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Veröffentlichungsversion / Published Version
Zeitschriftenartikel / journal article

Empfohlene Zitierung / Suggested Citation:
Schmälzle, M., Wetzel, M., & Huxhold, O. (2019). Pathways to retirement: Are they related to patterns of short- and long-term subjective well-being? *Social Science Research*, 77, 214-229. https://doi.org/10.1016/j.ssresearch.2018.10.006

Social Science Research 77 (2019) 214–229

Contents lists available at ScienceDirect

Social Science Research

journal homepage: www.elsevier.com/locate/ssresearch

Pathways to retirement: Are they related to patterns of short- and long-term subjective well-being?

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ARTICLE INFO

Keywords:
Transition
Pathways to retirement
Subjective well-being
Employment history
Intra-cohort inequality
Germany

ABSTRACT

We examine the association between pathways to retirement and patterns of subjective well-being in Germany. We argue that short-term development of subjective well-being is related to social status changes while long-term development of subjective well-being is related to resources and changes in life circumstances. Importantly, we expect that how a person's social status changes and his/her access to resources post-retirement both depend on the person's specific pathway to retirement, resulting in distinct patterns of subjective well-being post-retirement. Based on data from the German Socio-Economic Panel, we categorized people as retiring from employment, short- or long-term unemployment, labour market inactivity or due to disability. We then used dual-change score models to compare trajectories of life satisfaction ten years before to ten years after the retirement transition. For people retiring from employment, life satisfaction did not change in the short term but developed more positively in the long term. In comparison, people retiring from unemployment or due to disability experienced a short-term increase in life satisfaction but had more negative long-term trajectories of life satisfaction. We found no retirement-related changes in life satisfaction for people retiring from inactivity. The findings suggest that different pathways to retirement are related to distinct patterns of subjective well-being and highlight the importance of late-life employment biographies for quality of life post-retirement.

1. Introduction

A considerable amount of literature has analysed how the transition to retirement affects subjective well-being (SWB). Older research reported contradictory results, with no clear findings as to whether retirement had a positive, negative or no general effect on SWB (e.g., Gall et al., 1997; Isaksson and Johansson, 2000; Richardson and Kilty, 1991; Warr et al., 2004). Evidence from more recent studies has highlighted that trajectories of SWB in the post-retirement phase of life show no single universal pattern. Instead, SWB post-retirement depends on a number of protective- and risk-factors that vary across social groups and individuals (e.g., Bender, 2012; Calvo et al., 2009; Pinquart and Schindler, 2007; van Solinge and Henkens, 2005, 2007, 2008; Wang, 2007; Wetzel et al., 2016). Specifically, influencing factors such as economic, social and personal resources (e.g., socio-economic status, marital status, health) as well as the situational context in which retirement takes place (e.g., timing and voluntariness of retirement) can enhance or hamper SWB in the post-work phase of life (van Solinge, 2013: 316–19).

In the present study, we add to the literature by focusing on how specific *pathways to retirement* may lead to different patterns of

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https://doi.org/10.1016/j.ssresearch.2018.10.006
Received 8 February 2018; Received in revised form 15 August 2018; Accepted 8 October 2018
Available online 09 October 2018

SWB post-retirement. Pathways to retirement refer to the succession of different labour market statuses in the years preceding retirement. To date, most research has been focused on people with straightforward work-to-retirement transitions (e.g., Damman, Henkens and Kalmijn, 2013a; Hershey and Henkens, 2014; Shultz et al., 1998) while systematically excluding people who did not participate in the labour market prior to retirement (e.g., unemployed people, homemakers, people who do not work due to health impairments). In recent decades, however, retirement transitions have become more de-standardised (Brückner and Mayer, 2005), and an increasing number of people retire from a position of economic inactivity (Ebbinghaus, 2006; Fasang, 2010; Kohli et al., 1991). The rising prevalence of non-standard pathways emphasizes the need to understand how different pathways may be related to distinct patterns of SWB post-retirement. Furthermore, it is increasingly recognized that the retirement transition and its impact on SWB is a dynamic process which occurs over several years (Wang et al., 2011). The few existing studies which analysed trajectories of SWB before and after retirement either did not focus on the diversity of retirement pathways (Hetschko et al., 2013; Wetzel et al., 2016) or could not capture the long-term dynamics of SWB due to data limitations (Halleröd et al., 2013; Ponomarenko et al., 2017).

In the current study, we address these gaps in the literature by examining the relationship between five distinct pathways to retirement and patterns of SWB from pre-to post-retirement. Our conceptualization of pathways to retirement considers both the duration and succession of labour market statuses before retirement. As a result, we are better able to differentiate the consequences of (non-)employment histories before retirement on SWB in later life relative to previous studies. We also extend previous research by distinguishing between short-term (i.e., first year of retirement) and long-term (ten years after retirement) trajectories of SWB post-retirement. As an indicator of SWB, we use life satisfaction which reflects the cognitive component of SWB (Diener, 1984). Critical life events like retirement affect life satisfaction more than the affective components of SWB (i.e., emotions) (Luhmann et al., 2012). Life satisfaction is therefore a valid indicator for analysing the patterns of SWB from pre-to post-retirement because it mirrors the subjective evaluation of the current level as well as changes in living conditions (Diener et al., 2013).

In the following, we first introduce the institutional context of retirement in Germany and five distinct pathways to retirement. We then outline our theoretical framework for understanding the development of SWB during the retirement transition which combines assumptions from the life course approach, dynamic resource-based perspective and cumulative (dis)advantage. We argue that short-term development of SWB is more strongly associated with institutionalized norms and changes in social status, while long-term development of SWB is more strongly associated with individuals' access to resources. Finally, we draw on our theoretical framework to make specific hypotheses about how we expect the different retirement pathways will be related to patterns of short- and long-term development of SWB post-retirement.

2. Pathways to retirement and SWB

2.1. The institutional context of retirement in Germany

Structural labour market conditions and the institutional context, in particular labour market regulations and pension policies, shape the pool of potential pathways to retirement. In Germany, retirement is mandatory at age 65. However, a number of policies have provided routes to early retirement. During the 1970s, generous early retirement programs, such as flexible retirement at age 63, were introduced with the aim of relieving the labour market from rising mass unemployment. After German reunification, early retirement schemes were a central means of reducing the high unemployment rates in the former East Germany.

Apart from the possibility of early withdrawal from the labour market without benefits reduction, unemployment insurance has also been used as an indirect pathway to retirement. Between 1986 and 2008, the so-called '58-rule' enabled dismissed workers from the age of 58, later from the age of 57 years and four months, to receive unemployment benefits without any obligation to find work until they became eligible for "old-age pension for long-term unemployed people" at age 60. During the 1990s, however, in the face of an ageing population and the challenge of sustaining the pay-as-you-go public pension system, policy makers began to shift away from promoting a culture of early retirement. By raising legal retirement age, gradually closing early retirement pathways and making early withdrawal from the workforce less financially attractive by introducing permanent pension reductions in case of early exit, policy makers have fulfilled a paradigm shift with the aim of prolonging working life (Ebbinghaus et al., 2011; Rinklake and Buchholz, 2011).

In addition to early retirement schemes and bridge unemployment (58-rule), many people have and continue to retire early due to health impairments. In Germany, people incapable of working due to physical and/or mental impairments can apply for a "reduced earning capacity pension" (in the following called disability pension). Receiving a disability pension requires official medical recognition of reduced earning capacity as well as at least three years of contributions to the statutory pension scheme in the five years before application. There is no minimum age for receiving a disability pension. Once a person reaches statutory pension age, the disability pension is converted into the normal old-age pension (Bäcker, 2012).

2.2. Five distinct pathways to retirement

Based on the institutional regulations described above and previous research on pathways to retirement in Germany (Fasang, 2010; also see Rasner and Etgeton, 2014; Zähle et al., 2009), we find it critical to differentiate between people retiring from employment, short- or long-term unemployment, labour market inactivity or disability. We thus identify five distinct pathways to retirement.

The *employment pathway* describes people transitioning from continuous full- or regular part-time employment to retirement. We do not differentiate whether a person retires at legal retirement age or earlier because, during the time frame relevant for the present

study, the majority of people in Germany retired before the statutory retirement age of 65 years (Rinklake and Buchholz, 2011: 43–44). Due to its wide spread use and political promotion, early retirement has been perceived "as a well-earned right of workers and as part of legitimate life course" (Jacobs et al., 1991: 205). Furthermore, early retirement provisions have been financially very generous for current cohorts of retirees. Accordingly, for the current study we do not find it relevant to distinguish between early and normal retirees. For simplicity, we also do not differentiate between people retiring from full- or part-time employment.[1]

The *short- and long-term unemployment pathways* describe people retiring from either short- or long-term unemployment, respectively. As described above, the institutionalized bridge unemployment (58-rule) allowed people to bridge up to three years between their last paid job and pension entry. Accordingly, we define the short-term unemployment pathway as retirement following a maximum of three years of unemployment and the long-term unemployment pathway as retirement following more than three years of unemployment.

The *inactivity pathway* describes people who were neither employed nor unemployed before retirement. Previous research (Fasang, 2010) indicated that the group of people who retired from labour market inactivity consists predominantly of West German women who were engaged in household and family work in midlife with long child-raising periods. People following the inactivity pathway generally would not have gained sufficient pension rights to qualify for early retirement. Hence, most of the people following the inactivity pathway retired at the statutory retirement age of 65 years.

Finally, the *disability pathway* describes people who were receiving a disability pension prior to receiving their normal retirement pension. We define the retirement entry for this group of people by the time point of entering disability retirement (as opposed to regular old-age pension).

2.3. Status changes, resources and SWB post-retirement

Retirement has been conceptualized as a life course transition that evokes (a) a short-term process during which people get used to changes in their social status (Wetzel et al., 2016) as well as (b) a long-term process during which people get used to their changed living conditions (van Solinge and Henkens, 2008). We first draw on the concept of the "institutionalized life-course" (Kohli, 2007) to understand how retirement is related to changes in social status. According to the institutionalized life course approach, in modern societies, work is central to the structuring of the life course. As a consequence, the "normal biography" is characterized first by a period of education, then by a period of continuous full-time employment and finally by a legitimate end of working life once the institutionalized retirement age has been reached (Kohli, 2000: 16; 2007: 255). As such, retirement is a socially accepted status for people beyond a certain age. Deviation from the institutionalized normal biography (e.g., due to unemployment or early retirement due to health limitations) may result in a feeling of failure with regard to meeting one's own internalized expectations and may also lead to social sanctioning. Entering retirement may allow people to return to a status in line with social norms and may hence be associated with positive changes in SWB. Indeed, studies have shown that previously unemployed people report higher life satisfaction (Hetschko et al., 2013), well-being (Halleröd et al., 2013), and feeling more like part of society (Wetzel and Mahne, 2016) after the retirement transition than before.

To better understand how the retirement transition affects SWB in the long run, we draw on the resource-based dynamic perspective on retirement adjustment (Wang et al., 2011; Wang and Shi, 2014). According to this approach, the long-term development of SWB post-retirement depends on an individual's access to economic, social and personal resources as well as on how his or her resources change with retirement. People who experience a decrease in resources are expected to experience the post-retirement phase as less satisfying than people who experience a positive or no significant change in their resources. Moreover, people with more resources are expected to adjust more easily to changed living conditions than people with fewer resources since they can either maintain their prior life style and/or are able to mobilize new resources for building new daily routines. The extent to which the retirement transition changes life circumstances also depends on people's labour market status prior to retirement. We elaborate this idea separately for each of the different pathways in the following section.

Importantly, we argue that retirement pathways help to systematically predict patterns of SWB because they capture both how a person's social status changes upon retirement as well as his or her access to resources post-retirement. First, we argue that the person's labour market status prior to retirement determines whether the person transitions from a non-normative to a normative status or between two normative statuses. Second, in line with the life course paradigm and the cumulative (dis)advantage approach (Dannefer, 2003, 2011; O'Rand, 1996, 2009), we argue that retirement pathways are not a matter of "choice" but rather reflect the resources and life chances that a person has accumulated over her or his life course. Consequently, the retirement transition as well as patterns of SWB in the post-retirement phase of life are socially structured (Fasang, 2010, 2012; Radl, 2013; Wetzel et al., 2016). Because events and biographical experiences in earlier life phases (e.g., educational and health biographies as well as work and family history) shape later life outcomes and opportunities for action, we argue that pathways to retirement correlate highly with a person's level of resources (e.g., health, education, wealth) post-retirement.

2.4. Hypotheses regarding how retirement pathways are related to SWB in the short and long term

Based on how the five different retirement pathways are associated with changes in social status and resources, we now deduce a

[1] Supplementary analyses revealed that people retiring from full- or part-time employment neither differed significantly with respect to their patterns of short- nor long-term development of SWB.

number of hypotheses regarding how the five retirement pathways are associated with short- and long-term trajectories of SWB as well as potential differences between people retiring from short- and long-term unemployment.

Path-specific short-term development of life satisfaction. We have argued that short-term trajectories of SWB are related to how a person's social status changes with retirement. People following the employment pathway comply with the institutionalized normal biography and hence transition from one socially accepted status to another socially accepted status. Likewise, individuals following the inactivity pathway (primarily women who fulfilled a traditional female role with a focus on family and household work, see above) transition from one socially accepted role to another. We therefore expect that people following either the employment or inactivity pathways experience, on average, no short-term change in life satisfaction.[2] In contrast, for people following the short- or long-term unemployment pathways, retirement constitutes the return to the standardised life course. Due to the important functions of work (Jahoda, 1981) and the stigma associated with unemployment and deviance from the normal biography, unemployment may result in a perceived loss of social recognition, the reduction of self-esteem and an intensified feeling of social exclusion (Gundert and Hohendanner, 2014; Wetzel and Mahne, 2016). Hence, retirement may offer relief from the psychosocial stress associated with unemployment. We therefore expect that previously unemployed people will experience a significant increase in life satisfaction directly after the retirement transition. Börsch-Supan and Jürges (2009) showed that disability retirees also experienced a short-term increase in life satisfaction upon the retirement transition. While the authors interpret this effect as solely mirroring health recovery, Bäcker (2012) and Brussig (2012a) notice that especially members of younger cohorts spend some time in unemployment before entering disability retirement. Accordingly, we expect that people following the disability pathway will likewise experience a short-term increase in life satisfaction after retirement due to relief from health problems but also from relief of the stigma associated with unemployment.

Hypothesis 1. Retirement is associated with a significant short-term increase in life satisfaction for people following the short- and long-term unemployment pathways and the disability pathway.

Long-term changes in life satisfaction. We have argued that long-term development of SWB is associated with the extent to which the retirement transition alters living conditions as well as with an individual's resources. For people working prior to retirement (i.e., people following the employment and disability pathways), retirement may lead to profound changes in living conditions. Specifically, the retirement transition results in a gain of new freedom and time sovereignty as well as in potential relief from the physical and/or psychological stress associated with work, but also comes along with the challenge of restructuring daily routines and compensating for the loss of the former work role by developing new roles and identities (van Solinge and Henkens, 2008). Relief from the strains of work may particularly benefit people retiring due to disability, enabling them to recover (at least partly) from their severe health problems. We therefore expect that retirement affects the long-term trajectory of life satisfaction for people retiring from employment and due to disability. In contrast, people following the short- and long-term unemployment but also the inactivity pathways have already adjusted to life without paid work. Thus, we expect that the retirement transition will be unrelated to the long-term development of life satisfaction for people following the short- or long-term unemployment and inactivity pathways.

Hypothesis 2a. Only for people following the employment and the disability pathways, the long-term development of life satisfaction differs significantly before and after retirement entry.

Regardless of the extent to which retirement alters living conditions and daily routines, the ease with which people are able to satisfactorily shape their lives in retirement depends on the resources they have available (Hansson et al., 2017; Wetzel et al., 2016). We argue that resources are unequally distributed across people following different retirement pathways. Of all the pathways, Fasang (2010, 2012) showed that people retiring from employment have the highest level of resources with regard to individual and household income, health and education. Compared to people following the employment pathway, people following non-standard pathways to retirement have fewer resources (financial, educational, health). Specifically, people retiring due to disability have the lowest health resources, and people retiring from unemployment, inactivity or due to disability also have on average lower financial and educational capital. The group of people following the inactivity pathway includes the highest percentage of people with low education (Fasang, 2010). Due to their lower access to resources, we expect that people following non-standard pathways to retirement will have worse trajectories of life satisfaction in the long run relative to people following the employment pathway.

Hypothesis 2b. People following the disability, short- and long-term unemployment, and the inactivity pathways have worse patterns of long-term life satisfaction relative to people following the employment pathway.

Differences between short- and long-term unemployment pathways. We assume that the stigma of unemployment is less pronounced for individuals retiring from short-term unemployment than for people retiring from long-term unemployment. Our reasoning is based on the political promotion and widespread use of bridge unemployment. As such, bridge unemployment has been seen as a legitimate pathway to retirement and might therefore be perceived as less of a deviation from the social norm relative to the long-

[2] Please note that people of the employment pathway constitute a diverse group itself and previous research has demonstrated that, depending on the situational context of the retirement transition and the individual resources available, the retirement transition may have a positive, negative or no effect on SWB for people retiring from employment (e.g., Hershey and Henkens, 2014; Hetschko et al., 2013; Pinquart and Schindler, 2007; Wang, 2007; Wetzel et al., 2016). We assume that this within-group variability will be balanced out on average. Because we aim at comparing trajectories of SWB from pre-to post-retirement between people of different pathways to retirement, heterogeneity within pathways cannot be discussed.

term unemployment pathway (Hetschko et al., 2013: 163; Knuth and Kalina, 2002: 400–1). We therefore expect that people following the long-term unemployment pathway experience a greater short-term increase in life satisfaction upon retiring relative to people following the short-term unemployment pathway.

Hypothesis 3a. People retiring from long-term unemployment experience a greater short-term increase in life satisfaction relative to people retiring from short-term unemployment.

Furthermore, we expect systematic differences in trajectories of life satisfaction in the long term between the two unemployment pathways since, on average, long-term and short-term unemployed people differ with regard to their resource levels. As a consequence of long-term unemployment, the average pension payments for people retiring from long-term unemployment are lower (Brussig, 2012b; Rinklake and Buchholz, 2011). In contrast, at least until the end of the 1990s, people retiring from short-term unemployment profited from financially generous pension payments (Knuth and Brussig, 2012). Additionally, individuals retiring from long-term unemployment are more likely to have lower education (e.g., Bennett and Möhring, 2015: 215; Riphahn, 1997) and presumably also have worse health since the duration of unemployment negatively impacts psychosocial health and because illness increases the risk of becoming permanently unemployed (e.g., Herbig et al., 2013). We therefore expect worse patterns of life satisfaction in the long term for people retiring from long-term unemployment relative to people retiring from short-term unemployment.

Hypothesis 3b. People retiring from long-term unemployment have more negative patterns of long-term life satisfaction relative to people retiring from short-term unemployment.

3. Data and methods

3.1. Data

Our analysis was based on data from the German Socio-Economic Panel (SOEPv30, 1984–2013). The representative longitudinal panel study of households has been conducted yearly since 1984 in West Germany and since 1990 in East Germany (Wagner et al., 2007). We excluded respondents without a period of retirement (n = 50,081) as well as respondents with several disrupted retirement spells (n = 3529) because we could not unambiguously identify their retirement year. Moreover, we excluded respondents retiring before age 50 or after age 65 (n = 1624). We defined a minimum retirement age of 50 years because we were particularly interested in individuals' late-life careers and because there is no age boundary for disability pensioners. We excluded people working beyond 65 years (statutory retirement age at the time frame of our analysis sample) because previous research has shown that people who extend their working life belong to a very heterogeneous group with different characteristics (e.g., self-employed or highly qualified people) and with diverse motivations for prolonging working life (e.g., Brenke, 2013; Maxin and Deller, 2010). Thus, this group of people cannot be subsumed into one distinct pathway. Furthermore, in order to adequately assign people to a retirement pathway, we excluded respondents whose employment history was observed for less than five years before retirement, whose employment history had larger gaps or was highly instable (n = 572). We excluded an additional 238 respondents with short inactivity before retirement because we could not unambiguously assign them to a pathway. Finally, we excluded respondents who retired more than ten years before their first participation in the SOEP (n = 1866), respondents without a valid answer on the dependent variable life satisfaction (n = 161), respondents who moved to Germany only after their retirement (n = 62) or who lived abroad in the retirement year (n = 6) and respondents who stated that they were in military or civil service in the ten years before retirement (n = 5).

Hence, the final sample consisted of 6525 individuals who retired between 1974 and 2013. Respondents had participated in the SOEP during the relevant observation period for a median of 10 years. Around 25 per cent of respondents participated 3 or fewer times and around 30 per cent participated 13 or more times.

3.2. Measures

Retirement year: We used self-reported retirement year as the date of the retirement transition. Compared to the also often used self-reported year of first pension receipt, our operationalization more specifically assesses whether a person perceives her- or himself as being retired and therefore is more relevant given our focus on the effect of social status changes associated with retirement.

Classification of retirement pathways: The operationalization of retirement pathways was based on the personal bio-spell data set which contains yearly information on respondents' labour market status from age 15 to 65. We specifically examined respondents' labour market statuses in the ten years before retirement. For example, when a person retired at age 63, we considered the sequence and duration of labour market statuses from age 53 to age 62. We distinguished between four labour market statuses: employment (part- or full-time), unemployment, inactivity (housework or other non-employment activity) and retirement. Since respondents were allowed to indicate multiple statuses in any given year, we prioritized the labour market statuses in order to be able to assign a unique status to each year. Employment status received the highest priority, followed by unemployment, inactivity and then retirement. Previous studies on pathways to retirement in Germany used sequence analysis for identifying retirement pathways (e.g., Fasang, 2010). Because we had a priori hypotheses about short- and long-term patterns of SWB, we refrained from this data-driven approach and instead developed theory-driven, detailed rules for assigning respondents to retirement pathways (see Table 1). For instance, people who were working continuously for at least five years before retirement or who were employed one year before retirement and

Table 1
Detailed list of assignment rules for coding retirement pathways.

Assignment rules	Time spent in last 10 years prior to retirement in		
	employment	unemployment	inactivity
Employment pathway (n = 4190)	9.9	0.0	0.0
People who were continuously employed for at least five years before retirement.			
People who were employed in the year before retirement and who were employed in total at least eight out of ten years before retirement.			
Short-term unemployment pathway (n = 768)	7.8	2.1	0.1
People who were unemployed for at maximum three years before retirement.			
Long-term unemployment pathway (n = 317)	3.3	6.5	0.1
People who were unemployed for at least four years before retirement.			
Inactivity pathway (n = 674)	0.5	0.0	9.4
People who were continuously inactive for at least five years before retirement.			
People who were inactive in the year before retirement and who were inactive in total at least eight out of ten years before retirement.			
Disability pathway (n = 576)	8.5	1.0	0.5
People who retired younger than age 60 and who indicated			
– to be legally classified has handicapped or capable of gainful employment only to a reduced extent due to medical reasons at the time point of retirement (+/− two years) or			
– to receive a pension due to disability or			
– to having exited the labour market due to incapacity for work			

at least eight out of ten years before retirement were defined as following the employment pathway.

For validation purposes, Table 1 also provides descriptive information on the time spent in employment, unemployment and inactivity in the ten years before retirement. As can be seen in Table 1, the late-life employment histories of the majority of respondents were highly stable. We were therefore generally able to accurately assign people to the different retirement pathways. However, only an approximate definition of disability retirees was possible.[3] Overall, while around two thirds of respondents (64.2 per cent) belong to the employment pathway, more than one third (35.8 per cent) follow non-standard pathways to retirement.

Life satisfaction: Respondents were asked on a yearly basis how satisfied they were with their life, all things considered, using a scale ranging from 0 (completely dissatisfied) to 10 (completely satisfied). The single life satisfaction item is a reliable measurement instrument (Diener et al., 2013) and several studies have used the trajectory of overall life satisfaction as an indicator of how SWB changes during the retirement transition (e.g., Pinquart and Schindler, 2007; Wetzel et al., 2016).

Control variables: We statistically controlled for formal education, gender, marital status in the year of retirement, place of residence (East or West Germany) in the year of retirement and cohort because past studies have shown that these variables are associated with SWB post-retirement (Calasanti, 1996; Kim and Moen, 2001; Kubicek et al., 2011; Moen, 1996; Pinquart and Schindler, 2007; Wang, 2007; Wetzel et al., 2016).[4] In addition, we statistically controlled for age at retirement in order to disentangle age-dependent from retirement-dependent changes in trajectories of life satisfaction and to control for potential differences between early and normal-age retirees. Table 2 gives an overview of the operationalization of the control variables and provides descriptive information of people following each of the pathways.

3.3. Statistical analyses

We used Mplus 7.4 (Muthén and Muthén, 2015) and dual change score models (DCSM) to analyse the data. This type of structural equation model allows for flexible modelling of nonlinear development over time (McArdle, 2009; McArdle and Hamagami, 2001) and has previously been used to analyse changes in life satisfaction during the retirement transition (Wetzel et al., 2016). DCSM not only separate within-from between-variance but also allow for full information maximum likelihood estimation to tackle non-response bias in an efficient and less-biased manner than other methods (Acock, 2005; Enders and Bandalos, 2001; Newman, 2003).

Fig. 1 shows the DCSM specification. With regard to the time dimension, we analysed the ten years before and after retirement. Consistent with our theoretical conceptualization, we separately modelled the trajectory of life satisfaction in the pre-retirement phase (A: time points t_{-10} - t_{-1}), the transition to retirement (B: t_0), the year after retirement (short-term development of life

[3] Some of the auxiliary variables used for identifying disability retirees were only asked prospectively. Thus, respondents who retired before their first participation in the SOEP had a lower likelihood of being assigned to the disability pathway. Furthermore, since disability retirement is not limited by age, individuals of the youngest cohort (born after 1945) who were younger than 60 years in 2013 and indicated being retired were overrepresented in the disability pathway (see Table 2). Supplementary analyses revealed that excluding people who retired before their first participation in the SOEP (n = 2508) did not substantially alter the results.

[4] Trajectories of SWB during the retirement transition might differ between groups and time, but also might varying legal regulations affect cohorts differently. In the current contribution, the focus lies on pathways to retirement and their effects on SWB in the post-retirement phase of life. We include time and group characteristics in the analyses but cannot discuss the findings in particular. We address this limitation in Section 5.4.

Table 2
Operationalization of control variables and path-specific descriptive information.

Variable	Operationalization	Pathway				
		Employment	Short-term unemployment	Long-term unemployment	Inactivity	Disability
Gender	0: Male	63.9%	63.5%	53.0%	4.2%	62.0%
	1: Female	36.1%	36.5%	47.0%	95.9%	38.0%
Place of residence in retirement year	0: West Germany	72.2%	54.8%	57.4%	92.0%	71.5%
	1: East Germany	25.7%	43.1%	40.1%	6.7%	26.9%
Cohort	0: Born before 1940	57.4%	46.7%	35.7%	65.9%	41.2%
	1: Born between 1940 and 1945	26.0%	35.7%	40.4%	25.4%	17.7%
	2: Born 1946 or later	16.6%	17.6%	24.0%	8.8%	41.2%
Marital status in retirement year	0: Married/partner in household	81.0%	86.3%	77.9%	84.7%	82.5%
	1: Single, divorced, separated, widowed	16.5%	12.9%	19.9%	14.4%	16.0%
Education (based on ISCED-97-classification)	0: Low (inadequate or general elementary education)	16.6%	16.7%	31.6%	39.3%	25.4%
	1: Middle (middle vocational or A-level)	51.8%	57.0%	56.2%	50.6%	54.3%
	2: High (higher vocational or higher education)	31.5%	26.0%	12.3%	9.6%	20.1%
Age in retirement year	Age in years	∅61.9	∅61.8	∅61.5	∅64.7	∅55.9
	Total	64.2% n = 4190	11.8% n = 768	4.9% n = 317	10.3% n = 674	8.8% n = 576

Notes: Missing due to item non-response in all covariates never amounted to more than 2.5 per cent.

satisfaction; C1: t_1) and the ten years after retirement (long-term development of life satisfaction; C2: t_1 - t_{10}). The manifest variable life satisfaction (LS_t) was divided into a latent variable (ls_t) and an error term (e_t). In addition, we assumed that the time intervals between the latent variables were constant ($\Delta t = 1$) (McArdle, 2009: 596). The latent score ls_t was defined by the preceding score ls_{t-1} and the difference variable Δls_t. The difference variable reflects the change in life satisfaction between two time points.

The intercept t_0 represents the level of life satisfaction in the year of the retirement transition and the change factors $slope_{pre}$ and $slope_{post}$ reflect the average rate of change of life satisfaction in the phase before and after retirement, respectively. The DCSM is named after its separation of time-constant change factors ($slope_{pre}$ and $slope_{post}$) and proportional change coefficients (β_{pre} and β_{post}) (McArdle and Hamagami, 2001: 147). The proportional change parameters describe the dependence of change in the latent life satisfaction score Δls_t from the preceding level of life satisfaction at time point ls_{t-1}. Hence, they can capture the extent of non-linearity in the trajectory of life satisfaction over time. Following Wetzel et al. (2016), in the year after retirement, we estimated the factor $slope_{short}$ which indicates the average change in life satisfaction between the year of retirement and the year after retirement (i.e., short-term development of life satisfaction). The change factor $slope_{short}$ represents an additive term which is superimposed on the long-term development ($slope_{post}$ and β_{post}) that is, how the slope of life satisfaction in the short term differs from the slope of life satisfaction in the long term.

The control variables were integrated as predictors of the three change factors ($slope_{pre}$, $slope_{post}$, $slope_{short}$) and of the intercept. Given our interest in the average development of life satisfaction during the retirement transition within and between pathways, in the following, all findings will be reported net of the effect of the control variables.[5] All control variables were centred around the path-specific group mean. For all model parameters, we estimated the variances freely and allowed for covariation amongst each other.

In order to compare differences in patterns of life satisfaction across the five pathways, we estimated a multi-group model with five groups using the pathways as the grouping variable. Thereby, coefficients can be compared across pathways. We contrasted the unconstrained and constrained models and used χ^2-difference tests to test whether or not the associated coefficients within one pathway or between two pathways were statistically equivalent. The alpha level was set to 0.05.

We first estimated a restrictive baseline model which represents a continuous, uninterrupted trajectory of life satisfaction across the entire observation period ten years before to ten years after the retirement transition ($slope_{pre} = slope_{post}$; $\beta_{pre} = \beta_{post}$; $slope_{short}$ fixed to zero). To test whether trajectories of life satisfaction differed before and after retirement, in a second step, we dropped the equality constraints with regard to both the linear ($slope_{pre} \neq slope_{post}$ in point estimation) and proportional change components ($\beta_{pre} \neq \beta_{post}$). We then tested whether there were short-term changes in life satisfaction over and above the long-term trend by

[5] The estimates of the control variables are reported in the Appendix.

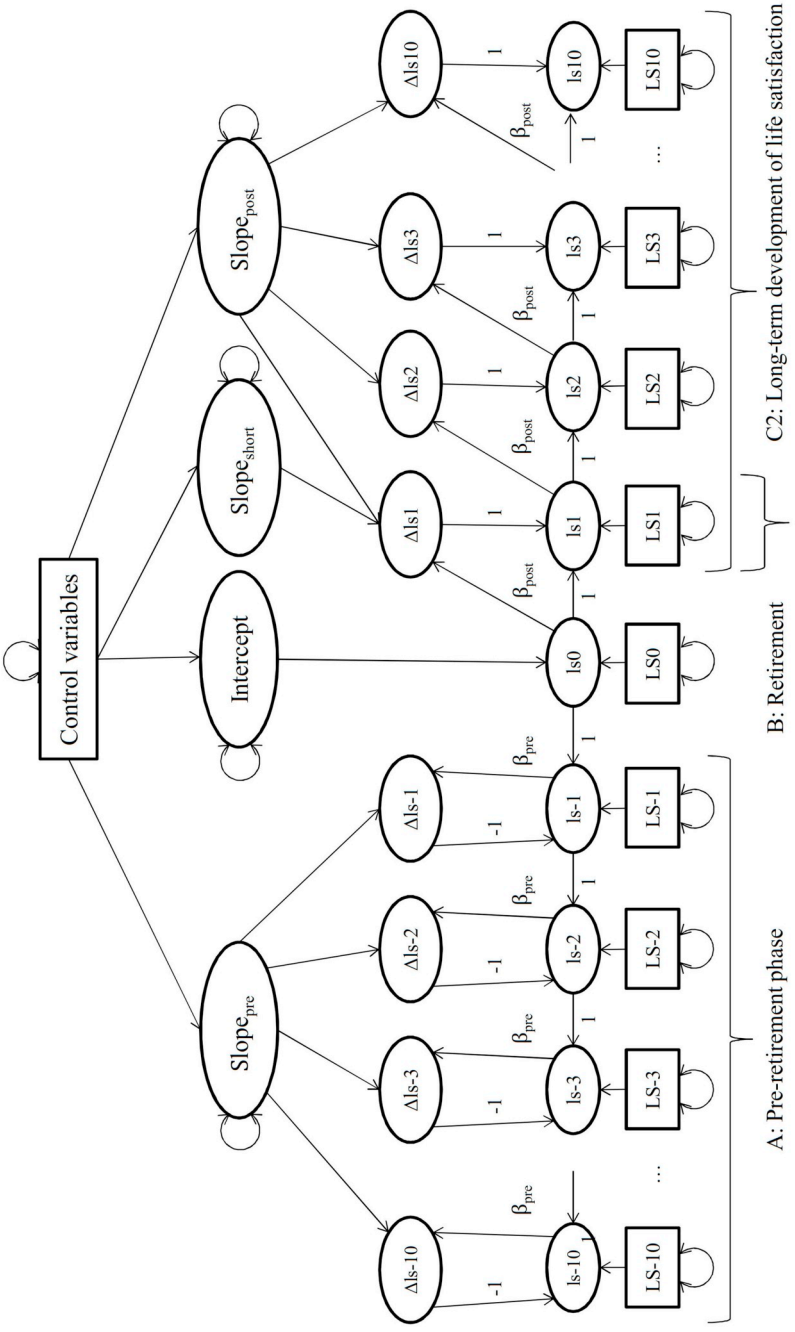

Fig. 1. Specification of the dual change score model. *Notes*: Squares: manifest variables; circles: latent variables; one-directed arrows: factor loadings; two-directed errors: variances. The multi-group approach is not depicted in the figure. The model was simultaneously estimated for each retirement pathway.

adding the short-term change factor $slope_{short}$ to the model. If these less restrictive specifications resulted in a significantly better model fit, they were favoured over the more restrictive model. This process of stepwise inclusion of model parameters was carried out for each pathway. To test our hypotheses about differences in patterns of life satisfaction across pathways, in a next step, we tested whether constraining the short- and long-term change factors ($slope_{short}$; $slope_{post}$ and β_{post}) to be equal across pathways resulted in significantly worse model fit than freely estimated path-specific parameters. The absolute model fit was assessed by the comparative fit index (CFI ≥ 0.95), the root mean square error of approximation (RMSEA ≤ 0.06) and the standardised root mean square residual index (SRMR ≤ 0.08) (Hu and Bentler, 1999).

Since the interpretation of the parameter estimates is difficult due to the interplay of linear and proportional change, we graphed the trajectories of life satisfaction during pre-retirement (A), one year after retirement (C1), and ten years after retirement (C2; see Fig. 1) using the following formulas:

Pre-retirement phase (A):

$$ls_t = \frac{ls_{t+1} - slope_{pre}}{(1 + \beta_{pre})}$$

Short-term development of life satisfaction (C1):

$$ls_t = slope_{post} + (1 + \beta_{post}) * ls_{t-1} + slope_{short}$$

Long-term development of life satisfaction (C2):

$$ls_t = slope_{post} + (1 + \beta_{post}) * ls_{t-1}$$

4. Results

The baseline model representing continuous trajectories of life satisfaction across the entire observation period (ten years before retirement to ten years after retirement) was successively refined separately for each pathway, including dropping the equality constraints with regard to the linear and proportional change components ($slope_{pre} \neq slope_{post}$; $\beta_{pre} \neq \beta_{post}$) and adding a short-term change factor ($slope_{short}$). The final model fit the data well, CFI = 0.957; RMSEA = 0.025 with confidence interval 0.024–0.027; SRMR = 0.048.

Including the short-term factor $slope_{short}$ resulted in a better model fit for people following both the short-term unemployment pathway (SUP) ($\Delta\chi^2 = 13.41$; $\Delta df = 1$; $p \leq 0.05$) and the long-term unemployment pathway (LUP) ($\Delta\chi^2 = 25.89$; $\Delta df = 1$; $p \leq 0.05$) as well as for people following the disability pathway (DP) ($\Delta\chi^2 = 18.08$; $\Delta df = 1$; $p \leq 0.05$). In contrast, model fit did not improve significantly for people retiring from inactivity or employment. Furthermore, relative to the development of life satisfaction in the year after retirement for people following the employment pathway (EP), people following both the short-term unemployment pathway and long-term unemployment pathway ($slope_{short(EP)} \neq slope_{short(SUP)}$: $\Delta\chi^2 = 6.76$; $\Delta df = 1$; $p \leq 0.05$; $slope_{short(EP)} \neq slope_{short(LUP)}$: $\Delta\chi^2 = 19.30$; $\Delta df = 1$; $p \leq 0.05$) and people following the disability pathway ($slope_{short(EP)} \neq slope_{short(DP)}$: $\Delta\chi^2 = 12.77$; $\Delta df = 1$; $p \leq 0.05$) experienced a significantly stronger increase in life satisfaction. Consequently, providing support for hypothesis 1, the retirement transition resulted in a significant short-term increase of life satisfaction for people of both unemployment pathways and the disability pathway while people of the inactivity and employment pathways experienced no significant short-term change in life satisfaction. Table 3 shows the estimated model parameters. People retiring from short- and long-term unemployment experienced an average increase of 0.23 and 0.49 scale points in life satisfaction, respectively, while disability pensioners experienced an average increase of 0.41 scale points.

Consistent with hypothesis 2a, estimating different slopes before and after the retirement transition resulted in a better model fit only for people following the employment and disability pathways (EP: $\Delta\chi^2 = 21.16$; $\Delta df = 2$; $p \leq 0.05$; DP: $\Delta\chi^2 = 51.55$; $\Delta df = 2$; $p \leq 0.05$). Hence, the results indicated that retiring from employment or due to disability significantly altered the long-term trajectory of life satisfaction. There was no evidence of significant long-term changes in the trajectory of life satisfaction for the other

Table 3
Estimated model parameters.

	Pathway				
	Employment	**Short-term unemployment**	**Long-term unemployment**	**Inactivity**	**Disability**
Intercept	7.34	6.65	6.22	7.35	5.43
$Slope_{pre}$	−1.35	−0.54	0.81	−0.06	−1.82
β_{pre}	0.18	0.08	−0.13	0.00	0.28
$Slope_{post}$	0.83	−0.54	0.81	−0.06	0.00
β_{post}	−0.12	0.08	−0.13	0.00	0.00
$Slope_{short}$	@0	0.23	0.49	@0	0.41

Notes: @0: parameters fixed to zero (integrating the factor $slope_{short}$ did not significantly improve the model fit).

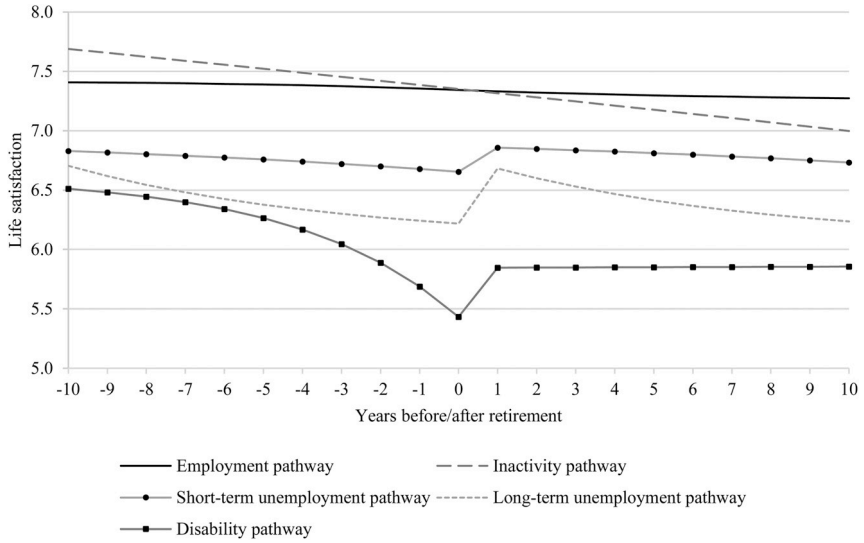

Fig. 2. Trajectories of life satisfaction during the retirement transition. *Notes*: Visualization of the estimated model parameters presented in Table 3 based on the formulas presented in Section 3.3. The trajectories represent average development of life satisfaction over time controlled for gender, education, marital status and place of residence in the year of retirement, cohort, and age at retirement. With exception of the employment and the inactivity pathways, levels of life satisfaction in the year of retirement differed significantly between pathways.

groups (unemployment and inactivity pathways). Furthermore, we found that people of the employment pathway differed significantly with regard to the trajectory of their long-term life satisfaction compared to people of the unemployment pathways ($slope_{post(EP)} \neq slope_{post(SUP)}$: $\Delta\chi^2 = 14.10$; $\Delta df = 2$; $p \leq 0.05$; $slope_{post(EP)} \neq slope_{post(LUP)}$: $\Delta\chi^2 = 22.34$; $\Delta df = 2$; $p \leq 0.05$), people of the inactivity pathway (IP) ($slope_{post(EP)} \neq slope_{post(IP)}$: $\Delta\chi^2 = 13.45$; $\Delta df = 2$; $p \leq 0.05$), and people of the disability pathway ($slope_{post(EP)} \neq slope_{post(DP)}$: $\Delta\chi^2 = 7.93$; $\Delta df = 2$; $p \leq 0.05$). People of the employment pathway indicated a very small, steady decline in life satisfaction in the post-retirement phase, while people following the unemployment pathways (particularly long-term unemployment) and the inactivity pathway experienced steeper declines. People of the disability pathway maintained a constant, very low level of life satisfaction. In other words, in line with hypothesis 2b, we found that people following non-standard pathways to retirement had more negative long-term patterns of life satisfaction (considering both the level and/or the rate of decline) compared to people retiring from employment.

Finally, the results revealed that the short- and long-term trajectory of life satisfaction differed significantly between people following the short-term and long-term unemployment pathways ($slope_{short(SUP)} \neq slope_{short(LUP)}$: $\Delta\chi^2 = 5.17$; $\Delta df = 1$; $p \leq 0.05$; $slope_{post(SUP)} \neq slope_{post(LUP)}$: $\Delta\chi^2 = 13.44$; $\Delta df = 2$; $p \leq 0.05$). Namely, in line with hypothesis 3a, the increase in life satisfaction in the first year after retirement was twice as high for people retiring from long-term unemployment relative to people retiring from short-term unemployment ($slope_{short(LUP)} = 0.49$ vs. $slope_{short(SUP)} = 0.23$). In line with hypothesis 3b, the life satisfaction of previously long-term unemployed people developed significantly more negatively than for previously short-term unemployed individuals.

Fig. 2 depicts the trajectories of life satisfaction before and after the retirement transition for people following each of the five pathways. For people of the inactivity pathway, Fig. 2 shows that life satisfaction decreased at a constant rate over the entire observation period. As expected, there was no evidence that life satisfaction changed in either the short- or long-term for people retiring from labour market inactivity (H1 and H2a). Relative to the post-retirement trajectory of life satisfaction of people following the employment pathway, life satisfaction decreased more sharply (H2b).

People following the disability pathway experienced a sharp decrease in life satisfaction during the last four years before they entered retirement, followed by a steep increase in life satisfaction in the first year after the transition (H1) and then sustained a constant but significantly lower level of life satisfaction than four years before retirement (H2a). As can be seen in Fig. 2, the life satisfaction of people following the disability pathway was particularly low relative to people following the employment pathway (H2b).

For people following the short- and long-term unemployment pathways, Fig. 2 illustrates the finding that both groups experienced an increase in life satisfaction in the year after retirement (H1). The increase was greater for people retiring from long-term unemployment than for people retiring from short-term unemployment (H3a). In contrast to people following the disability pathway, both groups reached the level of life satisfaction reported ten years before retirement. However, overall, the average rates of change of life satisfaction before and after the retirement transition did not differ significantly for people following either of the unemployment pathways (H2a). More specifically, life satisfaction decreased steadily at the same rate during the ten years prior to retirement and the ten years after retirement. The decline in life satisfaction was steeper for people of the long-term unemployment pathway compared to people of the short-term unemployment pathway (H3b). Ten years after the retirement transition, the mean value of life satisfaction again reached approximately the level of life satisfaction in the year of retirement. Relative to people

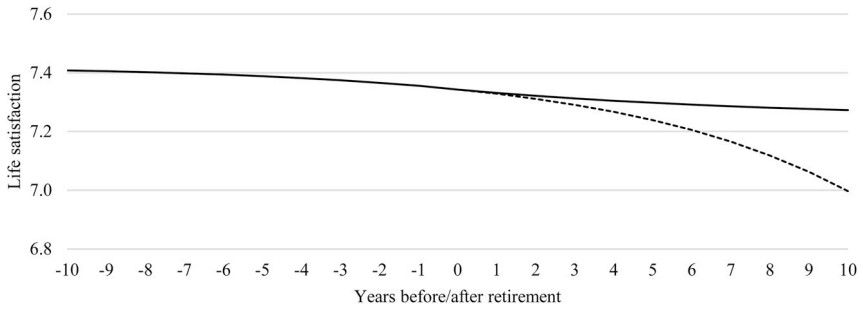

Fig. 3. Impact of the retirement transition on the average development of life satisfaction for people following the employment pathway. *Notes*: Dotted line: trajectory of life satisfaction if the retirement transition had not significantly altered the development of life satisfaction (i.e., $slope_{pre(EP)} = slope_{post(EP)} = -1.35$ and $\beta_{pre(EP)} = \beta_{post(EP)} = 0.18$). Solid line: observed trajectory of life satisfaction (i.e., $slope_{pre(EP)} = -1.35$ and $\beta_{pre(EP)} = 0.18$; $slope_{post(EP)} = 0.83$ and $\beta_{post(EP)} = -0.12$).

following the employment pathway, the long-term change in life satisfaction was worse for people retiring from unemployment (H2b).

Finally, Fig. 2 indicates that the trajectory of life satisfaction of people following the employment pathway was fairly stable across the entire observation period. On average, people retiring from employment did not experience a significant short-term increase in life satisfaction after retirement (H1). However, retirement did alter the long-term trajectory of life satisfaction (H2a). Fig. 3 illustrates this result in greater detail by depicting how the retirement transition affects the long-term development of life satisfaction for people following the employment pathway. The dotted line in Fig. 3 shows how life satisfaction would have developed if the long-term development of life satisfaction after the retirement transition had followed the same development as before retirement. The solid line shows the observed trajectory of life satisfaction for people following the employment pathway. Notably, when comparing the hypothetical trajectory (dotted line) with the observed trajectory (solid line), Fig. 3 indicates that entering retirement mitigated the slight decrease in life satisfaction which started approximately three years before retirement. Additionally, compared to both unemployment and inactivity pathways (see Fig. 2), life satisfaction of people following the employment pathway developed less negatively in the long run and stayed at a significantly higher level compared to people following the disability pathway (H2b).

5. Discussion

To date, little is known about how late-life employment biographies might affect patterns of SWB in the post-retirement phase. In the present study, we therefore aimed to analyse the association between pathways to retirement and patterns of short- and long-term SWB after retirement in Germany. By distinguishing five distinct pathways to retirement and examining the trajectories of life satisfaction ten years before to ten years after the retirement transition, the current paper has shown that retirement resulted in a short-term increase in life satisfaction for people retiring from short-term and long-term unemployment and due to disability (H1) and that retirement significantly altered the long-term development of life satisfaction for people following the employment and disability pathways (H2a). Furthermore, patterns of long-term life satisfaction were worse for people of the unemployment, disability and inactivity pathways (H2b). Finally, the results indicate that the development of life satisfaction in the short and long term differed significantly between people retiring from short- and long-term unemployment. Specifically, people retiring from long-term unemployment experienced a higher short-term increase but also a more negative long-term trajectory of life satisfaction relative to people retiring from short-term unemployment (H3a and H3b).

5.1. Path-specific patterns of SWB

An important contribution of the current paper is that we are able to describe specific patterns of SWB for people following different pathways to retirement. In line with previous research, the current study found that, for people of the employment pathway, life satisfaction remained fairly stable during the retirement transition (Pinquart and Schindler, 2007; Wang, 2007). As expected, on average, the retirement transition was not associated with a significant increase in life satisfaction, providing support for the assumption that previously employed people transition between two socially valued statuses. However, the trajectory of life satisfaction differed significantly before and after retirement (Wetzel et al., 2016). Retirement entry, on average, resulted in a slowing down of the decline in life satisfaction observed in the years leading up to retirement. The slight decline in life satisfaction across the three years before retirement hints at an anticipation effect: For the vast majority of this group, the timing of retirement is foreseeable. Thus, already before the retirement entry, a process of slowly disengaging from the work role might take place (Damman, Henkens and Kalmijn, 2013b). In addition, individuals might perceive the time before retirement as a period of uncertainty with respect to the task of restructuring everyday routines and activities (e.g., van Solinge and Henkens, 2008). Furthermore, the fit between workload and personal capacity may also change particularly during the last years of employment. The modest decline of life satisfaction prior to retirement might be a result of the combination of these three processes.

We found that people retiring from short- and long-term unemployment were considerably more satisfied with their lives in the

short term following retirement. Since the retirement transition is unlikely to change everyday life routines and resources of previously unemployed people (as reflected in the lack of difference in the long-term trajectory of life satisfaction before and after retirement), the return to the institutionalized normative biography may explain the observed short-term increase in life satisfaction.

Moreover, the results suggest that retirement facilitates recovery for people retiring due to disability. The steep decline of life satisfaction before the retirement transition likely reflects deteriorating health conditions. Importantly, the negative development of life satisfaction ceases upon retirement. The strong increase in life satisfaction in the year after retirement may reflect, at least partially, a recovery of health resources (Börsch-Supan and Jürges, 2009). Alternatively, the short-term increase might also mirror a positive change in social status similar to people retiring from unemployment. Remarkably, disability retirees on average sustained their life satisfaction at a constant, albeit low level across the ten years post-retirement.

To date, little research has focused on the group of people retiring from inactivity, which predominantly consists of female homemakers. In the current study, we found no evidence that retirement changed the trajectory of life satisfaction for people retiring from labour market inactivity. The lack of short-term changes in trajectories of life satisfaction supports the assumption that people retiring from inactivity transition from one socially valued status to another, while the lack of long-term changes in the trajectory of life satisfaction suggests that the retirement transition does not alter the structuring of everyday life or significantly change their resources.

5.2. Short- and long-term patterns of SWB for people following non-standard pathways

As another important contribution of the current paper, we are able to compare short- and long-term patterns of SWB between people following the standard employment pathway and people following other pathways (retiring from short- or long-term unemployment, due to disability, or from labour market inactivity). We found that people who deviate from the normative biography because they were either unemployed in the years leading up to retirement or because they had to leave the labour market due to disability experienced a significant short-term increase in life satisfaction once they retired. Particularly for people in unemployment prior to retirement, the retirement transition seems to level differences in social status stemming from distinct labour market positions in the short term. Nevertheless, resource-based inequalities associated with the different pathways seemed to remain stable after retirement. In the long run, people of the employment pathway seem to have more resources for shaping the post-retirement phase of life in a subjectively satisfying way, whereas people of the long-term unemployment and inactivity pathways – after the short increase directly upon retirement – continued to experience sharp declines in life satisfaction and people of the disability pathway continued to indicate very low (albeit constant) levels of life satisfaction. The relationship between pathways to retirement and long-term patterns of SWB highlight the long-term consequences of individuals' employment history in the years before retirement for their quality of life in the post-retirement phase.

Contrary to previous results (e.g., Hetschko et al., 2013), in the current study we found that patterns of SWB differed significantly for people of the short- and long-term unemployment pathways. Ten years before retirement, there were only small differences in life satisfaction between people who later retired from short- and long-term unemployment. However, in the years leading up to retirement, the trajectories of life satisfaction increasingly diverged, leading to a significantly lower level of life satisfaction for people in long-term unemployment compared to people in short-term unemployment upon retirement. The stronger short-term increase in life satisfaction for people retiring from long-term unemployment then once again reduced differences between the two groups. The greater increase in life satisfaction observed for people retiring from long-term unemployment suggests that the stigma of unemployment weighs more heavily upon long-term unemployed people. Furthermore, it seems that bridging into retirement via short-term unemployment might be perceived as a more legitimate pathway to retirement because it has been politically promoted for some time as well as widely used. In the long run, however, trajectories of life satisfaction between people who were unemployed for a short or long period prior to retirement once again diverged. Namely, long-term trajectories of life satisfaction developed more positively for people of the short-term relative to the long-term unemployment pathway, which likely can be attributed to their better access to resources (Herbig et al., 2013; Knuth and Brussig, 2012; Rinklake and Buchholz, 2011). Thus, the results further suggest that the duration of unemployment before retirement also affects people's access to resources, and hence their prospects of quality of life in retirement. Overall, our findings suggest that the institutional promotion of bridge unemployment mitigated the consequences of socially-unequal labour market chances of older people for quality of life post-retirement (Buchholz et al., 2013).

5.3. Implications for social structure and social policy

In the current study, we found that opportunities for quality of life in the post-retirement phase are related with individuals' employment biographies in the years before retirement. The generally worse long-term patterns of SWB observed particularly for people retiring from short- or long-term unemployment or due to disability indicate that the retirement transition is a phase of differentiation which, in line with the cumulative (dis)advantage approach, accentuates already existing differences between people with more and less favourable life circumstances. Accordingly, our results show how social stratification post-retirement depends on late-life employment biographies prior to retirement.

Our results with regard to non-standard pathways provide an outlook on how future cohorts might experience the retirement transition. In Germany, as in many other European countries, pathways to retirement have become increasingly de-standardised (Ebbinghaus, 2006; Fasang, 2010; Kohli et al., 1991). Research has shown that the number of people with precarious retirement transitions in Germany is on the rise (Buchholz et al., 2013). In particular, low-skilled people of the current retirement cohort (born between 1946 and 1951) seem to have difficulties on the labour market. Furthermore, unlike older cohorts that profited from

financially generous early retirement schemes and bridge unemployment, members of the current retirement cohort face pension penalties for early exit from the labour market. Accordingly, recent political changes have particularly affected the short-term unemployment pathway, which is changing from a privileged to a precarious route into retirement (Knuth and Brussig, 2012), as well as the disability pathway: since eligibility criteria were tightened in 2001, people receiving disability pensions have faced increasing income risks in retirement (Krause et al., 2013). In the light of the phasing out of early retirement pathways, the gradual increase of retirement age from 65 to 67 years beginning in 2012 might prolong a period of uncertainty for those not able to fulfil the political demand for a prolonged working life.

In sum, an increasing number of people of more recent cohorts who are not able to work until statutory retirement age due to health or labour market reasons might face increasing (economic) hardship, which might adversely affect their opportunities for quality of life post-retirement. If political actors do not take countermeasures such as re-flexibilization of retirement entry, targeting of risk groups or increasing the employment chances of older people (especially those with lower skills), social inequality may increase for the next cohorts of retirees (Buchholz et al., 2013; Unger and Schulze, 2013).

5.4. Strengths, limitations and suggestions for further research

The present study makes several noteworthy contributions to retirement research. Our results highlight the importance of considering the consequences of different retirement pathways and hence the effect of work-life biographies on social stratification in older age. Furthermore, the study has demonstrated that distinguishing between norm-based short- and resource-based long-term development of SWB is a valuable approach that helps disentangle heterogeneous patterns of SWB post-retirement. Capturing the diversity of retirement pathways and differentiating between short- and long-term trajectories of SWB not only enables evaluation of the long-term impact of (late-life) employment biographies but also permits integrating the effect of life course norms for quality of life post-retirement.

Despite these strengths, the current findings should be interpreted in light of a number of limitations. First, using the pathway a person belongs to as a proxy for both social status changes as well as access to and changes in resources makes it difficult to precisely conclude why people following different pathways show different patterns of SWB. We argue that differentiating between status-dependent short-term and resource-dependent long-term trajectories of SWB helps to interpret the results in terms of these underlying mechanisms. Second, we cannot rule out that using self-reported retirement year as an indicator may have resulted in some degree of inaccuracy with regard to when the respondent actually entered retirement. We argue, however, that capturing the subjective as opposed to objective start of retirement is more relevant for the current research questions. Third, it was beyond the scope of our analyses to examine potential differences in specific protective- and risk-factors for SWB post-retirement within and between pathways. We note that people within each pathway are heterogeneous and that the impact of a certain factor on SWB might differ for people following different pathways. The results of the control variables indicate that protective- and risk-factors rather affect the level of life satisfaction than differential development of life satisfaction after retirement. Anyhow, further research focusing on effects of gender, education, or varying legal regulations might want to control the pathway to retirement. Fourth, controlling for changes in health would have shed light onto the mechanisms underlying the development of life satisfaction of disability retirees. However, including time-varying control variables would have unreasonably increased the complexity of our statistical model. Future research may want to explore the extent to which recovery and/or social status changes explain the observed short-term increase in life satisfaction for people following the disability pathway. Finally, people working in retirement and people with highly unstable late-life employment biographies were excluded from the sample. Future research may wish to focus on these two groups, as they may show distinct patterns of SWB.

The research design of the current study offers a promising starting point for future investigations. For instance, future research might evaluate the ramification of the pension reforms discussed above for quality of life in retirement and inter-cohort changes in social inequality with regard to pathways to retirement and patterns of SWB. Moreover, our research design would be suitable for analysing the impact of institutional differences between countries on SWB post-retirement. To the best of our knowledge, to date there has been no cross-country comparative research on the development of SWB from pre-to post-retirement. Considering the interdependence of institutional rules with both individual resources and social norms, international comparisons could shed light onto how institutional policy design influences the retirement experience.

6. Conclusion

The current study has demonstrated that trajectories of SWB from pre-to post-retirement differ between retirement pathways. The findings showed that the retirement transition only has little consequences for quality of life of people who follow a work-centred standard biography but also for the related pathway of (mostly female) housekeepers. In contrast, people in pathways which deviate from this standard biography experience an increase in SWB upon retirement which mitigates the negative developments in SWB prior to retirement. For the short- and long-term unemployment pathway this is traced to the change in social status which might also play a role for disability retirees. Although for this latter group, the relief of health resources upon disability retirement might constitute the driving factor for the increase in SWB. Thereafter, in the long run, SWB of people in non-standard pathways develops again more negatively (unemployment and inactivity pathways) or at a very low level (disability pathway) indicating persisting resource-based inequalities during the retirement transition process.

Declarations of interest

None.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Acknowledgements

The authors would like to thank Catherine E. Bowen for her invaluable comments and suggestions on earlier drafts of this article, which have been very helpful in improving the paper.

Appendix. Parameter estimates of the control variables

	Pathway Employment	Short-term unemploy-ment	Long-term unemploy-ment	Inactivity	Disability
Intercept	7.34	6.65	6.22	7.35	5.43
Cohort (ref: 1940–1945)	−0.02	−0.14	−0.51***	−0.07	−0.07
Age in retirement year	0.04***	0.07*	0.03	0.07	0.15***
Marital status (ref: married)	−0.11**	−0.36***	−0.47***	−0.50***	−0.29*
Gender (ref: male)	0.04	0.18*	0.32**	0.08	0.24*
Region (ref: West Germany)	−0.41***	−0.25***	−0.22*	−0.44*	−0.47***
Education (ref: middle)	0.19***	0.07	0.36*	0.24*	0.33*
Slope$_{pre}$	−1.35	−0.54	0.81	−0.06	−1.82
Cohort (ref: 1940–1945)	0.03*	−0.01	−0.07*	0.02	0.05
Age in retirement year	0.00	0.01*	0.01	0.00	0.01
Marital status (ref: married)	0.03*	0.00	−0.08**	−0.03	0.11**
Gender (ref: male)	0.00	0.02	0.06**	−0.04	−0.05
Region (ref: West Germany)	0.08**	0.07**	−0.01	0.01	0.16***
Education (ref: middle)	−0.03*	0.00	0.05	−0.04	−0.12*
Slope$_{post}$	0.83	−0.54	0.81	−0.06	0.00
Cohort (ref: 1940–1945)	0.03**	0.06**	0.04	0.04	−0.04*
Age in retirement year	0.00	0.00	−0.02	−0.01	−0.02**
Marital status (ref: married)	0.00	0.00	−0.03	0.01	0.03
Gender (ref: male)	0.01	0.00	−0.01	0.02	−0.01
Region (ref: West Germany)	−0.03*	0.02	0.01	0.01	0.01
Education (ref: middle)	0.04**	0.00	0.03	−0.02	0.00
Slope$_{short}$	@0	0.23	0.49	@0	0.41
Cohort (ref: 1940–1945)	−0.06	−0.07	−0.25	−0.02	0.20
Age in retirement year	−0.01	−0.07*	−0.04	−0.02	0.01
Marital status (ref: married)	0.02	0.25**	0.19	0.25**	−0.09
Gender (ref: male)	−0.05	−0.12	−0.15	−0.08	0.01
Region (ref: West Germany)	0.00	0.03	0.08	−0.06	0.10
Education (ref: middle)	−0.02	0.00	0.27	0.10	−0.26

Notes: *p < 0.05; **p < 0.01; ***p < 0.001. @0: parameters fixe d to zero.

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