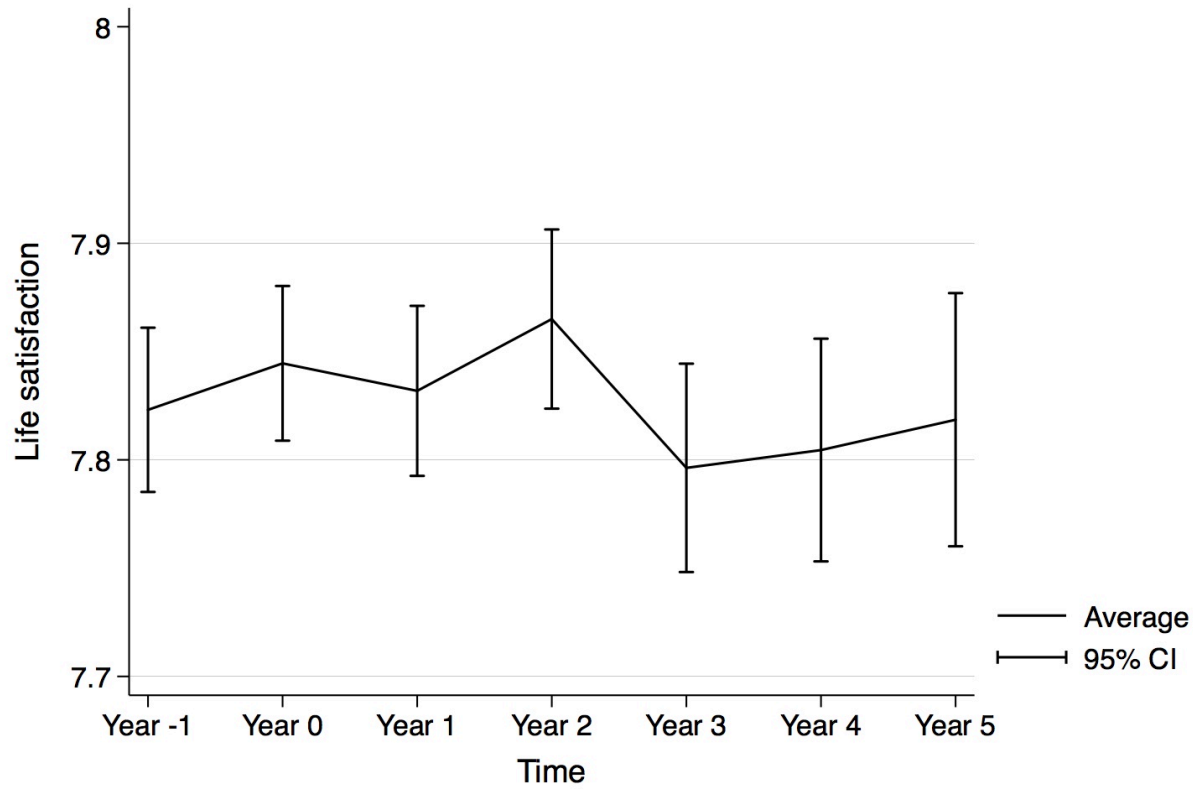
756 (a)



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(b)

758 Figure 3: The sample average life satisfaction over time, presented overall (a) and by gender (b) (n=1,303 unbalanced panel)

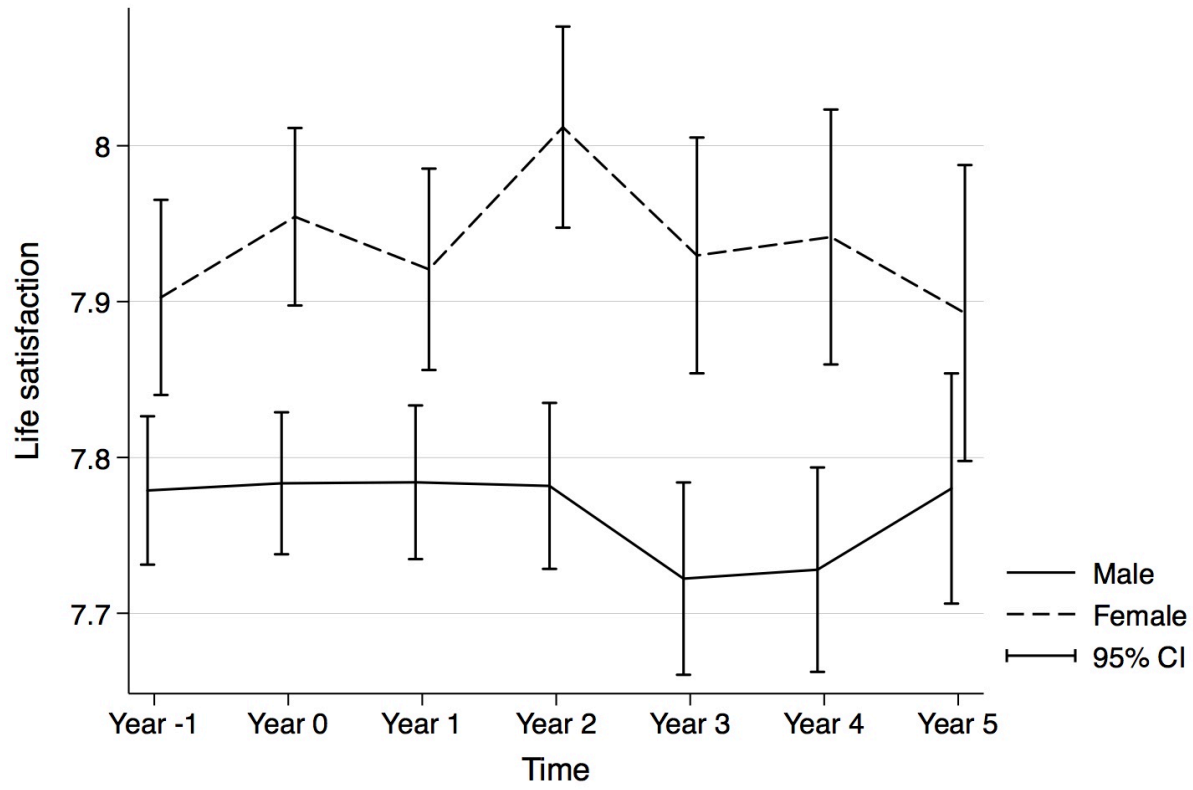


(a)

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(b)

765 Table 4: Goodness of fit for model comparison

	$\chi^2$ (DF)	Compared	$\chi^2$ (DF)	p-value	AIC	RMSEA	TLI	CFI
<b>With:</b>								
<b>Social support</b>								
<b>Free LGCM</b>	27.588 (18)				61.588	0.020	0.997	0.996
<b>Linear LGCM<sup>A</sup></b>	36.245 (23)	linear vs free	8.657 (5)	0.124	60.245	0.021	0.995	0.996
<b>Nonlinear LGCM</b>	45.636 (23)	Quadratic vs free	18.048 (5)	0.003	69.636	0.027	0.993	0.992
<b>Life Satisfaction</b>								
<b>Free LGCM<sup>A</sup></b>	35.579 (19)				64.269	0.022	0.993	0.996
<b>Linear LGCM</b>	42.186 (23)	linear vs free	6.607 (4)	0.158	59.579	0.020	0.994	0.995
<b>Nonlinear LGCM</b>	43.893 (23)	Quadratic vs free	1.707 (4)	0.789	67.893	0.026	0.999	0.992

766 Note: <sup>A</sup> model with the best model-data fit.

767 LGCM= latent growth curve model, df= degrees of freedom, AIC= Akaike Information Criterion, RMSEA= root mean square error of approximation, TLI= Tucker-  
 768 Lewis fit index, CFI= comparative fit index. In all models, invariant residual variance was assumed.

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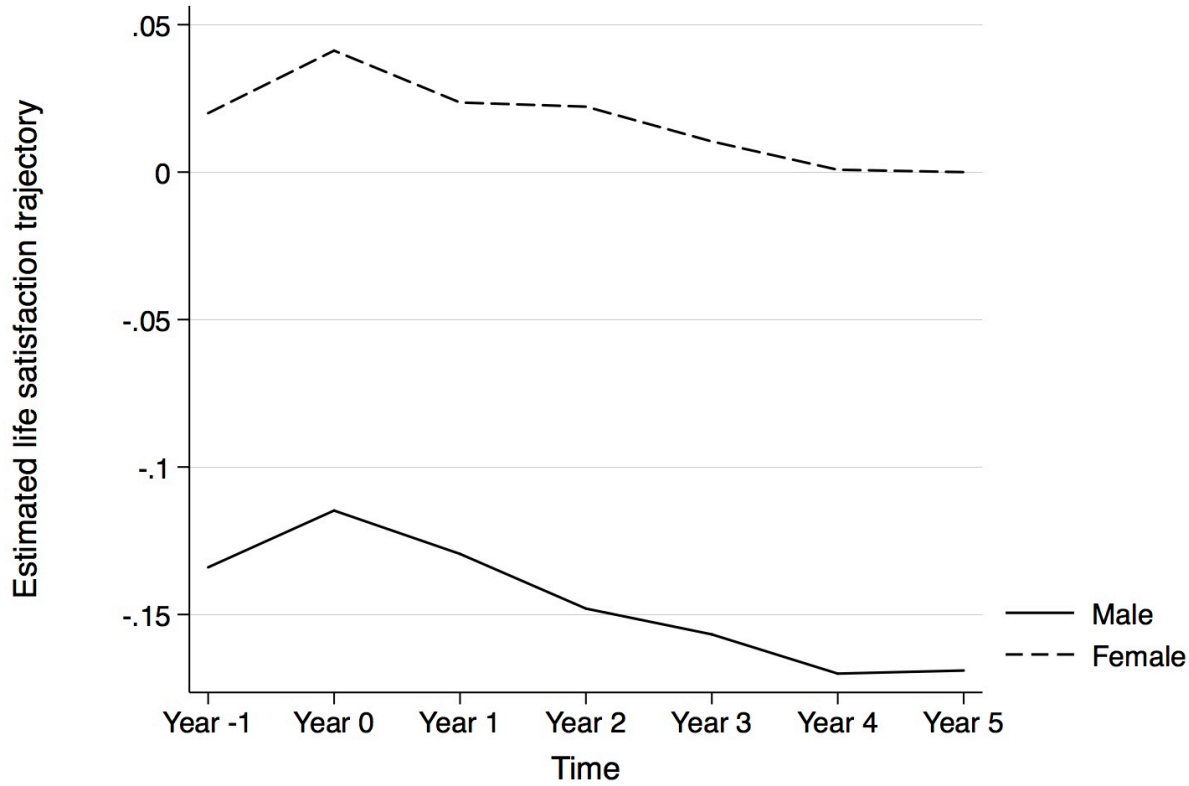
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777 Figure 4: The trajectory of life satisfaction with the intercept and freely estimated slope by gender



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779 Note: Estimated average life satisfaction at  $i$  wave = mean intercept + (mean slope x unstandardized factor loading at ( $i$ ) wave)

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783 Table 5: Results of the two parallel process models

	<b>Model A</b>	<b>Model B</b>
	$\beta$ (S.E)	$\beta$ (S.E)
Effect of the initial of PSS <i>o</i> on life satisfaction	0.555 *** (0.038)	0.555 ***(0.038)
Effect of the changes of PSS <i>s</i> on the changes of life satisfaction	0.680 *** (0.959)	0.680 ***(0.959)
Effect of the initial of PSS <i>i</i> on the changes of life satisfaction		-0.056 *** (0.036)
<b>Model fit indices</b>		
$\chi^2$	233.452	198.901
df	99	98
TLI	0.974	0.981
CFI	0.979	0.984
RMSEA	0.032	0.028
AIC	305.452	272.901

784 Note: Models are nested.  $\beta$  = Standardized coefficients; S.E = Standard error; df= degrees of freedom, TLI= Tucker-Lewis fit index, CFI= comparative fit index, RMSEA=  
785 root mean square error of approximation, AIC= Akaike Information Criterion. The models are controlling for age at the baseline. Other sociodemographic controls have been  
786 tested and results of the structural part of the model did not change significantly. These results are available upon request from authors . Significance: \*\*\* p < 0.001, \*\* p <  
787 0.01, \* p < 0.05

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795 Table 6: Results of the two parallel process models by gender

	<b>Model A</b>		<b>Model B</b>	
	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>
	$\beta$ (S.E)	$\beta$ (S.E)	$\beta$ (S.E)	$\beta$ (S.E)
Effect of the initial <i>i</i> of PSS on life satisfaction	0.573 *** (0.049)	0.516*** (0.063)	0.573 *** (0.049)	0.517*** (0.063)
Effect of the changes of PSS <i>s</i> on the changes of life satisfaction	0.555*** (0.894)	0.516*** (0.097)	0.564 *** (0.911)	0.679*** (0.082)
Effect of the initial <i>i</i> of PSS on the changes of life satisfaction			-0.028 (0.045)	-0.155*** (0.558)
<b>Model fit indices</b>				
$\chi^2$	312.352		311.162	
df	198		196	
TLI	0.978		0.978	
CFI	0.982		0.982	
RMSEA	0.021		0.021	
AIC	456.352		459.162	

796 Note: Models are nested.  $\beta$  = Standardized coefficients; S.E = Standard error; df= degrees of freedom, TLI= Tucker-Lewis fit index, CFI= comparative fit index, RMSEA=  
797 root mean square error of approximation, AIC= Akaike Information Criterion. The models are controlling for age at the baseline. Other sociodemographics have been tested  
798 and results of the structural part of the model did not change significantly; these results are available upon request from authors. Significance: \*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p$   
799  $< 0.05$

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