Vulnerabilität in Gesundheitsverläufen: Lebenslaufperspektiven / Vulnérabilité dans les trajectoires de santé : Perspectives du parcours de vie / Vulnerability in Health Trajectories: Life Course Perspectives
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Vulnerability in Health Trajectories: Life Course Perspectives

Vulnerabilität in Gesundheitsverläufen: Lebenslaufperspektiven

Vulnérabilité dans les trajectoires de santé : perspectives du parcours de vie

Stéphane Cullati*, Claudine Burton-Jeangros**, and Thomas Abel***

1 Introduction

It is now widely acknowledged that the unequal distribution of good health across the population results from the influence of a range of social determinants. These shape often sharply distinct health patterns across and among socially disadvantaged and advantaged groups. This study of health inequalities has been recently re-visited and partly renewed by life course researchers (Burton-Jeangros et al. 2015; Bartley 2016). Life course perspectives aim at providing a more comprehensive understanding of the development of inequalities over time in specific individual health trajectories. Both macro contexts (e. g. historical time and changing cultural representations, economic booms and recessions) and micro contexts (e. g. family situation, working conditions, social networks) influence how health trajectories unfold over the life course and therefore contribute to how health inequalities develop among and across sub-populations. Despite the general expansion of education (Meschi and Scervini 2014) and a partial decrease of gender inequalities (Dorius and Firebaugh 2010) in the second half of the twentieth century, health inequalities continue to grow in many affluent countries (Mladovsky et al. 2009; Mackenbach et al. 2016). Research shows this to be associated with an increase in basic socioeconomic inequalities (e. g. income) observed over the last decade (Duvoux 2017). For a better understanding of these various trends, more research at the crossroad of sociology of health and life course epidemiology is needed (Burton-Jeangros et al. 2015).

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2 Life course studies of health

A recent discussion of the classical WHO definition of health (WHO 1946) emphasized the need to adopt a dynamic approach, hence suggesting to consider health as "the ability to adapt and self-manage" (Huber et al. 2011). In empirical research the individual and social patterning of health has so far tended to be only roughly observed, through trajectories categorized with the following taxonomy: "stability" (in good or poor conditions), "decline," "improvement," and fluctuations (Colerick Clipp et al. 1992). Nevertheless, this description of empirical patterns has been hampered by the lack of population-based longitudinal data covering the full life course. From a theoretical point of view, the pattern of health trajectories has frequently been described along the following model: (having the best) growing, followed by (longest possible) maintaining and (latest and slowest possible) declining health (Hertzman 1999; Ben-Shlomo et al. 2016). After the development phase associated with childhood, health tends to slowly decline in adulthood (Pinquart 2001; Cullati et al. 2014b), as individuals ageing is often progressively impaired with increasing loss of functional and cognition abilities. Along with biological ageing, patterns of health trajectories are not straight and linear (Halfon et al. 2014; Ben-Shlomo et al. 2016) but fluctuate by individuals' characteristics and living contexts. Variability of health trajectories is linked with both biological factors, such as genes-environment influences on physiological functions, brain and microbiota developments, and a range of social factors associated with individual life courses that shape these trajectories in an important manner (Vineis et al. 2016). Indeed, the household in which individuals grew up, the schools they attended, the neighbourhoods in which they lived, their socioeconomic conditions in adulthood (McDonough et al. 2005; Cullati 2015), their employment (Stone et al. 2015; Benson et al. 2017) and family histories (Dupre et al. 2009; Benson et al. 2017), the (normative and non-normative) transitions they experienced as well as the different adversities they met during their life, affect chances of growing and remaining in good health. The mutual influences of different life spheres like work and family impact the health trajectories in adulthood (Knecht et al. 2011; Cullati 2014; Cullati et al. 2014a; Knecht et al. 2016), as well as the period and country in which individuals live (Sacker et al. 2011; Burton-Jeangros and Zimmermann-Sloutskis 2016). Individual health trajectories also depend on individuals' ability to adapt to their living contexts, to cope with stress, such as a stressful psycho-social environment at work (Theorell 2000; Eatough et al. 2016), a poor relational environment in the family (Lehman et al. 2009; Berg et al. 2017), life-time adversity (Seery et al. 2010), and adapt to a health impairment (Cooper and Bigby 2014) or the health impairment of their partner (Berg and Upchurch 2007). A sociological perspective is thus more specifically interested in documenting whether the health trajectories of different social categories (defined for example along gender, social

class or migration background) develop in parallel over time, reflecting a constant gap across these categories, or whether they diverge as individuals age, which would indicate that, along the cumulative dis/advantage model (Dannefer 2003), social processes differently impact individuals as they age, or whether adaptation to the living context vary between these categories.

A challenge for future life course studies is to consider different time processes affecting individual health, such as short-term stressors (e. g. changing jobs, marital breakup, adverse events) versus long-term adverse effects (e. g. living in poor circumstances for several decades). Combining life course models of health trajectories (growing, maintaining and declining) (Hertzman 1999; Ben-Shlomo et al. 2016) with adaptive regulation models (Boker 2015), or short-term regulatory processes (Spini et al. 2016), is a methodological challenge, but it would improve our knowledge of the development of health vulnerability over the life course.

3   Vulnerability and health

Research on vulnerability first developed in environmental science and broadened to research fields like human development, ageing studies, life course and welfare states studies. The concept can account for nations', groups' and individuals' difficulties to handle a specific situation. In life course research, vulnerability has been defined as a lack of resources putting individuals at risk of experiencing negative consequences of stress and thus reducing their ability to effectively cope with adverse events and recover from stress, or to take advantage of opportunities when facing normative and non-normative events or transitions (Spini et al. 2013; Spini et al. 2017). Resources are many in types (physiological, cognitive, relational, economic, social, cultural and institutional) and are theoretically available to most individuals. However, depending on their genetic background and social organization processes, levels of resources are not distributed evenly across individuals living in the same society; such resources are different for individuals living in different societies, as between high- and low-income countries. Furthermore, those inter-individual differences in level of resources can be explained by life course processes, like the Cumulative Advantage and Disadvantage (CAD) model (Dannefer 2003) or the age-as-level hypothesis (Lynch and Smith 2005). In the CAD model, these differences are expected to grow over ageing through rising divergence between the better offs and the worst offs. By contrast, the age-as-leveller hypothesis suggests that higher mortality of disadvantaged individuals reduces inequalities among those who stay alive. The evolution of these inter-individual differences in level of resources will be affected by stressors and shocks (hazards, life adverse events) experienced during the life course, be they chronic or event-based (Wheaton 1994).

In the context of life course studies of health, and in line with the above definition of vulnerability (Spini et al. 2017), we propose to consider that health vulnerability emerges at the articulation of two distinct processes. On one hand, a lack of resources is generating differences in health trajectories between individuals, or groups, over the life course. On the other hand, limited resources hinder recovering from poor or disadvantaged conditions and coping with stressors, and the absence of such compensating mechanisms maintains or even accentuates differences in health trajectories.

Differences in health trajectories can have two patterns. First, in adulthood, it results from an acceleration, earlier start, or a combination of both, of health decline, resulting in a growing health gap between individuals or social groups over the adult life course (Dannefer 2003; Cullati et al. 2014b). Available resources, whether genetic, socioeconomic, relational, or a combination of these, can be determinant in the acceleration and/or earlier start of health decline. Second, differences in health trajectories in middle age or at older age can lie in structural and inter-personal stress exposures in critical and sensitive periods of the life course, resulting in a constant and long-term gap across individuals or social groups in later health trajectories. The life course perspective suggests indeed that a bad start in life, like experiencing adversities (Greenfield 2010; Danese and Tan 2014) or growing up in low socioeconomic conditions, can have long-term adverse health consequences (Wadsworth and Kuh 1997), like poor quality of life (Blane et al. 2004; Wahrendorf and Blane 2015), poor physiological risk factors of cardiovascular disease (Blane et al. 1996), chronic conditions (Blackwell et al. 2001), poor health behaviours (Cheval et al. 2018) and mortality (Hayward and Gorman 2004; Galobardes et al. 2008). Adversity during adulthood, such as poor work and unstable family conditions, also result in poor health outcomes later: single motherhood from young adulthood to middle age (Berkman et al. 2015) and poor mid-life occupational conditions (Platts et al. 2015) for example, have been shown to be associated at older age with reduced quality of life and negative health outcomes, including accelerated health decline. During old age, social participation is associated with lower mortality (Holt-Lunstad et al. 2010) and with improvement in self-rated health (Ichida et al. 2013), while social network ambivalence is linked with cardiovascular reactivity (Uchino et al. 2001), and negative emotional support from family or friends impairs self-rated health (Craigs et al. 2014). All these mechanisms confirm the delayed impact on health of vulnerable circumstances encountered at different stages of the life course.

Along with structural advantages and disadvantages, the life course perspective also emphasizes the role of "linked lives" in the development of health vulnerability. Indeed, between individual circumstances and macrosocial environments, the unfolding of health trajectories need to be considered in the meso-level context of families. Individuals live in interdependence or in networks of shared relationships. Persisting inequalities between women and men in the labour market reflect the

interdependence of their life histories, especially in the family unit (Drobnic and Blossfeld 2004). Individual trajectories are constantly connected with the ones of other family members, in relational patterns that can be either favourable or detrimental to health circumstances. However, the framing of respondents' life by their partner's characteristics has so far been largely neglected by the life course research in general (Bird and Krüger 2005), and in life course epidemiology in particular.

4   Contemporary societies and accumulation of disadvantages

In societies characterized by individualization and diversity of lifestyles (Giddens 1991), biographic risks (Beck 1992), and gender de-standardisation of occupational careers (Levy and Widmer 2013), the interplay of agency and structures is of particular importance, as one of the life course principle (Elder 1998). Sociological conceptualizations of agency and structure can contribute to our understanding of the processes by which inequalities in health trajectories occur over time and how social factors (i. e., socioeconomic position, working conditions, marital and family lives, lifestyles, gender, migration, discrimination) impact on health trajectories (Abel and Frohlich 2012). Agency can hamper development of health vulnerability over the life course. For example, the impact of physical activity has been shown to reduce mortality as much as medical drugs (Naci and Ioannidis 2013). Individuals may impact their cognitive ageing by endorsing either supportive (learning, exercise and sexual activity) or detrimental (sleep deprivation, alcohol consumption) behaviours (Shors et al. 2012). Alternatively, agency can accelerate health vulnerability, such as when compliance to misleading social norms result in bad life course outcomes (Widmer and Spini 2017), like when endorsement of risky health behaviours is a marker of social acceptance.

Simultaneously, structures can provide, or not, to individuals the resources and opportunities they need to live a healthy life. Educational and health care systems, family, work and housing policies, social security all influence life course trajectories, offering to individuals resources at different stages of their life and thus affecting their chances of staying in good health as long as possible. Socially disadvantaged groups are structurally positioned in unfavourable conditions in society (e. g. poor working and housing conditions) and have less material and non-material resources to cope with the adversities of life. Such structural disadvantaged positions put them at higher risk of experiencing health decline earlier in their life course or at a faster rate of decline. The accumulation of such difficulties is associated with health risks that are themselves a potential source of non-normative transitions such as job loss or divorce due to poor health conditions. Considering the social determinants of health in a life course perspective particularly emphasizes the crucial role of social protection regimes as mechanisms that protect most vulnerable categories from the

new social risks generated by current arrangements in regard to work and family lives (Ranci 2010).

5   Contributions to the special issue

This special issue gathers six empirical papers based on either quantitative or qualitative data, representing a range of European countries. Papers are either single-country studies (Switzerland, France, Germany) or multi-country studies, using the Survey of Health, Ageing and Retirement in Europe (SHARE). Three papers are population-based cohort studies (one of teenagers, two of older people) and three are studies of sub-groups populations (children following an obesity management programme, survivors of childhood cancer and young adults with mental disorders). Two papers use non-research databases (administrative data or medical records) and two use self-reported retrospective data. Finally, two studies empirically tested the CAD hypothesis (Dannefer 2003). Contributions in this issue are organised following the chronological life course, from childhood to old age.

The first article, written by *Andrea Lutz* (in French), is an ethnographic study of obese or overweight children and their parents following a paediatric obesity management programme in a Swiss tertiary hospital. Families were recruited at the beginning of the programme and data was collected through interviews with the family and observations of medical consultations. The author explored the association between the family social position and the compliance with medical recommendations. Acceptance or resistance with medical recommendations was assessed at the beginning of programme and a few months later. Results showed that compliance with medical recommendations increased for all children. A gradient between socially advantaged and disadvantaged families was observable before the programme and remained stable over the course of the programme. Among disadvantaged families, lack of financial resources was perceived as a barrier in adopting a healthy diet. Families with high educational levels were more familiar with nutrition and physical activity recommendations compared to family with low educational backgrounds. The author interprets these results in the light of the theory of habitus of Pierre Bourdieu, explaining the differential internalisation of medical recommendations by social positions.

The article of *André Berchtold et al.* examines individual trajectories of somatic complaints from the age of 16 to 30 a cohort of 1 161 young adults living in Switzerland. Somatic complaints included minor health symptoms, like headaches, stomach aches, sleep disturbance, lack of appetite, lack of concentration, vertigo, nervousness and fatigue. The prevalence of somatic symptoms among those young adults increased over time and frequency of symptoms was associated with future life milestones achievement. Using data from the Transition from Education to

Employment study (TREE), Berchtold and colleagues aimed at identifying patterns of somatic complaints trajectories and at assessing if these patterns are associated with socio-economic and critical life events factors. They build sequences of somatic symptoms and clustered them, using a hidden mixture transition distribution model. Based on indices of fit and a combination of covariates influencing the probability of belonging to a cluster, a final model with five groups was discussed. The clusters are characterised by the variability of somatic complaints over time and average scores of somatic complaints. These groups were distinct at study baseline and remained distinct during the whole study follow-up. They were associated with gender, educational achievement and the experience of critical life events. Berchtold and colleagues also showed that higher consumption of tranquilisers and sleeping pills was associated with higher overall somatic scores. As these groups of somatic complaints trajectories were already distinct at the age of 16, it suggested that adolescents with poor somatic complaints trajectories were experiencing a situation of vulnerability before inclusion in the study, i. e. before adolescence, and that these conditions continued throughout adolescence and young adulthood. Differences between trajectories were largely influenced by early experiences and less by transitions (entry to the labour force, founding of a family life) and life events taking place over the course of young adulthood. Berchtold et al.'s findings contribute to the understanding of health vulnerability by showing that the onset of somatic complaints is linked with early-life, thus providing preliminary evidence that supports the critical/sensitive period model (Kuh and Ben-Shlomo 2004).

The article by *Isabel Baumann et al.* focuses on employment of young adults with mental disorder living in Switzerland. Following the CAD hypothesis (Dannefer 2003), the authors expected that an early onset of mental disorders would be more strongly and negatively associated with employment prospects compared to a later onset. They also expected handicapped children benefiting from special needs education to be more likely to find a job than those attending regular education. Using data from the Swiss Federal Social Insurance Office, they examined the association between educational trajectories, educational attainment and type of diagnosis (externalising vs. internalising problems) and being currently employed. Baumann et al. showed that special needs education for adolescent with mental disorder was associated with being currently employed, independent of educational attainment. Special needs education may protect individuals from the potential adverse effects of the social norms defined by the school system and the labour market and thus channel individuals into future sheltered vocational training programs and sheltered employment. Special needs education may thus, be a protective factor against the development of health vulnerability, by maintaining educational and relational resources of individuals. The authors also found that onset of mental disorders in late adolescence or young adulthood was associated with a higher risk of being unemployed compared to individuals diagnosed in childhood and adolescence. This

initial result needs to be confirmed with new research using effective age of onset of mental disorder (such information was not available to the authors). Last, the authors found that both types of mental disorders (externalising vs. internalising problems) were associated with being unemployed.

The article of *Agnès Dumas* is a qualitative study of a cohort of 80 childhood cancer survivors living in France. Using in-depth interviews with patients diagnosed between 1970 and 1985 and aged 36 years (average) at the time of the interview, the author assessed patient's perceived long-term impact of cancer and their coping strategies, how the cancer was incorporated in their identity and how cancer was discussed with their family, friends, children and significant others. The objective was to assess gender differences in health-related beliefs and stereotypes. First, the author showed that cancer was surrounded by a lack of family communication when participants were children, explained by the medical context of the 1970s and 1980s where priority was given only to patient survival, not patient communication. Reactions to this silence was different between men and women: men were satisfied with it while women wanted to have known more. Second, men displayed more frequently than women a passive attitude toward their treatment (e. g., avoidance of or delay in medical follow-ups), and were more reluctant to seek medical care. This result was in line with the existing literature on social norms of "masculinity" and confirmed the view that men living with cancer are more likely to prioritize the preservation of their health than to the preservation of their "masculinity," or male identity. According to Dumas, reluctance to undergo medical surveillance reflected compliance of male cancer patients with the "hegemonic masculinity" norm, despite having a risk of cardiovascular mortality eight times higher compared to the general population. Dumas' contribution to the understanding of health vulnerability is double: first, it shows that health vulnerability is embedded in an historical context, i. e. here a period that preferred a lack of communication about cancer; second, agency is a driver of health vulnerability, through conformity to misleading norms (Widmer and Spini 2017), i. e. "hegemonic masculinity" in the present case, that results in noncompliance with medical recommendations.

The article of *Valérie-Anne Ryser et al.* studies the association between health status and life satisfaction in the second half of life, to assess whether individuals who experience low levels of life satisfaction are also more likely to be in poorer health status, suggesting a potential accumulation of disadvantage (Dannefer 2003). The study was based on the SHARE database, waves 2 and 4 (treated as cross-sections), including 12 countries, and tested health-related inequalities with the concentration index. To order participants from worst to best health status, the authors build a continuous latent health index based on 32 health indicators. The analysis was conducted separately by country. Findings allowed identifying that the most vulnerable groups were those for whom disadvantages in life satisfaction and disadvantages in health status and other covariates cumulated. For example, higher life satisfaction

was concentrated among respondents with better health status; poor life satisfaction was concentrated among women, unmarried participants, and those with poor adaptation processes, and in all countries, but with large variations. The contribution of Ryser et al. provides support to the CAD hypothesis in that individuals with health disadvantages also report poor life satisfaction. The large inter-countries variation in the association between health status and life satisfaction suggests implementing national policy interventions, and support the life course perspective emphasizing the role of context in the study of health vulnerability.

The article of *Nadine Reibling et al.* examined the role of fertility history on health status at older age and whether this association varied across 13 European countries. Authors used the SHARE database and three indicators of health (number of chronic conditions, self-rated health and depression). Findings suggest that parenthood and the number of children was weakly associated with health in later life, in contrast with the timing of the first child which was strongly associated with health. However, the pattern of the association was u-shape: delaying first childbirth until 30 years was good for health, while it became detrimental after 35 years, in particular for women. Findings also show a differential effect by cohort: timing of first birth became less important for later health in younger cohorts. Finally, wide variation between welfare regimes were observed. Among women, the association between fertility timing and health was weak in Eastern and Southern countries and strong in Continental and Scandinavian countries. Among men, the association was strong in Continental countries only, otherwise timing was weakly associated with their health status. Reibling's paper brings a contribution to the importance of timing in normative transitions, and supports the hypothesis of sensitive periods (Kuh and Ben-Shlomo 2004). It also emphasises the importance of time and broader national contexts in understanding the potential benefits of timing of first birth.

The papers of this Special Issue show the potential of adding a life course perspective to health inequalities research and to the study of health vulnerability. Adopting a dynamic definition of health adds an important dimension in the understanding of how societies produce specific patterns of health across social categories. The issue also confirms the importance of combining qualitative and quantitative research to assess the complex mechanisms that articulate life circumstances, the experience of critical events and health trajectories over the whole life course.

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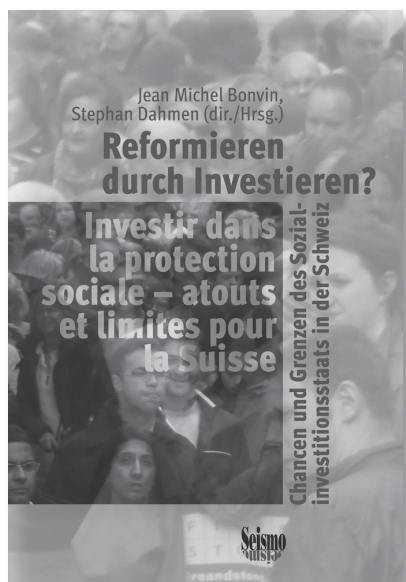
Jean Michel Bonvin
Stephan Dahmen (dir./Hrsg.)

Reformieren durch Investieren?
Chancen und Grenzen des Sozialinvestitionsstaats in der Schweiz

Investir dans la protection sociale – atouts et limites pour la Suisse

Mit Beiträgen in deutscher und französischer Sprache.
Avec des contributions en allemand et en français.

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L'Etat d'investissement social se présente comme une stratégie de réforme de l'Etat social en vue de répondre aux nombreuses critiques auxquelles il est actuellement soumis. La conversion des États sociaux européens à l'investissement social vise ainsi à restaurer leur légitimité et à relever les défis démographiques et économiques posés aux États sociaux contemporains. Suivant les partisans de cette conception, la réorientation des dépenses sociales vers l'investissement dans la formation et le développement du capital humain – notamment en facilitant l'accès à l'emploi, en accroissant les investissements dans les enfants et en privilégiant une nouvelle conception de la politique sociale comme facteur productif – permettra de réduire les inégalités sociales et de contribuer à la viabilité des États sociaux contemporains. Cet ouvrage examine la forme prise par l'investissement social en Suisse et les effets qui en résultent. Il discute de manière analytique et critique les fondements idéologiques et les implications pratiques de la stratégie de l'investissement social.

Jean-Michel Bonvin est professeur ordinaire de sociologie et de socioéconomie à l'Université de Genève, *Stephan Dahmen* est chargé d'enseignement et doctorant à la Faculté des Sciences de l'éducation de l'Université de Bielefeld.

Als Antwort auf den zunehmenden Druck, mit dem sich der Sozialstaat konfrontiert sieht, hat sich das Konzept sozialer Investitionen als Reformstrategie entwickelt. Der sozialinvestive Umbau europäischer Wohlfahrtsstaaten verspricht sowohl Antworten auf drängende Legitimations-fragen als auch auf gegenwärtige demografische und ökonomische Herausforderungen des Wohlfahrtstaates zu liefern. Die Neuausrichtung der Ausgaben des Sozialstaates auf Investitionen in Humankapital, etwa durch die Verbes-serung des Zugangs zu Beschäftigung, den Ausbau der Investitionen in Kinder und eine konsequente Neubestimmung von Sozialpolitik als Produktivfaktor ermögliche es sowohl bestehende soziale Ungleichheiten zu reduzieren als auch die Nachhaltigkeit moderner Wohlfahrtstaaten zu gewährleisten. Welche Ausprägungen hat das Sozialinvestitionsparadigma in der Schweiz angenommen und welche Auswirkungen ergeben sich aus dem sozialinvestiven Umbau des Sozialstaates? Das Buch liefert eine kritische Analyse und diskutiert die ideologischen Grundlagen und praktischen Implikationen sozialer Investitionen.

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Le poids de la position sociale : les trajectoires inégales de santé des enfants avec un diagnostic de surpoids ou obésité

Andrea Lutz*

Résumé : Cet article étudie l'influence de la position sociale sur les trajectoires de santé d'enfants suivant une thérapie pour le surpoids ou l'obésité. À partir d'une étude qualitative réalisée dans un hôpital suisse auprès de 29 familles, l'auteur explique comment la position sociale influence le rapport des enfants aux normes sanitaires. Les résultats montrent que les enfants de familles aisées parviennent plus facilement à intégrer les prescriptions thérapeutiques dans leur quotidien que les enfants de familles modestes.

Mots-clés : obésité, enfants, trajectoires de santé, inégalités, position sociale

Das Gewicht der sozialen Stellung: die ungleichen Gesundheitsverläufe von Kindern mit einer Übergewichts- oder Fettleibigkeitsdiagnose

Zusammenfassung: Dieser Artikel untersucht den Einfluss der sozialen Stellung auf Gesundheitsverläufe von Kindern, die eine Therapie wegen Fettleibigkeit durchlaufen. Auf der Basis einer qualitativen Studie, die in einem Schweizer Spital mit den Familien von 29 Kindern durchgeführt wurde, erklärt der Autor den Einfluss der sozialen Stellung auf den Umgang der Kinder mit Gesundheitsnormen. Die Studie zeigt, dass Kinder aus wohlhabenden Familien im Vergleich zu jenen aus bescheidenen Verhältnissen die therapeutischen Empfehlungen in ihrem Alltag besser umsetzen.

Schlüsselwörter: Fettleibigkeit, Kinder, Gesundheitsverläufe, Ungleichheiten, soziale Stellung

The Weight of Social Position: the Unequal Health Trajectories of Children With a Diagnosis of Overweight or Obesity

Abstract: This article studies the impact of the social position on the health trajectories of children who follow a therapy for overweight or obesity management. Based on a qualitative study conducted within a Swiss hospital with 29 families, the author explains how the social position influences children's relationship to health norms. The study results show that children belonging to wealthy families internalize more easily the therapeutic prescriptions in their everyday lives than the children from underprivileged families.

Keywords: obesity, children, health trajectories, inequalities, social position

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1   Introduction

Depuis environ deux décennies, le surpoids et l'obésité de l'enfant se sont imposés au sein des sociétés occidentales en tant que problématiques sanitaires devant faire l'objet d'une gestion individuelle et collective (Wright et Harwood 2009 ; Moffat 2010). Parallèlement aux mesures de santé publique mises en œuvre pour lutter contre l'augmentation de ces conditions à l'échelle de la population ont émergé plusieurs initiatives visant à agir sur le poids des personnes considérées en excès pondéral à partir de techniques thérapeutiques. Dans le contexte suisse, un grand nombre de programmes de prise en charge du surpoids et de l'obésité chez l'enfant ont été créés au cours des années 2000, sous l'impulsion de différentes organisations médicales et paramédicales (Lutz 2017). Ces programmes combinent suivi médical, diététique, psychologique et activité physique. Ils reposent avant tout sur la capacité des individus à modifier leurs comportements alimentaires et leur style de vie.

Dans le cadre de cet article, nous avons choisi d'aborder la question des iné-galités dans les trajectoires de santé des enfants et adolescents suivant une thérapie pour le surpoids et l'obésité en Suisse. Bien que tous les enfants en excès pondéral soient concernés par des formes de vulnérabilité, s'exprimant notamment dans le domaine de la santé, leurs conditions d'existence diffèrent les unes des autres. S'il est vrai que la majorité des enfants en excès de poids appartient à des familles se situant en bas de l'échelle sociale, il faut également tenir compte des enfants issus des milieux sociaux plus aisés qui sont touchés par cette condition. Cette probléma-tique se retrouve en effet – dans des proportions différentes – dans tous les milieux sociaux. Les programmes thérapeutiques pour la prise en charge du surpoids et de l'obésité sont fréquentés par des enfants aux origines sociales très différentes. Nous allons donc tenter de comprendre de quelle manière se déroulent les trajectoires de santé de ces enfants, en fonction de leur position sociale et des ressources dont ils ou elles disposent.

À partir des résultats d'une étude qualitative réalisée dans un hôpital suisse auprès de 29 familles d'enfants suivant une thérapie pour le surpoids et l'obésité, nous avons étudié le rapport entre les trajectoires de santé des enfants et leurs conditions sociales d'existence. Nous avons mené des entretiens avec des enfants et leurs parents, que nous avons interrogés sur leur vécu antérieur à la thérapie ainsi que sur leur expérience de la thérapie elle-même. Sur cette base, nous avons essayé de comprendre quels changements sont intervenus dans les habitudes de vie des enfants depuis le début du processus thérapeutique. Nos questions ont porté avant tout sur les domaines de l'alimentation et des activités en mouvement, qui constituent les principaux leviers de prise en charge du surpoids et de l'obésité chez l'enfant. Il s'agissait de comprendre dans quelle mesure les enfants parviennent à se conformer aux normes sanitaires transmises par les professionnels de santé en matière de gestion du style de vie. Notre hypothèse était que les enfants appartenant

aux milieux aisés ont plus de facilité à adapter leur style de vie à ces normes que les enfants appartenant aux milieux modestes.

2   État de la littérature

La problématique du surpoids et de l'obésité a fait l'objet de plusieurs recherches en sociologie. Celles-ci se sont développées à l'interface entre l'étude de l'alimentation, de la santé et du corps (Maurer et Sobal 1995 ; Campos et al. 2006 ; Poulain 2009 ; Patterson et Johnston 2012 ; Lupton 2013). Certaines de ces recherches ont porté spécifiquement sur les enfants et les jeunes (Wright et Harwood 2009 ; Moffat 2010). Ces travaux ont eu le mérite de déconstruire ces objets d'étude, en analysant le processus de médicalisation de la corpulence par les sciences, la médecine et la santé publique. Ils ont mis en lumière les controverses scientifiques et sociales qui sous-tendent ces catégories. Dans le monde médical, il n'existe en effet pas de consensus au sujet de la définition, de la mesure, de l'étiologie et des méthodes à utiliser pour lutter contre ces conditions. Un grand nombre d'approches thérapeutiques se sont révélées inefficaces, notamment sur le long terme. Plusieurs auteurs ont également critiqué le caractère alarmiste des discours de lutte contre le surpoids et l'obésité, ayant pour effet de créer une « panique morale » (Campos et al. 2006 ; Patterson et Johnston 2012) autour de l'alimentation et du corps, en renforçant le stigmate qui touche sur les personnes en excès pondéral. Ces auteurs ont également critiqué le caractère arbitraire des prescriptions nutritionnelles véhiculées par les politiques de santé publique, reflétant avant tout les normes et les valeurs des classes moyenne et aisée. En mettant l'accent sur la responsabilité individuelle, ces politiques auraient pour effet d'occulter les causes sociales du surpoids et de l'obésité, ainsi que de renforcer la culpabilité et la honte ressenties par les personnes concernées par ces conditions.

La question plus spécifique du rapport entre corpulence et position sociale a également fait l'objet de plusieurs études sociologiques (Sobal et Stunkart 1989 ; McLaren 2007 ; Poulain 2009 ; Régnier et Masullo 2009 ; Saint Pol 2010 ; Mathiot 2014 ; Pestaña 2015 ; Vandebroeck 2015). Elle s'inscrit dans la problématique plus large des inégalités de santé (Burton-Jeangros et al. 2015 ; Eckersley 2015). Dans les pays développés, la majorité des personnes en excès de poids se trouve en bas de l'échelle sociale. La plus grande prévalence de surpoids et d'obésité s'observe surtout dans les groupes à faibles niveaux économique et culturel. L'association entre corpulence et position sociale varie cependant en fonction du genre. Chez les femmes, la position sociale est inversement associée à l'indice de masse corporelle (IMC). Chez les hommes, la distribution statistique de la corpulence est par contre bimodale : des personnes en excès de poids se retrouvent à la fois en bas et en haut de l'échelle sociale. Le sociologue Jean-Pierre Poulain (2009) avance de ce fait l'idée

qu'il existe plusieurs types d'obésité selon le milieu social. Dans les milieux aisés, on trouverait une obésité « distinguée », permettant d'affirmer pouvoir et réussite sociale chez certains hommes, alors que dans les milieux défavorisés, on serait avant tout confrontés à une obésité « économique », liée à un manque de capitaux et à un choix alimentaire restreint. Ce même auteur souligne également l'importance d'intégrer la variable de la mobilité sociale dans l'analyse de l'influence de la position sociale sur l'obésité. Il existe en effet un lien statique fort entre la diminution des revenus des individus et l'apparition de l'obésité. Dans les milieux défavorisés, le processus de précarisation (perte de revenus, fragilisation sociale) aurait un impact plus important sur le développement de l'obésité que la précarité elle-même (bas revenus, mais situation sociale stable). À l'inverse, l'augmentation des revenus et l'accès à une position sociale plus élevée peuvent dans certains cas aussi s'accompagner d'une prise de poids, notamment chez les hommes, suivant la logique de l'obésité distinguée.

La problématique de la migration doit également être prise en compte en lien avec la position sociale. Plusieurs études ont montré une plus grande prévalence du surpoids et de l'obésité dans les populations migrantes (voir Delavari et al. 2013 pour une revue de cette littérature). Ce résultat s'explique avant tout par le fait que les migrants se retrouvent dans les couches les plus basses de la population. D'autres explications ont également été avancées, telles que l'impact des modèles alimentaires que les migrants importent de leur pays d'origine (riches en calories), la perte de repères alimentaires et l'effet de l'accès à la modernité alimentaire (aliments transformés, restauration rapide et abondance alimentaire) dans le pays d'accueil (Corbeau 2005). Il faut également tenir compte du fait que la migration s'accompagne souvent d'un processus de mobilité sociale, ayant des répercussions sur le plan de l'alimentation et du style de vie.

Chez les enfants, la plupart des études ont confirmé les résultats obtenus auprès des adultes d'un rapport inversé entre statut social et IMC (Shrewsbury et Wardle 2008 ; Wang et Lim 2012). Ces différences seraient cependant moins significatives que dans la population adulte. Elles tendraient à devenir plus visibles à l'adolescence. Si dans la plupart des pays développés il a été observé un rapport négatif entre statut social et IMC chez les enfants, dans certains pays ce rapport est apparu comme étant peu significatif ou parfois positif, notamment dans certains pays d'Europe centrale. Des différences de genre ont également été observées dans ce cadre : c'est surtout chez les garçons que le rapport entre statut social et IMC peut parfois devenir positif, alors que chez les filles, il est généralement négatif. En Suisse, des études épidémiologiques ont montré une plus grande prévalence du surpoids et de l'obésité chez les enfants – aussi bien filles que garçons – dont les parents ont un bas niveau socioéconomique ou ont vécu un processus migratoire (Lasserre et al. 2007 ; Stamm et al. 2014). Ces études fournissent cependant très peu d'interprétations concernant ces résultats. La question de savoir à travers quels mécanismes la position sociale influence la corpulence chez les enfants reste peu explorée.

La variable temporelle est très importante pour comprendre l'influence de la position sociale sur l'obésité. Dans cet article, nous essayons d'intégrer la perspective des parcours de vie, afin d'appréhender l'expérience de la prise en charge du surpoids et de l'obésité dans une perspective longitudinale, comme relevant de l'enchaînement de différents processus au cours du temps. Premièrement, il s'agit d'étudier le processus de reproduction des pratiques alimentaires et du style de vie qui a lieu au sein des familles. Deuxièmement, l'apparition de l'obésité doit être analysée en lien avec les événements qui marquent le parcours de vie des familles, notamment dans les situations de migration et de mobilité sociale. Troisièmement, l'entrée des familles des enfants en excès de poids dans des processus de prise en charge thérapeutique et de gestion médicale du poids doit être pensée comme une phase de transition dans le parcours de vie de l'enfant, amenant une modification des comportements et des habitudes au quotidien.

3   Méthode

Les données présentées dans le cadre de cet article ont été récoltées entre mai 2016 et mai 2017 dans le cadre d'une étude qualitative réalisée au sein d'une consultation de surpoids et d'obésité pédiatrique d'un hôpital de Suisse romande. Des entretiens semi-directifs ont été conduits avec 29 familles d'enfants ayant entre 7 (âge minimal pour le recrutement) et 18 ans, suivant une thérapie pour le surpoids ou l'obésité, et se trouvant à différents stades du processus thérapeutique. Ci-après nous parlons de stade initial lorsque la thérapie a été entamée depuis moins d'un mois et de stade avancé lorsqu'elle dure depuis un ou plusieurs mois. Nous avons interviewé les enfants et leurs parents la plupart des cas de manière séparée (dans 20 cas), ou ensemble, lorsque les conditions ne le permettaient pas (dans 9 cas). Au total, nous avons pu interviewer 29 enfants et 31 parents (26 mères, un père et deux couples mère-père). Les entretiens avec les enfants ont duré en moyenne 30 minutes et les entretiens avec les parents une heure. Ils ont eu lieu soit à l'hôpital soit au domicile des enfants. Ces entretiens avaient pour objectif d'explorer les trajectoires de santé des enfants et leur parcours de vie, à partir de différentes thématiques telles que l'alimentation, les activités sportives et de loisirs, les relations parentales et l'histoire familiale. Les questions portaient aussi bien sur leur situation présente que sur leur vie antérieure à la thérapie. Parallèlement aux entretiens, nous avons également effectué des observations des consultations diététiques avec les enfants et les parents (43 séances au total), afin de comprendre de quelle manière est organisé le contenu de la thérapie et d'obtenir des informations sur les familles avant les entretiens.

Le recrutement des familles a été effectué en face à face à l'hôpital, généralement suite aux observations des consultations, ou encore par l'intermédiaire de professionnels. Sur 64 familles auxquelles l'étude a été présentée 29 ont donné leur

consentement et ont accepté d'y prendre part. Un biais socioéconomique a pu avoir une influence sur la sélection des participants dans la mesure où les familles plus éduquées, avec de meilleures capacités de communication et se conformant davantage aux exigences du personnel médical ont accepté plus facilement de prendre part à l'étude que les autres. Pour ces mêmes raisons, une partie des familles défavorisées est probablement restée en dehors de l'étude. Plus globalement, il est important de souligner que la population clinique de cette consultation n'est pas représentative de l'ensemble de la population d'enfants obèses, puisqu'uniquement une partie de ces familles fait le choix d'entreprendre une prise en charge, bien que celle-ci soit souvent prescrite par les pédiatres généralistes et les services de santé scolaire. Même si l'assurance maladie obligatoire rembourse les coûts de la prise en charge, certains coûts accessoires peuvent représenter un obstacle pour les familles les plus pauvres, tels que les frais d'inscription aux activités sportives proposées par l'hôpital, ou les coûts de transport entre le domicile et l'hôpital.

4   Position sociale et conformité aux normes sanitaires

Les 29 entretiens réalisés ont été retranscrits et analysés à l'aide du logiciel Nvivo. Nous avons effectué une analyse transversale de l'ensemble des entretiens, afin de comparer les trajectoires de santé des enfants en excès de poids et les relier à leurs conditions sociales d'existence.

Nous avons tout d'abord essayé de décrire la position sociale des enfants en évaluant leurs niveaux de capital économique, culturel et social (voir figure 1). Dans la mesure où les enfants vivent sous la dépendance de leurs parents, leurs niveaux de capital reflètent généralement ceux des parents. Pour évaluer le niveau de capital économique, nous nous sommes basés sur la variable de la profession des parents. Il aurait certes été plus précis de se baser sur le revenu, mais cette information n'a pas été collectée dans les entretiens. Le capital culturel a été évalué sur la base du niveau d'éducation des parents. Puisque nous avons constaté une forte homologie en termes de niveaux d'éducation des mères et des pères, nous avons décidé d'adopter une mesure unique pour ceux-ci. Le capital social a été évalué sur la base de la description subjective que les enfants et les parents ont donnée du réseau d'interconnaissance de l'enfant (famille, amis et camarades). Pour chaque forme de capital, nous avons essayé d'estimer si le niveau de capital était très faible (–2), faible (–1), moyen (0), élevé (1), ou très élevé (2). Après avoir attribué une valeur numérique à chaque niveau de capital, nous avons évalué le niveau de capital total des enfants. Dans la figure 1, nous avons résumé les données obtenues pour l'ensemble des enfants. Afin de respecter leur anonymat, les prénoms des enfants ont été remplacés par des lettres.

Sur la base de ces résultats, nous avons pu identifier quatre groupes sociaux principaux qui se distinguent par leur dotation en capital (voir tableau 1 ci-dessous).

Figure 1   Capitaux possédés par les enfants
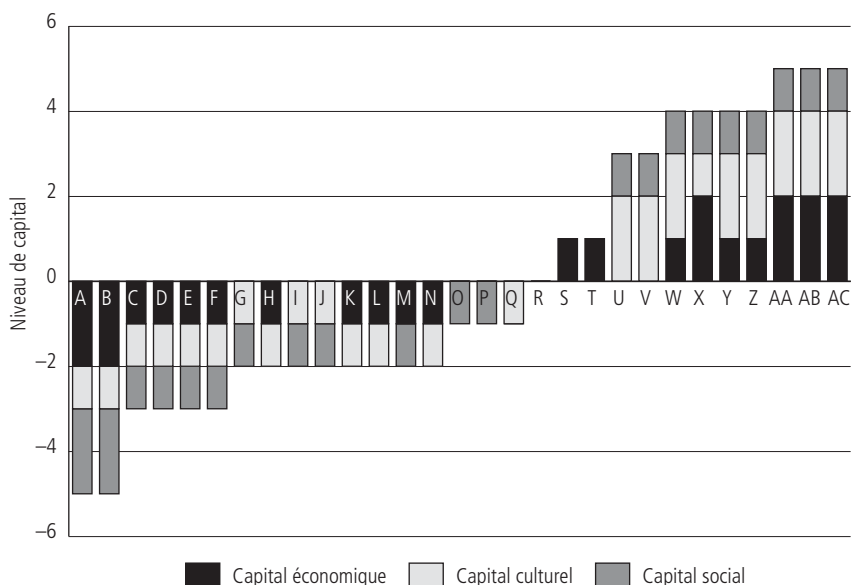
Le premier groupe est composé de deux enfants dont les parents sont des travailleurs manuels non-qualifiés[1] avec des emplois précaires, ayant terminé uniquement l'école obligatoire. Dans ces familles, toutes deux monoparentales, l'enfant et le parent ont vécu un processus migratoire, accompagné d'un phénomène de précarisation. Leur dotation en capital est faible, voire très faible à tous les niveaux. Le deuxième groupe est composé de douze enfants dont les parents sont des travailleurs manuels non-qualifiés, manuels qualifiés, chômeurs ou invalides ayant terminé l'école obligatoire ou un apprentissage. Plusieurs de ces familles (dix sur douze) ont également eu une expérience migratoire, concernant les parents et l'enfant, les deux parents ou un seul parent. Ces familles ont surtout connu une mobilité ascendante ou pas de mobilité (dans un seul cas une mobilité descendante). Dix de ces familles sont nucléaires et deux sont monoparentales. Leur niveau de capital total est généralement bas, avec des niveaux bas dans au moins deux formes de capital. Le troisième groupe est composé de six enfants avec des parents exerçant en tant que travailleurs non-manuels qualifiés, ayant suivi un apprentissage ou une école professionnelle. Les parents ont connu une expérience migratoire accompagnée d'une mobilité sociale ascendante dans trois cas. Les six familles sont nucléaires. Leur niveau de capital est généralement moyen, avec

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1   Nous nous basons ici sur les catégories socioprofessionnelles de l'Office fédéral de la statistique suisse (2016).

des niveaux moyens dans au moins deux formes de capital. Le quatrième groupe est formé de neuf enfants dont les parents exercent dans des professions intellectuelles, d'encadrement ou libérales, ayant terminé des études universitaires. Leurs familles ont connu des processus migratoires dans quatre cas, parfois accompagnés d'une mobilité sociale descendante (dans deux familles). Cinq familles sont nucléaires et trois sont monoparentales. Leurs niveaux de capital sont généralement élevés, voire très élevés, avec au moins deux formes de capital avec un niveau élevé.

À partir des descriptions qui nous ont été fournies au sujet des habitudes de vie des enfants en matière d'alimentation, d'activités sportives et de loisir, nous avons ensuite essayé d'évaluer la conformité de leurs habitudes de vie aux normes

Tableau 1   Quatre groupes aux caractéristiques sociales différentes

Groupe 1 : A, B	Groupe 2 : C, D, E, F, G, H, I, J, K, L, M, N
› Profession des parents : travailleurs manuels non-qualifiés. Emploi précaire › Niveau d'études des parents : école obligatoire › Familles monoparentales › Expérience migratoire touchant les parents et l'enfant › Mobilité sociale descendante, précarisation › Genre : 1 fille (A), 1 garçon (B) › Âge : 11–14 (A), 15–18 (B) › Stade de la prise en charge : initial (B) ou avancé (A)	› Profession des parents : Travailleurs manuels non-qualifiés, travailleurs manuels qualifiés, chômage ou invalidité › Niveau d'études des parents : école obligatoire ou apprentissage › Familles nucléaires (C, E, F, G, H, I, J, L, N) et monoparentales (D, M) › Expérience migratoire touchant les parents et l'enfant (F, G), les deux parents (C, E, H, I, K, L), un parent (D, N) ou parents suisses (J, M) › Mobilité sociale ascendante (E, G, I, K, L), descendante (J) ou pas de mobilité (C, D, F, H, M, N) › Genre : 6 filles (C, D, F, G, K, L), 6 garçons (E, H, I, J, M, N) › Âge : 7–10 (E, F), 11–14 (G, H, I, K, L, N), 15–18 (C, D, J, M) › Stade de la prise en charge : initial (E, G, L) ou avancé (C, D, F, H, I, J, K, M, N)
Groupe 3 : O, P, Q, R, S, T	**Groupe 4 : U, V, W, X, Y, Z, AA, AB, AC**
› Profession des parents : travailleurs non-manuels qualifiés (professions intermédiaires) › Niveau d'éducation des parents : apprentissage ou écoles professionnelles › Familles nucléaires › Expérience migratoire touchant les parents (O, P, Q) ou parents suisses (R, S, T) › Mobilité sociale ascendante (O, P, Q) ou pas de mobilité (R, S, T) › Genre : 3 filles (P, S, T) et 3 garçons (O, Q, R) › Âge : 11–14 (P, Q, R), 15–18 (O, S, T) › Stade de la prise en charge : initial (R), ou avancé (O, P, Q, S, T)	› Profession des parents : professions intellectuelles, d'encadrement ou libérales › Niveau d'éducation des parents : hautes écoles et universités › Familles nucléaires (W, X, Y, Z, AA, AC) et monoparentales (U, V, AB) › Expérience migratoire touchant les parents (U, V, Y, AC) ou parents suisses (W, X, Z, AA, AB) › Mobilité sociale descendante (V, Y) › Genre : 5 filles (U, W, X, Y, AA), 4 garçons (V, Z, AB, AC) › Âge : 11–14 (V, W, Z, AA, AC), 15–18 (U, X, Y, Z, AB) › Stade de la prise en charge : initial (U,V) ou avancé (W, X, Y, Z, AA, AB, AC)

sanitaires. Il s'agissait de comprendre en quoi les enfants ont incorporé dans leurs pratiques sociales les normes qui leur ont été transmises par les professionnels de santé. Nous avons distingué la période précédant la prise en charge de la situation au moment des entretiens, en prenant en compte les changements effectués par les enfants entre ces deux phases. Il est important de souligner que notre approche nous a permis d'accéder uniquement aux pratiques déclarées par les acteurs et non pas aux pratiques réelles. Elle peut donc avoir induit des biais, notamment en termes de désirabilité sociale. Cependant, la conduite d'entretiens séparés avec les enfants et les parents nous a permis d'en partie contrer ce biais, en comparant les discours.

Les normes sanitaires prises en compte pour évaluer la conformité des pratiques déclarées des enfants étaient celles transmises par les professionnels dans le cadre des consultations, telles que nous avons pu les étudier lors de nos observations. Elles peuvent être résumées ainsi :

1. Boire de l'eau et pas des boissons sucrées.
2. Limiter les quantités d'aliments consommés (portions adaptées aux besoins des enfants).
3. Manger équilibré, limiter les gras, le sucre et le sel (qualité).
4. Manger lentement (durée idéale du repas 15–20 minutes).
5. Éviter de manger entre les repas (grignotages).
6. Pratiquer régulièrement une activité physique intense.
7. Être actif au quotidien et pratiquer des activités de loisirs en mouvement.

Pour pouvoir évaluer la conformité des comportements de chaque enfant aux normes sanitaires, nous avons pris en compte l'ensemble de ces indicateurs. Nous avons attribué des valeurs aux indicateurs et nous les avons additionnées afin d'obtenir un indice global de conformité. Nous avons attribué la valeur de +1 à l'indicateur quand la norme en question était respectée, –1 quand elle n'était pas respectée et 0 quand elle n'était respectée qu'en partie. La somme des sept indicateurs nous a permis d'obtenir des résultats variant entre –7 et 7. Entre –7 et –3, nous avons considéré la conformité comme faible, entre –2 et 2 comme moyenne et entre 3 et 7 comme élevée. Nous avons ensuite mis en perspective le niveau de conformité global avec la position sociale des enfants, plus précisément avec leur dotation en capital. Ces résultats sont résumés dans la figure 2 ci-dessous.

La figure 2 nous permet d'observer que le niveau de conformité aux normes sanitaires tend à augmenter au fur et à mesure de la prise en charge pour l'ensemble des enfants. Nous pouvons cependant observé d'importantes différences entre les trajectoires de santé des enfants selon les groupes sociaux. Avant la prise en charge, le style de vie des enfants se situant en bas de l'échelle sociale (groupes 1 et 2) est clairement moins conforme aux normes sanitaires que celui des enfants se situant au milieu et en haut de l'échelle (groupes 3 et 4). Comme l'illustrent les deux lignes de tendance, le niveau de conformité tend à augmenter avec le niveau de capital. Au

Figure 2   Conformité et capitaux

Capital total
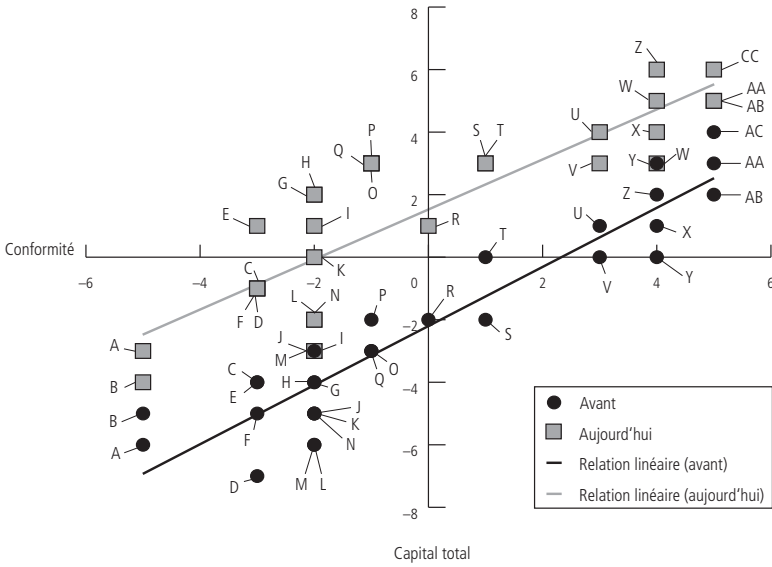
cours de la prise en charge, le niveau de conformité augmente peu pour le groupe 1 (il reste faible), tandis que dans le groupe 2, il connaît des évolutions plus importantes (il passe de faible à moyen). Bien que les deux groupes soient caractérisés par des niveaux faibles de capitaux, la situation sociale des familles du groupe 1 est plus instable, puisque marquée par la mobilité descendante, tandis que les familles du groupe 2 font plutôt l'expérience d'une stabilité ou d'une amélioration de leur condition sociale. Cela pourrait expliquer leur plus grande capacité à intégrer les normes sanitaires. Dans le groupe 3, le niveau de conformité avant la prise en charge est moyen et est donc plus élevé que dans les groupes 1 et 2. Après la prise en charge, ce niveau moyen ou devient élevé. Dans les familles du groupe 4, le style de vie avant la prise en charge (niveau de conformité moyen ou élevé) est bien plus conforme aux normes sanitaires que celui des trois autres groupes sociaux. Au cours de la prise en charge, il atteint un niveau élevé. Leur degré de changement n'est pas plus grand que celui des autres familles, mais se met en place à partir d'une situation de départ plus favorable. De manière générale, la marge de progression des enfants au cours de la thérapie est assez variable dans l'ensemble des groupes sociaux. Chaque enfant connaît en effet une trajectoire qui lui est propre. D'autres variables viennent également influencer la conformité et son évolution au cours du temps, telles que le temps passé dans la prise en charge, l'âge et le genre. Nous avons

cependant renoncé à faire une analyse systématique de l'influence de ces variables dans cet article afin de nous focaliser sur la position sociale. Nos entretiens semblent en tout cas montrer que les enfants qui ont eu une prise en charge plus longue et les enfants plus âgés parviennent à mieux intégrer les normes sanitaires que les autres enfants. Les filles semblent également être plus investies dans le processus thérapeutique que les garçons, en raison de la plus forte pression à la minceur, liée aux représentations genrées du corps, associant féminité et minceur. Compte tenu de la diversité de notre échantillon qui peut être observée au sein de chaque groupe social (voir tableau 1), nous estimons que ces variables ne compromettent pas notre analyse en termes de position sociale.

À la lumière de ces constats, il s'agit à présent de savoir à travers quels mécanismes la position sociale influence la conformité du style de vie des enfants aux normes sanitaires et leur capacité d'adaptation à ces normes. C'est ce que nous allons faire dans les parties suivantes de l'article en nous appuyant sur la théorie de la reproduction de Pierre Bourdieu (1979 ; 1994), notamment sur sa typologie des capitaux et sur sa théorie de l'habitus.

5   L'influence des capitaux

L'influence de la position sociale sur la conformité des enfants avant et pendant la prise en charge s'exerce en premier lieu par le biais des capitaux (économique, culturel et social) possédés.

En ce qui concerne le *capital économique,* dans les familles des groupes 1 et 2, cette variable est parfois apparue comme étant un frein à l'adoption d'un mode de vie conforme aux prescriptions médicales. Certains parents ont souligné le fait que la nourriture saine est relativement chère et qu'il n'est pas toujours possible d'acheter les produits de meilleure qualité. Ils ont affirmé restreindre leurs dépenses en matière de nourriture, afin de respecter un certain budget et pouvoir « joindre les deux bouts » à la fin du mois :

> *On sait ce qui est sain, mais ce n'est souvent pas abordable au niveau des prix. On va faire attention à ce qu'il y aura dans l'assiette, mais ce n'est pas forcément du biologique. On est limités au niveau financier, on ne peut pas acheter tout ce qu'on veut.* (Mère de J)

Ces parents ont pourtant déclaré faire beaucoup d'efforts afin de proposer à leurs enfants des repas complets et équilibrés. Parallèlement à la nécessité d'assurer une alimentation saine, la préoccupation d'avoir suffisamment d'aliments à proposer aux enfants est souvent apparue dans les entretiens. Cet élément s'est également retrouvé dans les entretiens menés avec les enfants, qui ont parfois exprimé la peur de manquer de nourriture. La pression que ces familles ressentent en termes économiques

les amènerait à consommer de plus grandes quantités de nourriture et à privilégier des aliments plus caloriques. Dans les familles du groupe 2 ayant vécu un processus migratoire accompagné d'une mobilité ascendante, l'abondance de la nourriture consommée participe également à affirmer le statut social récemment acquis et le pouvoir d'achat plus grand qui en découle. Ces résultats tendent à confirmer ce qui a été observé dans d'autres recherches sociologiques sur l'alimentation des classes populaires et des populations migrantes (Corbeau 2005 ; Régnier et Masullo 2009).

En termes de mouvement, certaines familles ont également souligné l'importance du facteur économique dans le choix des activités sportives et de loisir. Les coûts liés à ces activités peuvent représenter un frein pour les familles ayant un budget limité. Des aspects apparemment accessoires, tels que le fait de ne pas avoir un ordinateur, peuvent également être des obstacles à l'accès à ces activités.

> *C'est toujours compliqué pour prendre des activités… Il faut faire toute une discussion, bla bla… Il faut le courriel… Je n'ai pas d'email, je n'ai pas d'ordinateur. Je sais que ce n'est pas normal en Suisse… Mais je ne peux pas acheter, parce que je suis toute seule avec les petites… Je ne peux pas acheter un ordinateur.* (Mère de A)

Dans les groupes 3 et 4, la plus grande dotation en capital économique permet aux familles d'adhérer plus facilement à un style de vie conforme aux normes sanitaires, en choisissant plus librement les aliments à consommer. Dans ces groupes sociaux, la mobilité sociale descendante peut cependant représenter un facteur de déstructuration du style de vie et avoir des conséquences sur la conformité aux normes sanitaires, notamment lorsqu'il s'agit de renoncer à des pratiques en raison d'un manque d'argent. Cela a été le cas pour deux familles migrantes qui se sont senties limitées financièrement durant leurs premières années passées en Suisse, en raison de la difficulté des parents à trouver des emplois correspondant à leurs qualifications.

Le *capital culturel* exerce également une influence importante sur la conformité des enfants aux normes sanitaires. Les familles qui disposent de plus grandes connaissances scolaires (groupes 3 et 4) semblent être mieux informées au sujet du rapport entre alimentation, mouvement et santé que les familles ayant fait moins d'études. Avant l'entrée dans la thérapie, elles étaient déjà dans une démarche active de recherche d'un mode de vie sain. Au cours de la prise en charge, leur capital culturel élevé leur a permis d'être plus réceptives aux messages des professionnels de santé.

> *[Avant la thérapie] J'avais déjà essayé de… de l'encourager à se servir qu'une fois à table… Et j'avais essayé d'acheter peu de sucreries, de biscuits et de les cacher. Ouais, puis qu'elle fasse du sport.* (Mère de AA)

À l'inverse, dans les familles à bas niveau socioéconomique (groupes 1 et 2), les parents ont parfois affirmé ne pas avoir été au courant des principes et des règles à

suivre en matière de diététique et mouvement auparavant. Certains parents ont de ce fait ressenti de la honte et de la culpabilité face aux professionnels.

> *Nous, les parents, parfois on fait des fautes graves… Moi je ne savais pas que les jus et les Coca-cola, des choses comme ça, ça peut être parfois nocif à la santé.* (Mère de G)

D'autres familles ont affirmé s'être parfois senties jugées ou critiquées par les remarques des professionnels. Ce ressenti a pu les amener à prendre de la distance par rapport à leurs recommandations.

> *[La doctoresse] n'était pas vraiment dans la positivité, dans l'encouragement. Elle a dit qu'il ne fait pas assez de sport, alors qu'il fait quand même chaque jour quelque chose… C'est clair qu'il pourrait faire plus. Mais elle aurait pu être, pas dire ça comme ça. Je sais que ça l'a énervé, puis moi aussi… Elle était plus dans le reproche qu'autre chose.* (Mère de N)

De manière générale, au sein des groupes 1 et 2, les discours des enfants et des parents tendaient cependant à légitimer le savoir transmis par les professionnels de la santé et non pas à le remettre en question. Dans les familles ayant vécu un processus migratoire accompagné d'une mobilité ascendante, les enfants et les parents ont notamment exprimé une forte volonté d'adhérer aux normes prônées dans le cadre de la prise en charge, permettant par ce biais de faire preuve de bonne intégration des valeurs et de la culture du pays.

Le *capital social* joue également un rôle important dans la détermination du style de vie des enfants et de ce fait dans leur capacité à se conformer aux normes sanitaires. Dans le groupe 1, où l'on trouve les niveaux les plus bas de capital social, l'absence d'un réseau durable de relations sociales semble se répercuter de manière négative sur le style de vie des enfants, dans la mesure où l'isolement social entraine une déstructuration des pratiques alimentaires et des habitudes de vie. L'expérience migratoire vécue par les enfants et les parents, couplée aux divorces, a dans ces cas impliqué une restriction du réseau social.

> *Moi je travaille toute la journée. Après quand je ne suis pas là, je ne sais pas qu'est-ce qu'il mange. Quand il est seul. Il ouvre le frigo et il mange…* (Mère de B)

> *C'est compliqué avec les filles. (…) Parce que je suis toute seule, je ne peux pas compter avec le papa. Je suis toute seule avec les petites. (…) J'ai seulement ma sœur ici en Suisse, mais elle travaille beaucoup.* (Mère de A)

Dans le groupe 2, le réseau de relations sociales est assez restreint, mais relativement stable. Les familles ayant vécu un processus migratoire ont affirmé avoir souffert d'un manque de relations sociales au début de leur installation en Suisse, mais ont pu progressivement reconstruire leur réseau social. L'alimentation et le style de

vie de ces enfants ne sont pas touchés par la déstructuration due à un manque de relations sociales, mais plutôt par un fort encadrement par le groupe familial. Ces relations peuvent représenter des obstacles au changement dans le cadre de la prise en charge, dans la mesure où l'entourage de l'enfant n'est pas toujours prêt à adapter ses pratiques en conséquence. Plusieurs mères nous ont fait part des difficultés à faire changer les habitudes de leur famille, y compris du conjoint, ayant parfois débouché sur des conflits.

> *Nous on est une grande famille. 4–5 fois par semaine, c'est toute la famille qui mange ensemble. Je ne peux pas faire des menus spécifiques pour chacun. Puis je n'ai pas le soutien ni de mon mari ni de mon beau fils. Je leur dis toujours de ne pas acheter par exemple de la mayonnaise. Parce que mon beau-fils et ma fille habitent ici. Donc quand il vient avec le ketchup, la mayonnaise, des sauces, moi ça m'énerve, parce que je dis « non, il ne peut pas manger ça ». Puis lui, quand c'est sur la table, il ne peut pas s'empêcher d'en manger… Ou même de boire du Coca… Moi j'ai arrêté d'acheter du Coca, du thé, mais si après il y a les autres qui achètent…* (Mère de O)

Dans les groupes 3 et 4, les enfants disposent d'un réseau social globalement plus large que les enfants des groupes 1 et 2. De ce fait, leurs pratiques alimentaires et leur style de vie sont soutenus par un ensemble important d'acteurs et institutions. Bien qu'également présente au sein de ces groupes sociaux, la tension avec l'entourage en matière de respect des normes sanitaires est ici moins visible. Les conflits des mères avec l'entourage familial au sujet de l'alimentation de l'enfant ont pu être résolus plus facilement que dans les autres groupes sociaux.

L'expérience du harcèlement lié au poids par les pairs est ressortie dans un grand nombre d'entretiens. Elle entraine généralement une diminution du capital social chez l'enfant. Celle-ci ne semble pas être spécifique à un groupe social en particulier. Dans la mesure où ils disposent d'un réseau social plus large, les enfants des groupes 3 et 4 semblent cependant réussir plus facilement à se protéger contre cette forme de harcèlement. Dans les groupes 1 et 2, le harcèlement tend à engendrer davantage de souffrance et se cumule avec d'autres formes de discrimination (liées à l'origine sociale ou à la langue).

6   L'influence de l'habitus : dispositions, goûts et pratiques sociales

Une autre notion empruntée à la sociologie de Pierre Bourdieu (1994) se révèle utile pour analyser l'influence de la position sociale sur la conformité des enfants aux normes sanitaires : celle de l'habitus. De manière complémentaire à la typologie des capitaux, la théorie de l'habitus permet de penser le processus de reproduction des pratiques sociales et du style de vie au sein des différentes classes sociales. L'habitus

peut être défini comme un ensemble de dispositions durables, de schèmes de perception et d'appréciation qui génèrent des pratiques ajustées aux positions sociales des individus (Wagner 2010). Il englobe les règles et les codes qui fondent les conduites ordinaires des individus, leurs manières d'être, de penser et d'agir propres à leur groupe d'appartenance. Celles-ci sont acquises dans le cadre de la socialisation et de la prime éducation des individus. Bien qu'elles puissent faire l'objet d'ajustements, elles tendent à durer dans le temps et à orienter l'action des individus tout au long de leur vie. Comme l'a illustré Bourdieu dans *La Distinction* (1979), les goûts des individus en matière d'alimentation et de style de vie doivent être pensés comme les produits de l'habitus et de la socialisation, permettant de signifier et de définir la position des individus dans l'espace social et dans la hiérarchie des classes sociales.

Dans le domaine de l'alimentation, nos entretiens et nos observations nous ont permis de constater que les enfants possèdent des goûts relativement différents selon les milieux sociaux, reflétant des habitus de classe spécifiques. Bien que les goûts de l'ensemble des enfants tendent à s'élargir avec l'âge et avec le temps passé dans la prise en charge dans tous les milieux sociaux, dans les groupes plus aisés (groupes 3 et 4), nous avons constaté que les enfants semblent apprécier davantage les aliments jugés « sains » comme les fruits et les légumes. Leurs parents ont déjà essayé de leur inculquer les principes de l'alimentation saine et équilibrée depuis leur jeune âge. De ce fait, ils ont progressivement développé un goût pour ce type d'aliments. Lorsque nous avons demandé aux enfants de ces groupes sociaux de nous dire quel était leur repas préféré, ils ont généralement évoqué des repas correspondant au modèle de l'assiette équilibrée prôné par les professionnels de santé. Leurs parents ont affirmé avoir toujours accordé une forte importance à l'équilibre alimentaire et à la qualité des produits consommés par les enfants.

> *J'ai toujours fait attention à ce que ce soit… Oui, la nourriture correcte.*
> *En fin, on mange peu de frites ou de chips, ou de… Oui. Non non, là je*
> *suis attentive. (…) Moi je vise plutôt une bonne qualité… Par exemple,*
> *pour la viande, j'aime bien si c'est biologique, ou production IP [label suisse*
> *de production intégrée]. (…) Ouais, je n'achète pas de choses comme ça,*
> *précuites, qu'il faut, qu'il faut juste chauffer…* (Mère de AA)

Ces parents marquent aussi une distance par rapport aux produits issus de la production industrialisée et des *fast foods,* qu'ils affirment éviter le plus possible. Bien que les enfants puissent aussi apprécier cette nourriture, ils ne la consomment que rarement et essaient à leur tour de l'éviter. Au sujet des quantités des aliments consommés, les enfants et les parents de ces milieux sociaux valorisent la modération et la retenue. Cela confirme l'importance accordée à la qualité et à l'équilibre en matière d'alimentation.

Dans les familles de milieu modeste (groupes 1 et 2), il est plus fréquent que les enfants refusent de manger des fruits et des légumes. Au cours de la prise

en charge, ils apprennent progressivement à intégrer certains de ces produits dans leur alimentation, au prix de multiples efforts et exercices quotidiens, consistant par exemple à goûter des petites quantités des nouveaux aliments à chaque repas. Certains parents ont également développé des stratégies afin d'amener leurs enfants à consommer ce type de produits en masquant leur saveur ou en modifiant leur aspect, en contournant ainsi le problème du goût de l'enfant.

> Père de R : *Ma femme, elle mélange déjà les légumes dans les plats qu'elle fait. Quand elle fait une Bolognaise pour les lasagnes, elle met beaucoup de légumes dedans, dans la sauce Bolognaise.*
>
> Mère de R : *Mais il faut râper. Parce que si je ne râpe pas, il les trie.*
>
> Père de R : *Ah ouais, il faut faire tout fin.*
>
> Mère de R : *Sinon il va prendre son temps pour trier…*

Avant la prise en charge, l'alimentation de ces familles n'était pas nécessairement axée sur le modèle de l'alimentation saine et équilibrée, mais davantage sur les critères de plaisir, d'abondance des aliments et sur la possibilité de satisfaire les besoins de l'ensemble des membres de la famille. Lorsqu'il s'agissait d'indiquer leur repas préféré, les enfants de ces groupes sociaux ont plus souvent mentionné des produits tels que pizzas, hamburgers, kebabs et tacos, s'éloignant passablement de l'idéal de l'assiette équilibrée. Les aliments issus de la production industrielle et des *fast foods* sont plus tolérés dans ces familles, voire même valorisés, notamment pendant les jours de vacances et lors d'événements festifs. Ils occupent une place importante dans leurs habitudes de consommation et de loisirs. Au cours de la thérapie, les enfants et les parents vivent de ce fait une tension, dans la mesure où leurs pratiques alimentaires rentrent en conflit avec les prescriptions diététiques véhiculées par les professionnels. De ce fait, ils ou elles sont amenés à trouver des compromis et des stratégies afin de concilier plaisirs et contraintes alimentaires.

> *Une fois par weekend, on se fait plaisir. On va, soit au cinéma, comme ça ils peuvent avoir des popcorns, ou un McDo, que j'essaie de faire une fois par mois, ou tous les deux mois maintenant. Avant on pouvait aller plus facilement. Et puis, sinon on va genre au Buffalo ou… Puis après au Buffalo on essaie de négocier. (…) D, elle aimait bien avant le Rusti, la viande du Rusti, mais elle est très grasse. Alors du coup, en fait à côté, c'est bien qu'elle prenne sinon l'assiette texane. On trouve l'accord là-dessus.* (Mère de D)

Sur le plan du sport et des activités de loisir en mouvement, nous avons également constaté des différentes importantes dans les goûts et les pratiques des enfants selon les milieux sociaux. Dans les familles plus aisées (groupes 3 et 4), la majorité des enfants pratiquait déjà du sport ou des activités en mouvement dans le cadre d'un club ou d'une association avant le début de la prise en charge. Ces expériences ont

participé à inscrire le sport et le mouvement dans leur habitus, en termes d'habilités, de techniques et de compétences motrices. La plupart des parents de ce milieu ont affirmé accorder une grande importance à l'éducation sportive, artistique et culturelle de leurs enfants dans leur temps libre. Le mouvement est surtout valorisé en tant que moyen pour maintenir un corps sain, mais aussi comme moyen de socialisation de l'enfant en parallèle à d'autres activités culturelles. Ces activités représentent en outre un moyen pour ces familles de reproduire et parfois élargir leur niveau de capital par le biais des enfants.

Dans les familles de milieu modeste (groupes 1 et 2), les enfants pratiquent surtout des activités sportives ou en mouvement non-institutionnalisées avec leurs pairs, notamment dans le cadre de leur quartier ou de leur village. Uniquement une partie d'entre eux est inscrite dans des clubs ou associations. Plusieurs enfants ont affirmé avoir pratiqué des activités institutionnalisées dans le passé, mais ont arrêté par la suite, en raison d'expériences de harcèlement par les pairs, d'accidents, ou d'une perte de motivation et de plaisir à pratiquer ces activités. Leurs parents ne les ont pas toujours encouragés à poursuivre ces activités ou à en entreprendre de nouvelles. En comparaison avec les parents de milieu aisé, ils semblent moins investir ce domaine d'activités, notamment parce que leurs moyens ne le permettent pas. Au cours de la prise en charge, les enfants de ces familles sont incités à pratiquer des activités en mouvement proposées par l'hôpital lui-même ou à s'insérer dans des clubs et des associations. En raison de leur manque d'expérience sportive et motrices, leur intégration dans ces nouvelles activités ne se fait pourtant pas si facilement, notamment chez les enfants plus âgés, où l'écart par rapport aux compétences des autres enfants est plus marqué. Ces compétences ne font en effet pas partie de leur habitus, puisqu'elles n'ont pas été cultivées depuis leur jeune âge.

Au-delà du contenu même des pratiques sociales des enfants en matière d'alimentation et de mouvement, l'influence de l'habitus se retrouve également dans les stratégies éducatives employées par les parents pour façonner le style de vie de leurs enfants. Dans les familles plus aisées (groupes 3 et 4), les parents tendent à valoriser davantage l'autonomie et la responsabilité. Il est pour eux question d'amener l'enfant à devenir conscient du rapport entre alimentation, mouvement et santé, et de développer un autocontrôle sur ses propres pratiques sociales. L'alimentation saine et le mouvement s'inscrivent dans un véritable projet pédagogique (Mathiot 2014).

> *Dans ma famille, on a chacun un jour où on doit faire à cuisiner. Par exemple, moi c'est le vendredi soir. Puis ben, je regarde s'il y a des restes, sinon je fais, je choisis. On a toujours, ben, on est obligés de prendre un légume. On sait qu'à chaque repas au moins on doit avoir un légume.* (Mère de W)

Dans les familles de milieu modeste (groupes 1 et 2), l'autonomie et la responsabilité de l'enfant en matière de style de vie occupent une place plus périphérique dans les stratégies éducatives des parents. Ces derniers tendent à valoriser davantage la

capacité de l'enfant à respecter les règles imposées par les parents, à être disciplinés et accommodants au quotidien. Dans d'autres cas, les parents mettent plus l'accent sur la nécessité de satisfaire les besoins de leurs enfants et d'éviter les disputes, en faisant parfois des concessions et des exceptions à la règle. En raison des fortes contraintes qu'ils vivent en lien avec leur travail, les parents ne disposent pas toujours du temps nécessaire pour mettre en pratique une éducation basée sur l'autonomie et la responsabilité de l'enfant. Au cours de la prise en charge, ils sont soumis à l'exigence de modifier leurs pratiques éducatives, sans pour autant disposer des conditions idéales pour la mettre en pratique. Les conseils éducatifs adressés par les professionnels sont parfois perçus comme peu adaptés à leur situation.

7   Conclusion

Les résultats de notre recherche nous ont permis de constater que les trajectoires de santé des enfants suivant une prise en charge pour le surpoids et l'obésité varient en fonction de leur position sociale. Nous avons observé que les pratiques déclarées des enfants de milieu aisé sont plus conformes aux normes sanitaires transmises par les professionnels de santé que celles des enfants de milieu modeste, aussi bien avant que pendant la thérapie. Bien que la situation de l'ensemble des enfants connaisse des transformations au cours du processus thérapeutique, les écarts qui séparent les styles de vie des différents groupes sociaux demeurent bien visibles.

Le recours à la typologie des capitaux et à la théorie de l'habitus de Bourdieu (1979 ; 1994), nous a permis d'interpréter ces résultats comme étant l'effet du processus de reproduction sociale des styles de vie qui a lieu au sein des différents groupes sociaux. Avant la prise en charge, les pratiques des enfants en matière d'alimentation et mouvement sont en effet déjà structurées par les schèmes de comportement et d'appréciation qu'ils ont acquis au cours de leur socialisation, reflétant leur position sociale et leur dotation en capital. La thérapie ne vient pas radicalement modifier ces dispositions. Si dans les milieux aisés l'intériorisation des normes sanitaires se fait de manière relativement simple, en raison de la forte compatibilité entre ces normes et les dispositions déjà acquises par les enfants au sein de la famille ; dans les milieux modestes, ce travail se révèle plus difficile et complexe, puisqu'il remet en question – parfois de manière très profonde – le style de vie de l'enfant et de ses parents. Le manque de ressources constitue en outre un obstacle important au changement pour ces familles. Ces résultats tendent à confirmer ce qui a été observé par Régnier et Masullo (2009) et Mathiot (2014) au sein de la population générale. Pour les familles de notre étude, l'impossibilité d'incorporer les normes sanitaires donne cependant moins souvent lieu à des formes de réaction ou de résistance dans les milieux modestes. Cela peut s'expliquer par le fait que ces familles sont engagées

dans un processus thérapeutique, qui requiert une adhésion minimale à ces normes et rend plus difficile leur mise à distance.

Un certain nombre de limites peuvent être évoquées concernant notre étude. La première concerne l'effet de désirabilité sociale créé par la situation d'entretien, pouvant amener les familles à produire des discours plus conformes aux normes sanitaires qu'ils ne le soient vraiment. La deuxième concerne l'effet d'autres variables, telles que le temps passé dans la thérapie, l'âge et le genre de l'enfant sur la conformité aux normes sanitaires, que nous n'avons pas pu étudier dans le détail dans cet article. Nous estimons cependant que nos analyses demeurent valables y compris lorsqu'on tient compte de l'influence de ces autres variables, qui viennent moduler l'effet de la position sociale sur la conformité, plutôt que l'altérer véritablement.

L'hypothèse formulée au départ selon laquelle les enfants des milieux plus aisés ont plus de facilité à adapter leur style de vie aux normes sanitaires transmises dans le cadre de la prise en charge semble être confirmée. Il est cependant important de souligner que dans l'ensemble des groupes sociaux, le style de vie des enfants tend à se conformer aux normes sanitaires au cours de la prise en charge. Au cours du processus thérapeutique, il s'opère un double processus. D'une part, la thérapie contribue à reproduire les inégalités en termes de pratiques alimentaires et de style de vie entre les différents groupes sociaux. D'autre part, elle participe à conformer le style de vie de l'ensemble des enfants aux normes sanitaires prônées par les professionnels. L'imposition de ces normes aux enfants en excès de poids et à leurs familles se révèle cependant problématique lorsqu'on considère que le mode de vie d'une partie d'entre eux se voit être remis en question par ces normes. Les enfants de milieu modeste subissent de ce fait une violence symbolique et tendent à vivre des tensions plus importantes au cours du processus thérapeutique que les enfants de milieu aisé. La transformation du style de vie requiert en effet beaucoup d'efforts de la part de ces enfants et de leurs parents, en raison du fait qu'elle touche à un ensemble central de dispositions de leur habitus, qui nécessitent d'être modifiées, voire remplacées. La prise en charge exige en outre une adaptation de l'ensemble du contexte social de l'enfant, qui n'est pas toujours envisageable pour ces familles.

Ces résultats nous amènent à questionner la pertinence des thérapies du surpoids et de l'obésité fondées sur la transmission de normes sanitaires jugées universelles, qui ne tiennent pas compte de la diversité des styles de vie des différents groupes sociaux. En avançant l'idée que chaque enfant peut parvenir à adhérer au style de vie prôné dans le cadre de la thérapie, lui-même fondé sur des normes et des valeurs propres aux classes moyenne et aisée, ces approches tendent à faire abstraction des conditions sociales dans lesquelles vivent les enfants. Elles tendent de ce fait à reproduire une conception individualiste de l'obésité, projetant avant tout la responsabilité sur l'enfant et ses parents. Ces derniers sont ainsi chargés de modifier leur propre style de vie, afin d'atteindre une corpulence conformes normes médicales et sociales en vigueur.

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Véronique Jaquier, Joëlle Vuille
Les femmes et la question criminelle
Délits commis, expériences de victimisation et professions judiciaire

Délinquantes, victimes et professionnelles de la justice : cet ouvrage examine ce qui réunit et distingue les expériences des femmes face à la criminalité, et ce qui les différencie de celles des hommes. Il retrace d'abord l'apparition des perspectives féministes en criminologie, sous l'angle des rapports entre sexe, genre et science. Déconstruisant les stéréotypes de la délinquance féminine, il en décrit les diverses formes, des plus communes (vol, délinquance routière) aux plus « extraordinaires » (homicide, crime organisé). Sont ensuite discutées les violences conjugales et sexuelles envers les femmes, leurs impacts sur la santé et les politiques publiques qui s'y rapportent. L'ouvrage examine enfin le rôle que jouent les femmes dans le contrôle social de la délinquance. Premier ouvrage en français à proposer un tel panorama, il décrit les multiples façons d'intégrer une perspective de genre à la recherche et à la pratique criminologiques.

Questions de genre

Véronique Jaquier
Joëlle Vuille

**Les femmes et
la question criminelle**
Délits commis,
expériences de victimisation et professions
judiciaires

Véronique Jaquier, Ph.D., est psychologue et docteure en criminologie. Ses activités de recherche et d'enseignement portent sur les violences subies et agies par les femmes, les politiques pénales et publiques délimitant leur prise en charge, et leurs impacts sur la santé mentale. Après des recherches en Suisse (Université de Lausanne) et aux États-Unis (Yale University), elle poursuit aujourd'hui ses activités au Centre romand de recherche en criminologie de l'Université de Neuchâtel.

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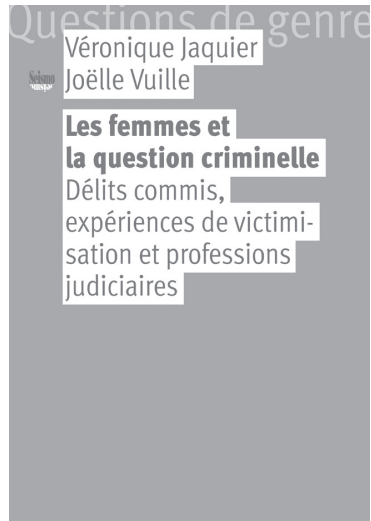
Development of Somatic Complaints Among Adolescents and Young Adults in Switzerland

André Berchtold*, Joan-Carles Surís**, Thomas Meyer***, and Zhivko Taushanov*

Abstract: In this study we explored the development of somatic complaints among adolescents and young adults aged 16 to 30 years in Switzerland. Using data from the Transitions from Education to Employment (TREE) study, we applied a hidden Markovian model with covariates to cluster trajectories representing the sum of eight somatic complaints. The resulting groups differed mainly in terms of gender, reading literacy, and substance use. The trajectories of somatic complaints were also related to the number of critical events experienced by the respondents.

Keywords: trajectories, somatic complaints, critical life events, clustering, adolescence

Entwicklung von somatischen Beschwerden bei Jugendlichen und jungen Erwachsenen in der Schweiz

Zusammenfassung: Der Beitrag untersucht, wie sich in der Schweiz somatische Beschwerden bei Jugendlichen bzw. jungen Erwachsenen im Alter zwischen 16 und 30 Jahren entwickeln. Mit den Daten der TREE-Studie wurde ein verstecktes Markov-Modell mit Kovariaten gerechnet, um Verläufe von acht somatischen Beschwerden zu clustern. Die so gebildeten Gruppen unterscheiden sich signifikant bezüglich Geschlecht, kognitiven Fertigkeiten und Substanzkonsum. In den untersuchten Verläufen zeigen sich auch Zusammenhänge mit kritischen Lebensereignissen der Befragten.

Schlüsselwörter: Verläufe, somatische Beschwerden, kritische Lebensereignisse, Clustering, Jugend

Développement de plaintes somatiques chez les adolescents et jeunes adultes en Suisse

Résumé: Nous avons exploré le développement de plaintes somatiques chez les adolescents et jeunes adultes âgés de 16 à 30 ans vivant en Suisse. Sur la base de données de l'enquête TREE (Transitions from Education to Employment), nous avons appliqué un modèle markovien caché avec covariables afin de classifier des trajectoires représentant la somme de huit plaintes somatiques. Les groupes obtenus diffèrent en termes de genre, de niveau de lecture et de consommation de substances. Les trajectoires de plaintes somatiques sont aussi liées au nombre d'événements de vie critiques dont les personnes interrogées ont fait l'expérience.

Mots-clés: trajectoires, plaintes somatiques, événements de vie critiques, classification, adolescence

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1   Introduction[1]

Somatic complaints such as headaches, stomach aches or sleep disturbances are very common at all ages. They are a leading reason for seeking medical care, accounting for up to 50% of new medical outpatient visits (Mohapatra et al. 2014). These symptoms often appear during childhood and then increase through adolescence and adulthood. In Switzerland, a study showed an increase in the number and importance of these symptoms among 11–15 year olds between 1996 and 2004 (Dey et al. 2015). In addition to lowering the quality of everyday life, the presence of somatic complaints is often a clue for more serious problems, either already present or likely to grow rapidly. Understanding the causes of somatic complaints is therefore crucial to prevent and/or identify and treat more important health problems. Accordingly, a Dutch study showed that young adults with severe somatic disabilities since childhood achieved less life milestones than their healthy peers, or achieved them with delay, implying a lower probability of full social and professional integration (Verhoof et al. 2012). A higher level of somatic issues at mid-age has also been associated with reduced accumulation of social capital from adolescence throughout the life course (Jonsson et al. 2014).

Several studies have established a relationship during adolescence between somatic complaints and negative affectivity (Vassend 1989), depression or other mental illnesses (Härmä et al. 2002; Kapfhammer 2006). Even though somatic symptoms are known to often predict mental problems or diseases during the life course (Nakao and Yano 2006; Bekhuis et al. 2016), there is no robust evidence to date as to whether depression is a cause or a consequence of somatic complaints, or if the two phenomena appear coincidentally (Goodwin 2006).

While specific causes can sometimes be found, in many situations the presence of somatic complaints remains unexplained, and their appearance and disappearance cannot be related to clear medical causes. Exogenous and environmental causes therefore need to be explored. In their review paper, Barsky et al. (2001) showed that, already during adolescence, women tend to report a larger number of somatic symptoms than men, both in medical and general populations; this difference being likely to be already present during childhood. However, similar to what is observed for depression (Sigmon et al. 2005), this difference could also be explained by a gender-related reporting bias, with women having a lower reporting threshold than men. Children having to cope with social and family difficulties (e. g. parental substance abuse) also reported more somatic complaints (Radke-Yarrow and Brown 1993), as well as children living in a generally less than average socio-

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economic environment, the impact of the latter being recognized well beyond the medical literature (Choi 2009).

Critical life events such as the death of a parent, the birth of a child or an accident are also likely to have an impact on somatic health. In a study among Finnish high school students, somatic symptoms were positively correlated with critical life events (Poikolainen et al. 1995). Similarly, school or work difficulties and stress are considered as possible explanations for the early development of somatic complaints (Sek-yum et al. 1992; Hart et al. 2013). When life transitions or critical events occur, more support is required, because these periods can be phases of increased vulnerability. This process was put into evidence by Compas et al. (1986) in their longitudinal study among high school and college students. These findings are linked to the concept of vulnerability that, following the work of Spini et al. (2017), can be defined as a weakening process coupled with a lack of resources in one or several life domains, such as education, family support or wealth. Somatic complaints could then be considered as an additional warning message mediating the relationship between critical life events and vulnerability.

In addition to life events over which we have little control (death of a relative, accident, etc.), risk taking behaviour such as substance abuse or internet overuse also need to be considered (Surís et al. 2014). Alcohol and illegal drug use have been associated with somatic complaints for both genders, while smoking has been associated with somatic complaints for males only (Poikolainen et al. 1995). The relationship between substance use disorders and somatic complaints is complex and may differ depending on the social or cultural background of the population under study (Yoshimasu 2012).

Even though a large body of literature has already investigated somatic complaints, most of these publications are based on cross-sectional data taken for instance from HBSC[2] or ESPAD[3] databases. Moreover, a substantive amount of past studies considered specific populations, mainly those mentally ill or susceptible to developing some kind of mental illness. However, somatic complaints concern the whole population. For instance, in a recent Danish study covering the general adult population, it was found that 94.9% of the respondents presented at least one somatic symptom (Eliasen et al. 2016). In a Swiss study among 8th graders, 14.2% of respondents reported back problems and 16.7% reported headaches (Surís et al. 2014). A few longitudinal studies can still be cited: Wright and Wright (1981) studied the frequency of somatic complaints among 90 adolescents observed four times between 11 and 18 years. Barkmann et al. (2015) used a much larger sample of 2857 children and adolescents aged between 7 and 17 at baseline, but they followed them for only three years. Thus, there is still a lack of longitudinal studies using a large sample of the general population of adolescents and following them

2   Health Behaviour in School-Aged Children. Website: www.hbsc.org.
3   The European School Survey Project on Alcohol and Other Drugs. Website: www.espad.org.

individually for a long time. Our study then contributes to broadening the field of research concerning the development of somatic complaints, thereby filling a substantial gap in the literature.

The main purpose of this study was to assess the presence and development of somatic complaints among adolescents and young adults living in Switzerland during a life period during which crucial transitions occur, such as entry on the labour market and the foundation of a family. With regard to the development of individuals from mid-adolescence to young adulthood, we searched to identify specific subgroup trajectories of somatic complaint development and link these trajectories both to personal and socio-economic factors prone to shape the overall trajectory, as well as to critical life events. Given the scarcity of previous longitudinal studies analysing somatic complaints among adolescents and young adults, it was difficult to predict which would be the most likely shapes of these trajectories, except maybe, following Barkmann et al. (2015), a slight trend to an increase of the number of complaints during early adolescence associated with a high variability between individuals. Moreover, it was reasonable to postulate than some adolescents experience only a very small number of complaints, which corresponds to a quite flat trajectory with a low average value. We postulated then that not everybody is equal regarding the overall level of somatic complaints and their development over time. More specifically, we hypothesized that 1) females, 2) living in a low SES context, and 3) lower academic achievement were all associated with an increased prevalence of somatic symptoms; and that 4) critical life events were related to sudden changes in the level of reported somatic symptoms. We further hypothesized that 5) risky behaviours such as substance use were also associated with specific trajectories of somatic complaint development, but without being a trigger for the onset or change of these symptoms.

2   Methods

We describe in this section the dataset used in our study and the different statistical analyses performed first to classify the trajectories of somatic complaints, and then to interpret the results.

2.1   Data

We used data from the Transitions from Education to Employment (TREE) study (TREE 2016)[4]. TREE is a follow-up survey of the Swiss sample tested by the Programme for International Student Assessment (PISA) survey in 2000, collecting longitudinal data among more than 6000 school leavers from 2001 (mean

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4   The Swiss panel study TREE is a social science data infrastructure mainly funded by the Swiss National Science Foundation (SNF) and located at the University of Bern.

age 16 years) to 2014. Data available to date include PISA 2000 (baseline survey) and nine follow-up panel waves carried out between 2001 and 2014 (at annual intervals between 2001 and 2007, then in 2010 and 2014), but the study is still ongoing and a further wave is planned for 2019. The TREE study was not submitted to an ethics committee, since it was not required by the Swiss law on human research. However, all participants were required to give their express consent. The presence of eight somatic complaints (stomach ache, lack of appetite, lack of concentration, vertigo, sleeping disorder, nervousness, fatigue, headaches) was regularly surveyed at each TREE panel wave, drawing on the *Berner Fragebogen zum Wohlbefinden Jugendlicher* (Grob et al. 1991). There were five possible answers for each somatic complaint ranging from never to every day. These answers were recoded from 0 to 4 and then summed in order to obtain an overall somatic complaint score ranging from 0 to 32. This sum score was then used as the dependent variable in our analyses. Higher scores can indicate either a larger number of reported complaints or a higher intensity of some complaints, but most scores above 10 indicate that at least one complaint is at an important level.

Several covariates, operationalizing the key determinants for somatic complaints identified in the literature, were included in our model, either fixed or time-varying. The fixed covariates were gender (female/male), country of birth (Switzerland/other), academic track attended at mandatory school (high/extended/basic), residence (rural area/urban area), PISA reading literacy (6 levels from 0 = very low to 5 = very high; treated as a numerical scale hereafter), highest parental socio-economic status and family wealth. Residence was included based on the hypothesis that living in an urban area can be more stressful than living in a rural one, which could in turn favour the development of somatic complaints. Literacy can be considered as an indicator of the psychological state of an individual, and it can also be related to the socio-economic status. To take into account the possible influence of a low socio-economic environment, we considered two different ways of measuring the standard of living: socio-economic status and family wealth. Socio-economic status was operationalized using the highest parental International Socio-Economic Index (ISEI) introduced by Ganzeboom et al. (1992), a scale ranging from 10 to 90, higher values indicating higher socio-economic status. Family wealth was measured through a scale representing the possessions of the family such as cars and TV sets. The scale was normalized with the zero value indicating an average wealth. All these variables were measured in 2000 as part of the PISA survey. In contrast, critical life events were measured at each subsequent wave of the TREE survey. The number of surveyed critical life events varied between 12 and 16 across panel waves, including an open text option from the second wave onward. Reported events comprised relocation of parental family; moving out of the parental home; parental and own separation or divorce; death, serious accident/illness or unemployment of relevant others; trouble with the police; unhappy relationship; serious conflicts in the family, at school or

at work; pregnancy and parenthood. Two time-varying covariates were computed from these life events. The first one was the number of critical life events reported each year. The second one was a dichotomous factor indicating whether at least one critical event was reported or not. Following the existing literature, we postulated that each covariate could have a direct impact on somatic complaints. However, we performed a distinction between covariates observed only once, in 2000, and covariates observed continuously from 2001 to 2014. The latter ones were introduced in the statistical model to directly influence the average level of somatic complaints of an individual, but the previous ones were used at the latent level, giving them a more persistent effect throughout the period of observation. Finally, the consumption level of four types of substances (alcohol, tobacco, cannabis, tranquilizers/sleeping pills) was assessed at each TREE wave with five possible answers ranging from "never" to "every day," but as explained in the next Section, these variables were not used directly into the statistical model.

2.2   Statistical analysis

For the statistical analysis, we relied on the Hidden Mixture Transition Distribution Model (HMTD), a complete Markovian framework for the clustering, modelling and analysis of sequences of continuous data. This two-level model builds on the Double Chain Markov Model, another Markovian model previously developed for categorical variables (Berchtold 2002). The HMTD model combines a hidden and an observed level. At the hidden level, a latent variable X taking values in a finite set (1, … , k) was used to represent different possible kinds of evolution of somatic complaints (or states in the HMTD terminology). To the best of our knowledge, the only competitor to the HMTD model given the requirements of our study was the Growth Mixture Model (GMM), but we preferred to rely on HMTD because of its flexibility. In the standard HMTD model, similar to a hidden Markov model, a finite transition matrix was used to represent all possible transitions between the k states. However, since we used the model as a clustering tool, the transition matrix was restricted to the identity one, implying that each sequence belonged to the same state from the beginning to the end. The model then produced a clustering of the data sequences into k mutually exclusive groups. Moreover, the model allowed for a set of time-invariant covariates to influence the probability of any sequence to be assigned to a specific group. In practice, a multinomial regression using the covariates as explanatory variables, and the current clustering of the observed sequences as the dependent variable, was computed during each reestimation of the model parameters, and the resulting probabilities were then used as initial probabilities of belonging to each group. In function of the combination of covariates, each observed sequence of somatic complaints could have a different set of initial probabilities.

At the visible level, a Gaussian distribution was assigned to each hidden state of the model. The mean and the variance of each distribution were modelled through

an autoregressive model, with the possible inclusion of covariates. We chose to model only the mean of each distribution, the variance being constant. Moreover, we added a time-varying covariate representing the occurrence of critical life events. For instance, the following equation represented the modelling of the mean level of somatic complaints at time *t,* using two lags of the somatic complaints dependent variable *y* and a covariate *c:*

$$\mu_t = \beta_0 + \beta_1 y_{t-1} + \beta_2 y_{t-2} + \beta_3 c_t$$

To summarize, at the visible level the model predicts the current level of somatic complaints in function of the last two observations of this same variable, and of the number of critical life events experienced during the same period. The hidden model is used to assign each respondent to one specific group in function of a set of fixed covariates. For more details, the HMTD was completely described in Bolano and Berchtold (2016), and its estimation was discussed in Taushanov and Berchtold (2017). At the visible level, confidence intervals are obtained using a bootstrap procedure.

In the first step, the HMTD model was used to identify the required number of groups for classifying the data sequences, and the order of dependence for the autoregressive modelling of the mean value of the somatic complaints scale. No covariates were used at this point. Models were compared on the basis of their log-likelihood, their Bayesian Information Criterion (BIC) values (Raftery 1995), and the number of sequences assigned to each group, thereby discarding solutions with very few sequences in some groups. Then, time-invariant covariates were introduced one by one at the hidden level. All significant covariates were then introduced simultaneously in the model to improve the clustering. Finally, the time-varying covariate representing the occurrence of critical life events was added at the visible level to improve the modelling of the mean of the somatic complaint sum score. No averaging was performed across periods for the life event variables, so an individual could have a different value on each observation occasion.

Critical life events were mainly shocks occurring at a precise time, but whose effects could be felt for a long period. Specific examples were the death of a family member, an unhappy love or a sudden hospitalization. Their impact on the sum of somatic complaints could therefore be easily conceptualized. On the other hand, substance use was mostly a continuous behaviour that was difficult to break into specific events. Even the beginning of consumption of a specific substance was difficult to assess, because 1) someone could begin (and cease) to use a substance several times, and 2) our dataset could not be used to determine whether a specific substance was used before the first wave. Moreover, a sudden change in the level of consumption could not always be clearly identified in our data, because questions about substance use only referred to the month preceding the survey panel. Therefore, we chose to integrate critical life events and substance use in two different ways

in our analyses. Critical events were used as a time-varying covariate influencing the average level of somatic complaints into each group of the clustering, when the association between substance use and trajectories was established a posteriori on the final clustering using a chi-square test.

Continuous covariates were standardized in order to ease the convergence of the optimization algorithm. The Type I error was fixed to 5%. All computations were performed using the R open source statistical software, especially the ad hoc estimation algorithm described in Taushanov and Berchtold (2017).

3   Results

Data from N = 1 161 respondents continuously observed from 2001 to 2014 were included in all analyses. These individuals represent only 18% of the total TREE sample, but as it will be discussed later on, we preferred not to impute missing data, and this choice had only little influence on our results. Table 1 summarizes the main information about the sum score for somatic complaints. This scale showed good psychometric properties with a Cronbach's alpha value ranging from 0.78 (T1) to 0.82 (T6). Whatever the wave, the score was highly variable from one respondent to another, but the central tendency measured by the mean and the median did not vary much. Most scores were below 20, but each year a small number of larger values were observed.

Table 1   Main characteristics of the somatic complaint score

Coefficients	Year								
	2001	2002	2003	2004	2005	2006	2007	2010	2014
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	32.00	29.00	28.00	28.00	31.00	32.00	27.00	25.00	28.00
Median	6.00	6.00	6.00	6.00	5.00	6.00	6.00	6.00	5.00
Mean	7.14	6.91	7.07	6.75	6.27	7.14	6.85	6.26	6.05
Standard deviation	4.83	4.81	4.79	4.76	4.58	4.76	4.59	4.31	4.24
Cronbach's alpha	0.78	0.80	0.80	0.80	0.80	0.82	0.80	0.79	0.79

Table 2 and Table 3 describe the covariates considered in this study. When comparing our data with the full TREE sample, females and students in the pre-gymnasial school track were over-represented, while German speaking youths were slightly under-represented. This will be discussed later, but it did not affect our results. The number of critical life events increased year to year, which is to be expected

given the probability of experiencing some of the events surveyed, such as getting married or becoming a parent, increases with age. Moreover, the variability between respondents also increased with age, even though few individuals reported many events in a given survey wave.

Table 2   Main characteristics of the time invariant covariates measured in year 2000

Variable	Categories	Distribution
Gender	Female	749 (64.51%)
	Male	412 (35.49%)
Country of birth	Switzerland	1097 (94.49%)
	Other	64 (5.51%)
Academic track attended at lower secondary education level	High	574 (49.44%)
	Extended	432 (37.21%)
	Basic	155 (13.35%)
Residence	Rural area	433 (37.30%)
	Urban area	728 (62.70%)
(PISA) Reading literacy	Min.: 0, Max.: 5	3.50 (1.00)
Highest parental ISEI	Min.: 16, Max.: 90	53.18 (15.45)
Family wealth	Min.: −2.93, Max.: −3.38	0.05 (0.76)

Note: We provide the prevalence of each category and the corresponding percentage for categorical variables, and the mean and standard deviation for numerical variables.

Table 3   Main characteristics of the critical life events score

Coefficients	Year								
	2001	2002	2003	2004	2005	2006	2007	2010	2014
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Maximum	6.00	5.00	7.00	12.00	6.00	8.00	8.00	14.00	9.00
Median	0.00	0.00	0.00	0.00	1.00	1.00	1.00	2.00	2.00
Mean	0.69	0.69	0.70	0.74	0.91	1.09	1.09	2.26	2.57
Standard deviation	0.97	0.93	0.94	1.06	1.11	1.26	1.23	1.50	1.50
Number of respondents reporting > 0 events	518	526	536	547	605	664	680	1 041	1 085

As a first step, we considered HMTD models with 2 to 8 hidden groups and a first- or second-order dependence for the mean of the somatic complaint score. Based on the BIC, the preferred model was the second-order model with 6 groups. Using the previous two observations of the dependent variable to explain the current observations yielded better results than using only the immediately preceding observation. We subsequently added the fixed covariates one by one at the hidden

level. Five covariates contributed to improve the fit of the model: gender, residence, reading literacy, socio-economic status and family wealth. These covariates were then introduced together at the hidden level, and we added the time-varying critical life events covariate at the visible level, either in its continuous or dichotomous form. Both versions of this latter covariate proved useful in improving the clustering of the somatic complaint score trajectories, but the best results were obtained with the continuous covariate. Finally, since two of the six groups were very close in terms of trajectories and parameters, we computed the same model with only five groups. This model was chosen as the final solution.

Table 4 displays the parameters of the final HMTD model, and Figure 1 shows the clustering of the somatic complaint trajectories into the five groups identified by the model. Trajectories must be analysed in terms of average value and of vari-

Table 4 Parameters of the final HMTD clustering model

Hidden level: Clustering of somatic complaints trajectories into 5 groups

Groups	Residence (urban area)	Gender (male)	Reading literacy	Hisei	Family wealth
1	0.42 [−0.08; 0.93]	**−1.00** [−1.59; −0.41]	−0.13 [−0.39; 0.12]	0.06 [−0.18; 0.31]	0.16 [−0.16; 0.47]
2	0.43 [−0.25; 1.12]	**−2.10** [−3.29; −0.91]	**−0.47** [−0.81; −0.12]	−0.03 [−0.36; 0.30]	0.13 [−0.29; 0.56]
3	0.02 [−0.32; 0.35]	−0.30 [−0.65; 0.05]	−0.14 [−0.32; 0.04]	0.03 [−0.14; 0.21]	0.04 [−0.19; 0.26]
4	0.03 [−0.26; 0.31]	**0.44** [0.15; 0.72]	−0.02 [−0.17; 0.13]	0.03 [−0.12; 0.18]	0.18 [−0.01; 0.37]
5	Ref.	Ref.	Ref.	Ref.	Ref.

Visible level: Observed levels of somatic complaints

		Factors explaining the mean level of somatic complaints			
Groups	Variance	Constant	Lag 1	Lag 2	Critical life events
1 (n = 46)	**26.99** [21.31; 32.56]	**11.68** [10.15; 13.62]	**0.20** [0.09; 0.33]	−0.09 [−0.22; 0.01]	−0.08 [−0.47; 0.39]
2 (n = 30)	**20.55** [15.48; 25.34]	**9.55** [7.90; 11.99]	**0.16** [0.04; 0.26]	**0.29** [0.15; 0.41]	0.17 [−0.39; 0.68]
3 (n = 204)	**18.01** [16.92; 19.06]	**6.29** [5.79; 6.92]	**0.28** [0.24; 0.33]	0.01 [−0.05; 0.06]	0.14 [−0.10; 0.36]
4 (n = 353)	**3.39** [3.18; 3.57]	**2.25** [2.06; 2.45]	**0.23** [0.20; 0.27]	**0.11** [0.08; 0.15]	**0.14** [0.04; 0.23]
5 (n = 528)	**7.21** [6.80; 7.62]	**1.71** [1.48; 1.96]	**0.42** [0.38; 0.46]	**0.31** [0.27; 0.34]	0.05 [−0.05; 0.16]

Note: At the hidden level, the last group served as reference for the computation of the multinomial regression used to add the fixed covariates to the model. We provide for each parameter the point estimation and the 95% confidence interval. Parameters significant at the 95% level are printed in bold.

Figure 1   Somatic complaint trajectories of the final five groups identified by the model
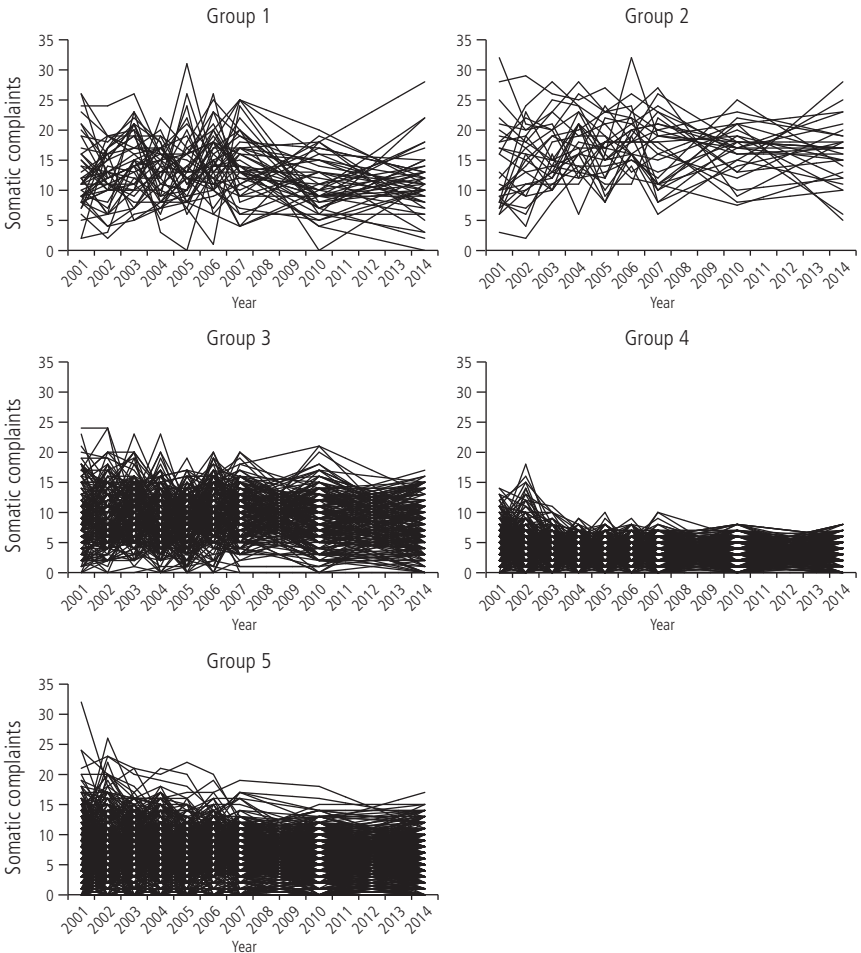
ability, both during a particular sequence or between sequences. Accordingly, the figure and the model parameters indicated that 1) the groups differed both in terms of average level of somatic complaints and variability; 2) inter-subject variability remained high, even within the same cluster, indicating that almost all individuals followed their own trajectory; and 3) intra-subject variability (that is across time for a specific individual) was high for the trajectories classified in groups 1 to 3, and much lower for trajectories classified in groups 4 and 5. Group 5, which comprises

about half the sample (n = 528), was used as the reference group for the analysis. Regarding the covariates used at the hidden level, gender was the most important one for distinguishing between the groups, with more males in group 4 and fewer in groups 1 to 3 as compared to group 5 (see Table 5). The proportion of females classified in each of the five groups were 80%, 90%, 76%, 49%, and 68% respectively. The only other significant covariate was reading literacy, which was lower in group 2. When considering other groups as the reference (data not shown), it appeared that groups 1, 2 and 4 significantly differed in terms of gender, while groups 4 and 5 differed from group 2 regarding the reading literacy level, with a significantly lower reading literacy level in group 2. On the other hand, the residence, socio-economic and family wealth covariates were never significant, even though some coefficients were very close to significance, especially the coefficient of the critical life events covariate in the case of group 5.

Group 4 comprised the respondents with lower overall somatic complaint scores and with relatively low changes between periods, that is the individuals with the overall lowest level of somatic complaints. Both lags of the dependent variable and the critical life events covariate were significant at the visible level. Compared to group 4, group 5 comprised respondents with a slightly higher variability of scores over time, while average scores varied more and were significantly higher in a number of cases. On the other hand, groups 1 to 3 comprised respondents with substantially more complex trajectories of somatic complaints: both their variability and their overall level was higher, especially in group 1, and no influence of the

Table 5 Main characteristics of the respondents classified in the five groups of the final model

Variables	Categories	Groups				
		1	2	3	4	5
Gender	Female	80.4%	90.0%	75.5%	49.0%	67.8%
	Male	19.6%	10.0%	24.5%	51.0%	37.2%
Country of birth	Switzerland	87.0%	86.7%	92.6%	95.2%	95.8%
	Other	13.0%	13.3%	7.4%	4.8%	4.2%
Academic track attended at lower secondary education level	High	58.7%	40.0%	52.5%	45.6%	50.6%
	Extended	26.1%	30.0%	28.9%	36.0%	31.1%
	Basic	15.2%	30.0%	18.7%	18.4%	18.4%
Residence	Rural area	17.4%	33.3%	38.7%	38.0%	38.3%
	Urban area	82.6%	66.7%	61.3%	62.0%	61.7%
(PISA) Reading literacy	Min.: 0	3.35	3.10	3.46	3.53	3.53
	Max.: 5	(0.92)	(1.09)	(0.96)	(0.98)	(1.02)
Highest parental ISEI	Min.: 16	54.70	48.90	52.84	54.15	52.78
	Max.: 90	(15.71)	(16.67)	(15.53)	(15.70)	(15.15)
Family wealth	Min.: −2.93	0.20	−0.03	−0.01	0.14	0.00
	Max.: −3.38	(0.74)	(0.82)	(0.75)	(0.73)	(0.77)

Note: We display, separately for each group, the percentage of each category for categorical variables, and the mean and standard deviation for numerical variables.

critical life events covariate was observed. Moreover, the individuals classified into these three groups had generally one or several periods with a high level of somatic complaints. Both lags of the dependent variable were significant in group 2, while only the first lag was significant in groups 1 and 3, indicating that in these two latter groups, the past levels of somatic complaints had less effect on the current level.

Lastly, we compared the final clustering with the variables measuring the level of substance consumption (Table 6). Overall, the level of association was not very strong, but it was nevertheless highly significant in many cases. The association with alcohol consumption tended to change rapidly from one period to the next, but with no discernible trend. Similar findings were observed for cannabis consumption, where significant and non-significant associations alternated. The pattern of tobacco use was more distinct: the association with the five groups of the clustering was always significant except for 2004 and 2010. Compared to groups 4 and 5, daily smokers were represented at a substantially higher proportion in group 1, and to a lesser extent in groups 2 and 3 (data not shown). Finally, the association between the five groups and the use of tranquilizers and sleeping pills was highly significant for each period. Even if the consumption level was rarely higher than 1–3 times per month in all groups, and if most respondents did not consume at all, the average consumption level was significantly higher among respondents clustered into group 2 (data not shown).

Table 6   Relationships between the five groups of the final model and substance use

Substances		2001	2002	2003	2004	2005	2006	2007	2010	2014
Alcohol	V	0.050	0.060	0.080	0.050	0.080	0.070	0.070	0.080	0.090
	p	0.706	0.441	0.018	0.758	0.011	0.057	0.200	0.035	0.002
Tobacco	V	0.090	0.080	0.090	0.070	0.080	0.090	0.090	0.070	0.080
	p	0.001	0.039	0.002	0.107	0.016	0.001	0.004	0.194	0.010
Cannabis	V	0.060	0.080	0.080	0.080	0.070	0.060	0.090	0.060	0.080
	p	0.466	0.045	0.035	0.018	0.121	0.483	0.001	0.447	0.007
Tranquilizers and sleeping pills	V	0.130	0.100	0.160	0.100	0.130	0.100	0.160	0.130	0.090
	p	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001

Note: For each wave of the study, we provide the Cramer's V measure giving the level of association between groups and substance use, and the corresponding p-value.

4   Discussion

The main finding of this study was the identification of several distinct groups of somatic complaints trajectories based on a scale representing the sum of eight different complaints. These trajectories remained distinct throughout the entire observation

period covered by the TREE data, which is from age 16 to age 30. As these trajectories already differed at age 16, we can hypothesize that factors already present during childhood, and thus beyond the control of youths themselves, may be the cause of such a differentiation. Since it is known that a higher level of somatic complaints is associated with subsequent health issues, we can conclude that 1) some groups of adolescents in Switzerland were experiencing a situation of vulnerability beginning before adolescence, and that 2) this condition is likely to persist even beyond the period covered by our study. A second conclusion is that if critical life events are related to somatic complaints, this relationship was visible only among individuals with low levels of somatic complaints. For their counterparts with high levels of somatic complaints, the impact of critical life events could have been masked by the inherent variability observed in somatic complaint scores. This brings us back to the fact that even if critical life events experienced during the transition period of adolescence and young adulthood can have an impact on somatic complaints, this impact remains limited, and the most important causes of a high level of somatic complaints are to be found elsewhere. This also leads us to the assumption that if somatic complaints are triggered by the occurrence of critical life events, the influence of such events is mainly of short duration, as the somatic complaint score often decreased one period later. Thirdly, the consumption of tobacco and tranquilizers and sleeping pills was significantly associated with the typology of somatic complaint trajectories: higher substance consumption was associated with the groups reporting the highest overall somatic scores. As most substance use began during the period covered by this study rather than before, it should not be considered as a cause of somatic complaints but rather as a consequence, especially in the case of tranquilizers and sleeping pills, which can be used to relieve some of these complaints.

Returning to the five hypotheses of the Introduction section, we can conclude that the four hypotheses regarding the role of gender, less than average academic achievement, critical life events, and substance use were at least partially confirmed, while hypothesis 2 related to the influence of a low SES context was not, at least at the multivariate level. This last result was not expected, but it may be related to the specific Swiss context: socio-economic differences may be weaker than in other countries, a situation reinforced by an overall high-level education system offering opportunities to all adolescents. Therefore, the socio-economic background of an individual could lose part of its importance.

The typology of somatic complaint trajectories identified in this study illustrates both the importance and the long lasting aspects of somatic complaints: important differences were observed between respondents classified into each group, with clearly differentiated overall somatic complaint levels. Moreover, even though both inter- and intra-subject variability may be high, many respondents classified in the first three groups stayed at a high level of reported complaints during the entire period of observation, i. e. from 16 to 30 years. In terms of life course, that

means that the presence of somatic complaints early in life is susceptible to deploy effects during the whole adolescence and (at least) the beginning of adulthood. Since many important determinants for the entire life (such as entry on the labour market, and the beginning of a steady relationship) are also taking ground during the same period, somatic complaints could be a very important indicator for the success or not of the entire life of an individual.

Significant associations were found at three different levels. First, the level of somatic complaint measured in a given year was always related to the level observed in the previous years. This is a clear indication that somatic complaints persist over time. Second, the introduction of fixed covariates representing the prevailing situation at the beginning of the observed period improved the clustering process. The level and development of somatic complaints over time were influenced not only by gender, but also by academic achievement operationalized here through the reading literacy level achieved at the end of mandatory school. While gender is a factor exogenous to the youths themselves, both exogenous and endogenous factors are at work in the case of reading literacy, as a large and solid body of research suggests that social origin substantially influences the academic achievement of children (Boudon 1973; Bourdieu 1977; Sacchi et al. 2011). It is also worth noting that even though females may tend to report a higher number of somatic complaints than males, our clustering shows that not only the average level, but also the variability from one period to the next was higher in the groups comprising more females. One could make the hypothesis that during the period of life covered by our data, there is more pressure on females than on males regarding the need to conciliate studies and work on one side, and family and children on the other. The level and variability of somatic complaints could then be a revealer of the difficulty of reconciling these two aspects of life.

Third, the covariate added at the visible level, i. e. the critical life events score, was also significant, at least for one of the five groups of the clustering. It may seem surprising to have found this association only in the group with the lowest variability and lowest average score (group 4). However, this finding can be interpreted in the light of the overall high variability of somatic complaint scores observed from one year to the next. Since the number of somatic complaints measured in this study was limited, youth reporting a high level of somatic complaints were not likely to increase this level further when a critical life event occurred. Putting it differently, the effect of a critical life event on somatic complaints, even if possible, is masked by the somatic complaints already present. On the other hand, when looking at young people who did not have many somatic complaints, the occurrence of a critical life event made a difference. This is corroborated by the fact that in addition to the significance of critical life events observed in group 4, this covariate was also very close to being significant for group 5, the second group with the lowest overall variability of somatic complaints.

Regarding the use of substances, tobacco and tranquilizers and sleeping pills were especially associated with the different trajectories of somatic complaints. Both kinds of substances were more prominently used in the first three groups of the clustering, those with the highest somatic complaint levels. It may seem plausible to observe a higher level of tranquilizer and sleeping pill consumption among groups presenting higher levels of somatic complaints. However, the relationship is more complex, given that tranquilizer and sleeping pill consumption was higher in group 2 than in groups 1 and 3. It can then be hypothesized that the exact nature of the somatic complaints experienced by the respondents in the different groups is the reason for the differentiated consumption of tranquilizers and sleeping pills.

Vulnerability is a dynamic multidimensional situation related to health, but also to other dimensions such as education, family, economic conditions and time (Spini et al. 2017). Exact causes of vulnerability are difficult to identify, as well as the precise moment, if any, of entry into a vulnerable situation. Nevertheless, it is well established that vulnerability is a long-lasting condition that can begin at any age. In this study, we explored the development of specific health issues, somatic complaints, which may be considered as conditions leading to or fostering the development of vulnerability. We were particularly interested in the fact that somatic complaints could appear very early in the life course, during childhood or adolescence. Therefore, they may affect individuals during their whole life, and influence the way an individual will succeed in terms of educational achievement, entering the labour market, founding a family, etc. Understanding the early development and trajectories of somatic complaints is therefore of great importance.

This analysis draws on longitudinal data covering a period of fifteen years, which allows us to analyse long term trajectories of somatic complaints. However, our analysis is subject to some limitations. A first limitation lies in the restriction to respondents with complete data sequences. Even though the resulting number of sequences (n = 1 161) was not a limitation for the statistical computations, there was an obvious selection bias, because individuals who had less linear trajectories, dropped out of school, had problems with legal authorities or belonged to a low socio-economic stratum were more likely to not respond to one or several survey waves of the TREE panel study, or to drop out of the study altogether. One solution to this problem would have been to impute at least part of missing data, as has been done in a similar analysis on cannabis and tobacco consumption trajectories (Berchtold and Surís 2017)but there is still much uncertainty about the best approach to adopt. Using data from a real survey, we compared different strategies combining multiple imputation and the chained equations method, the two main objectives being 1. However, when analysing individual trajectories, this approach is adequate only if trajectories are smooth, with little changes from one wave to another. This is not the case with somatic complaints. The use of multiple imputations could have reduced this issue, but at the cost of having to optimize several times a HMTD model with

the same structure on different datasets, an especially difficult task (Taushanov and Berchtold 2017). As our objective was not to establish the prevalence of somatic complaints and their different trajectories in the Swiss population, sample bias does not compromise our results. We can assume that in a non-biased sample more complex trajectories and higher levels of somatic complaints would be found. Another possible bias lies in the irregular intervals between survey waves (yearly intervals for the first seven waves, three to four year intervals for the subsequent waves). In our modelling, we did not take into account this data feature. However, previous HMTD modelling of data with similar characteristics proved that adjustment for unequally spaced data points did not really improve the results (Bolano 2015). Finally, we relied on a global indicator aggregating the number and importance of eight different somatic symptoms. However, previous research has shown that different subgroups of somatic complaints do exist, and that these subgroups can differ between men and women (Tsai 2010). Therefore, future studies should take into account the multidimensionality of somatic complaints in order to identify more specific trajectories. Moreover, the measurement tool used here to establish the level of somatic complaints may not be the most used, but many tools were developed in the past and the tool we used shares many characteristics with them: each complaint is evaluated on a Likert scale, and the most usual complaints such as headache or stomach ache are evaluated (Zijlema et al. 2013).

This study breaks the ground for further research on the development of somatic complaints throughout the life course and their association with personal and socio-economic factors. As it has been shown, significant differences in terms of somatic complaints can be observed as early as age 16, and these differences persist in the long term. Therefore, additional studies should endeavour to trace back the emergence of somatic complaints to childhood in order to identify the first and main causes of such a risk to develop a vulnerable condition.

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Qui dit politique publique, dit échanges de ressources entre acteurs. Et qui dit échange de ressources, dit partage du pouvoir entre acteurs publics et acteurs privés. Or, la définition de ces ressources, leurs modalités de mobilisation ou leur aptitude à être échangées ont été très peu étudiées jusqu'ici. La présente monographie propose une typologie approfondie des dix ressources d'action publique actuellement connues, et est illustrée par de nombreuses situations rencontrées quotidiennement dans la pratique des politiques publiques. Cette monographie expose ainsi, ressource par ressource, la palette de ses usages possibles, par les acteurs politico-administratifs aussi bien que les groupes cibles et les bénéficiaires des politiques publiques. Cet ouvrage aborde les situations de disponibilité ou de manque de ressources, les usages par phase (notamment dans la mise en œuvre) et les échanges de ressources entre acteurs, en vue d'obtenir des résultats favorables à leurs intérêts et/ou à leurs valeurs. Le texte propose aussi des pistes à suivre en vue d'un usage durable des ressources d'action publique. Il donne enfin quelques conseils pratiques aux chercheurs qui analysent les politiques publiques, mais aussi aux praticiens qui se consacrent à la gestion de « budgets ressourciels », dans l'administration publique aussi bien que dans les organisations du secteur privé ou les ONG.

Peter Knoepfel
Les ressources d'action publique
Vers une nouvelle lecture du pouvoir
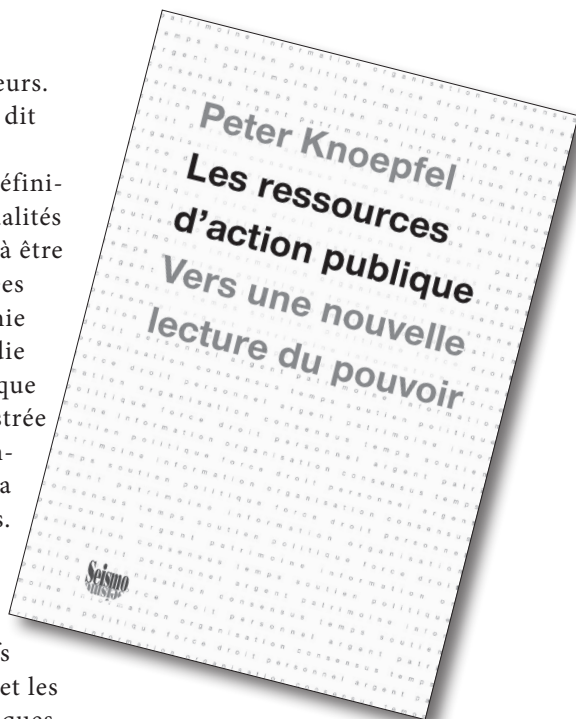
324 pages, SFr. 48.—

Peter Knoepfel (1949), docteur en droit, professeur honoraire à l'IDHEAP (Université de Lausanne), professeur honoraire à l'Université Taras Shevchenko de Kiev, coauteur du livre « Analyse et pilotage des politiques publiques » (avec Corinne Larrue et Frédéric Varone) et auteur de nombreuses monographies et articles scientifiques sur des questions conceptuelles de l'analyse des politiques publiques, des politiques environnementales et du développement durable. Il est également président du Conseil de sanu durabilitas – Fondation suisse pour le développement durable.

Employment Prospects of Young Adults With Mental Disorders

Isabel Baumann*, Szilvia Altwicker-Hámori**, Sibylle Juvalta**,
Niklas Baer***, Ulrich Frick****, and Peter Rüesch**

Abstract: We examine how type of diagnosis, educational trajectories and educational qualifications affect the employment prospects of young adults with mental disorders. We draw on a novel dataset based on data from the Swiss Federal Social Insurance Office. Our analysis shows that individuals with mental disorders that typically have an onset in early childhood, those who experience educational trajectories including special needs education, and those attaining higher levels of qualification are more likely to be employed in early adulthood.

Keywords: mental disorders, young adults, vulnerability, education, employment

Berufliche Perspektiven junger Erwachsener mit psychischen Störungen

Zusammenfassung: Wir untersuchen, wie Diagnose, Bildungslaufbahn und Bildungsabschlüsse die berufliche Perspektive von jungen Erwachsenen mit psychischen Störungen beeinflussen. Wir verwenden einen neuen Datensatz, erstellt auf der Basis von Daten des Bundesamts für Sozialversicherungen. Unsere Analyse zeigt, dass Individuen mit früh einsetzenden psychischen Störungen, einer Bildungslaufbahn, die den Besuch einer Sonderschule beinhaltet und jene, die höhere Bildungsabschlüsse erreicht haben, eine höhere Chance haben, im frühen Erwachsenenalter erwerbstätig zu sein.

Schlüsselwörter: Psychische Störungen, junge Erwachsene, Vulnerabilität, Bildung, Beschäftigung

Perspectives professionnelles de jeunes adultes présentant des troubles psychiques

Résumé : Nous examinons comment le diagnostic, les trajectoires scolaires et les diplômes influencent les perspectives professionnelles de jeunes adultes présentant des troubles mentaux. Nous utilisons une base de données créée à partir de données de l'Office fédéral des assurances sociales. Notre analyse montre que les chances d'obtenir un emploi au début de l'âge adulte sont plus importantes pour les individus dont les troubles mentaux sont survenus dans l'enfance, dont la trajectoire inclut une formation spécialisée et dont les diplômes obtenus sont élevés.

Mots-clés : troubles mentaux, jeunes adultes, vulnérabilité, formation, emploi

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1   Introduction[1]

In recent decades, the incidence of mental disorders[2] among adolescents and young adults has increased in most OECD countries (Richter and Berger 2013; OECD 2014), although the increase has been mainly attributed to changing perceptions and health competences with respect to mental illness at a societal level (Pescosolido et al. 2010; Reavley and Jorm 2012). The one year prevalence rate is high, with an average of 25% in OECD countries and 17% in Switzerland (OECD 2012; OECD 2014). These figures have to be seen in light of the lower prevalence of chronicity of mental disorders among youth in comparison with the average population (OECD 2012).

A vast body of literature indicates that mental health problems in early life stages translate into less favorable life outcomes (McLeod and Almazan 2003). For instance, it has been shown that externalizing and attention disorders at ages 3 and 5 have negative consequences for individuals' further cognitive development (Turney and McLanahan 2015). Another study including physical and mental health issues found a strong and persisting effect of poor health on reading and mathematical skills (Jackson 2015). A longitudinal study examining mental health trajectories during childhood found that permanently high levels of poor mental health were associated with being without basic education and out of education, employment or training at age 19 (Veldman et al. 2015). Other authors emphasize that individuals with severe mental disorders have wages about a third below median wages (Levinson et al. 2010).

These disadvantages may translate into further adverse outcomes. For instance, being excluded from the labor market may preclude individuals from important social contacts and participation in society (Jahoda 1981; Holzner et al. 1998; Gallie and Paugam 2002). Being without or in low-paid employment creates restrictions in spending and saving and impedes financial independence (Andersen 2002). Being in a precarious situation may chronically worsen individuals' well-being, which in turn exacerbates their mental illness (Cook and Razzano 2000; Rüesch et al. 2004).

Individuals with an early onset thus seem to be vulnerable to further negative outcomes. The concept of vulnerability refers to a lack of resources (Ranci 2010; Spini et al. 2013) implying that individuals with a lack of resources in the domains of health or education cannot realize their opportunities in the labor market (Spini et al. 2017). One approach to explain the pathway into vulnerability is the theory of cumulative advantages and disadvantages developed by Dannefer (2003). In this view, advantages/disadvantages in early life reinforce the chance/risk of experiencing

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2   According to the International Classification of Diseases (ICD-10) of the World Health Organization, mental disorders are defined as disorders of psychological development (WHO 1992).

new advantages/disadvantages in later life. In the context of mental disorders in the young, mental illness with onset in early childhood constitutes a disadvantage that may translate into the risk of not completing education – for instance by dropping out of school – which in turn would lead to additional disadvantages – such as not successfully managing the transition from education to employment.

Our study examines the employment prospects of young adults with mental disorders, comparing the effects of type of diagnosis, educational trajectory and educational qualifications. We draw on a novel dataset of about 500 young adults with mental disorders based on data from the Swiss Federal Social Insurance Office (FSIO). Data analysis was performed using descriptive, sequence, cluster and regression analyses.

2 The determinants of employment prospects of individuals with mental disorders

2.1 The effect of diagnoses and timing of onset

Individuals with and without mental disorders differ substantially in educational outcomes (Burchardt 2005). Based on longitudinal data from Australia and the United States, it has been shown that among adolescents with mental disorders about one quarter have left school without a diploma, a share that is significantly higher than among adolescents without mental disorders (OECD 2012). A Swiss study based on the FSIO's medical records of individuals receiving disability benefits due to psychogenic and milieu-reactive disorders, reveals that having no higher qualification than mandatory schooling is almost twice more frequent among the target population than among the average Swiss population (Baer et al. 2009). Moreover, it seems that a very early onset of mental disorders and particular illnesses make individuals especially vulnerable to dropping out of school. A study from the US finds an association between mental disorders with onset in early childhood and primary school termination rates (Breslau et al. 2008). High-school graduation rates are particularly low in pupils with conduct disorders and/or substance use disorder but less in pupils with mood and anxiety disorders.

The timing of onset of mental disorder is also relevant in the context of the stratification of the Swiss educational systems (as discussed later). The selection into the different tracks starts in many cantons at the beginning of secondary education and evidence indicates that there is little mobility between the tracks (Shavit and Müller 2000). As a consequence, individuals with an early onset of mental disorders may be disadvantaged in comparison to those with a later onset.

Like educational attainment, the labor-market integration of individuals with mental disorders is often strongly curtailed. Using an instrumental variable approach to address selection bias, Chatterji et al. (2011) show that individuals

suffering from a psychiatric disorder are 9 to 19 percentage points less likely to be in employment during the subsequent year. From systematic reviews it is known that only 10% of former psychiatric patients who are capable and wish to work are successful in finding any employment (Harnois and Gabriel 2000). In addition, the type of diagnosis is associated with differences in types of employment. Rüesch et al. (2002) examined the occupational outcomes of individuals with schizophrenic or affective disorders and found that in-patients with schizophrenia are over-represented in sheltered employment, whereas a higher proportion of in-patients suffering from an affective disorder was found in unpaid employment-like activities such as education, child-care or housework.

2.2   The Swiss school system with a focus on special needs education

The school system in Switzerland is organized at the cantonal level. However, in all cantons it includes 11 years of compulsory school and most cantons have a system that is structured in two years of Kindergarten, six years of primary school and three years of lower-secondary education. Kindergarten usually starts at age four or five and most children finish their lower-secondary education at age 16. Lower-secondary education is stratified in some cantons and children are selected into different tracks (SKBF 2014). The selection is based on requirements in terms of educational performance but, as in other countries, it is likely that parents' socio-economic background also affects these selection mechanisms, for instance by determining preference for more or less risky and costly educational trajectories (Shavit and Müller 2000; Boone and Van Houtte 2013).

Lower secondary education is most often followed by upper-secondary education which usually consists either in high-school or vocational education and training (VET). Switzerland's educational system has a strong vocational training component and about two thirds of adolescents finish compulsory school enrolling in VET (SBFI 2016). The Swiss educational system distinguishes between two-year, three-year and four-year VET programs, where the latter represents the most comprehensive of these programs.

With respect to special needs education, the system distinguishes between special needs schools, i.e. schools exclusively for children with special needs, and special classes, i.e. classes for children with special needs within regular schools (BFS 2010). There was a slight increase in the number of children who attended special needs education between the early 1990s and 2008, whereas after 2008 the numbers have dropped sharply. These fluctuations are mainly due to changes in age-group sizes and policies such as integration of children with special needs into regular classes. In 2016, about 31 000 children were taught in special schools (including language classes for children with foreign mother tongue) which represented about 3% of all children in mandatory schooling (BFS 2016).

Whereas in some cantons children with special needs are sent to special needs education schools, in other cantons they are integrated within regular schools, receiving individual support lesson by lesson. Whether children attend special needs education and how much support they receive depends on the severity of their disorder (BFS 2016). However, since the passing of the United Nations Convention on the Rights of Persons with Disabilities in 2014, the cantons have to implement the policy of integrated schooling (United Nations 2008). Implementation nonetheless varies between cantons.

2.3   The effect of special needs education

In the international literature on the effects of special needs education there is a debate as to whether it improves or impairs individuals' educational outcomes. On the one hand, proponents of the impairment thesis claim that special needs education goes along with marginalization which decreases children's chances of gaining credentials (Alexander et al. 1997; Janosz et al. 2008). Studies from the United States unequivocally reveal an association of special school attendance and school dropout. For instance, in a longitudinal study on school dropout based on a sample of children from Baltimore, the authors find that those in special needs education have a higher risk of school dropout (Alexander et al. 1997). However, this result may be due to the fact that in the United States special needs education attendance is more frequent among members of low socio-economic classes, which is in turn associated with school dropout. This finding may due to selection effects, an assumption that is supported by earlier research showing that there is a social gradient of mental health (Patel et al. 2010).

On the other hand, proponents of the improvement thesis argue that special needs education provides individuals with the opportunity to attain a qualification (Humphrey et al. 2013; Kern et al. 2015). A quasi-experimental study in the UK examined the effect of a school-based intervention to provide children with special needs (not specifically with mental disorders) with support, for instance regarding behavior problems and bullying (Humphrey et al. 2013). The authors found that the intervention generally had a positive effect on children's behavior and relationships but that the effects were heterogeneous, with girls and academically more able children experiencing stronger effects. As a consequence, special needs education may have a fostering effect for some groups of individuals with mental disorders.

2.4   The effect of educational qualifications

Attaining an upper-secondary level of education is crucial for the employment prospects of all young adults (OECD 2010; European Agency for Development in Special Needs Education 2016). However, educational qualifications may be of particular importance in educational systems with high standardization. According to the typology developed by Allmendinger (1989), distinguishing between edu-

cational systems with high and low stratification and standardization, Switzerland has a system with both high stratification and high standardization: after primary education, and again after lower-secondary education, individuals are selected into different educational tracks. Within these tracks the training is the same for everyone and the qualifications attained from each track are thus standardized. Standardized qualifications provide employers with knowledge about what to expect from a future employee. As a consequence, standardized systems allow a smoother transition from education to employment than other systems because young individuals do not have to repeatedly change jobs until they find a position that matches their qualifications.

In the context of individuals with mental disorders, two-year upper-secondary qualifications provided by the Swiss school system may be of particular interest as they offer a scheme that provides individuals with learning difficulties with additional support (SBFI 2014). In an analysis of the employment prospects of individuals completing different types of upper-secondary education, it has been shown that individuals completing a two-year qualification have lower chances of finding a job within six months than those with a three- or four-year qualification (Fitzli et al. 2016). Nevertheless, the differences are relatively small, with 75% of them being in employment against 83% for those with a three- or four-year qualification.

2.5   Hypotheses

Based on this discussion of the literature we have three competing hypotheses:

1. In comparison with educational trajectories and educational qualifications, diagnoses most strongly affect individuals' employment prospects. Following the theory of cumulative advantage/disadvantage (Dannefer 2003), individuals with an early onset of mental disorders are more strongly impeded in their employment prospects than individuals with a later onset. We therefore expect that individuals with behavioral and emotional disorders with onset occurring in childhood and adolescence are more negatively affected in their employment prospects than individuals with disorders of adult personality and behavior.

2. In comparison with diagnoses and educational qualifications, educational trajectories most strongly affect individuals' employment prospects. More precisely, individuals who attend special needs education are more likely to find a job than individuals who attend regular education. This hypothesis is based on the idea that educational institutions support individuals with mental disorders in remaining in school and attaining a qualification.

3. In comparison to diagnoses and educational trajectories, educational qualifications most strongly affect individuals' employment prospects. This expectation follows Allmendinger's (1989) theory stating that in educational systems with high standardization – such as Switzerland's educational system – educational

qualifications are of preponderant importance to individuals' employment prospects.

3 Method

3.1 Data

The sample was identified based on the FSIO register. It consists of new disability pensioners and non-disability pensioners with psychiatric diagnoses who had applied for disability benefits prior to 2010 via a cantonal disability pension office in the French- or German-speaking regions of Switzerland. Inclusion criteria for the new disability pensioners were that they received their first disability pension due to a psychiatric diagnosis between 2010 and 2013, and were aged 18 to 29 at the time of the pension award. Inclusion criteria for the non-disability pensioners were that they had never received a disability pension; had received rehabilitation measures due to a psychiatric diagnosis between 2010 and 2011; were aged 18 to 29 when these rehabilitation measures were granted; and had received no additional support measures between 2012 and 2013. This two-year measures-free time-frame was selected to mitigate the potential for an individual selected as a non-disability pensioner to receive a disability pension for a psychiatric diagnosis in the future.

Samples of 400 new disability pensioners and 100 non-disability pensioners were obtained from the respective populations. The overall sample size had to be restricted to 500 individuals due to the resource- and time-consuming data collection process. From the sample four observations were dropped because there was no information available about individuals' education. For this reason, our final sample consists of 496 individuals.

For all individuals in the sample, data was obtained from individual case files. Five purpose-trained research assistants manually extracted information from the case files using a coding scheme and an extensive codebook developed in agreement with experts from the fields of psychiatry, psychology, education, and the FSIO. This coded information was anonymized and constitutes our final dataset. An in-depth description of the data collection is provided in a research report mandated by the FSIO (Baer et al. 2015).

3.2 Measures

3.2.1 Dependent variable

Our dependent variable is *current employment* and is measured dichotomously, distinguishing between being *currently employed* and being *not currently employed*. We use *currently employed* instead of *ever been employed* as the dependent variable to ensure our results are not biased in favor of individuals with an onset of mental

disorder in adulthood. A more detailed description of this measure is provided in Table A.1 in the Appendix.

3.2.2 Independent variables

Our measure for mental disorders is based on the International Classification of Diseases ICD-10 (WHO 1992) and distinguishes between eight different diagnoses. Educational trajectories consist in a typology created by means of cluster analysis. Within the sequences we distinguish between twelve different states. With respect to highest qualification completed, we distinguish between eight different levels following the International Standard Classification of Education (ISCED 1997). A more detailed description of these measures is provided in Table A.1 in the Appendix. Finally, we use age as a continuous variable and nationality, distinguishing between Swiss and other nationalities. Further demographic and socio-economic characteristics such as sex or socio-economic background were not available in the dataset.

3.3   Analytical strategies

To create the educational trajectories we used sequence analysis (Abbott 1995). Sequence methods aim at extracting simplified workable information from sequential datasets by summarizing this information. This analysis was carried out using the TraMineR package of the statistical software R (Gabadinho et al. 2011). Using this method we examined the chronological order of states of individuals' trajectories and how similar all possible pairs of individual sequences are. This analysis resulted in a pairwise distance matrix representing the similarity of individual trajectories. The distance was measured on the one hand by means of optimal matching analysis and on the other by using the dynamic Hamming distance that specifies the time-dependent substitution costs based on time-point specific transition probabilities between two sequence states (Macindoe and Abbott 2004; Lesnard 2010). In a next step we conducted a cluster analysis, specifically Ward cluster analysis, which creates homogeneous groups of sequences. This method allows categorizing the sequential patterns into a limited number of groups (Gabadinho et al. 2011).

We then carried out regression analyses, more precisely binary logistic regression analyses, using the clusters from the cluster analysis as one of several independent variables. This allowed us to examine how each cluster membership is related to covariates. We computed three models, a first model where we entered only the diagnoses of mental disorder, a second model, where we added educational trajectories and a third model where we added educational controlling in all models for age and nationality.

The analysis of the effect of educational trajectories on employment prospects is affected by endogeneity (Card 1999). Finding an association between educational trajectories and employment prospects does not guarantee that the trajectory caused the outcome. In fact, it is possible that this finding is explained by a third factor,

for instance socio-economic background that explains both attending a specific educational trajectory and employment prospects. Additionally, reverse causality may take place, i. e. the type of trajectory or the outcomes may affect individuals' mental health due to health behaviors or the experience of stress (Ettner 2000).

4 Results

4.1 Descriptive results

The mean age of our sample is 22.3 years and about 85% are of Swiss nationality. With respect to their highest qualification obtained, the largest share of individuals has a lower-secondary qualification (n = 198, 41%) or an upper-secondary qualification (n = 167, 53%). In comparison to the general Swiss population aged 25–64, where in 2013 about 14% had a lower-secondary qualification, individuals in our sample were much more likely to complete a lower secondary education (BFS 2016).[3] The share of individuals with an upper-secondary qualification in our sample is similar to the general population where it is 49%. However, the share of individuals in our sample who have completed only a two-year upper-secondary education is substantially higher than in the average cohorts finishing education (BFS 2015). With respect to diagnoses, the largest shares of individuals in our sample have F7 (22%), F6 (21%) and F2 (18%) diagnoses. With respect to individuals' employment situation, we find that about 35% of our sample are currently employed whereas 65% are currently not employed. The share of employed individuals in our sample is thus low in comparison to that of the general Swiss population aged 15–64 (82%) (OECD Statistics 2013). Among those who are currently employed, about half are in sheltered employment. An overview of the descriptive statistics is provided in Table A.2 in the Appendix.

With respect to the educational trajectories, we created five clusters from the individual sequences – resulting in five types of sequences. Figure 1 presents the aggregated sequences, sorted by states, within the five types. The first type (n = 236, 49%) primarily consists of individuals who attended regular education throughout their entire educational career (henceforth RE1). About 40% of the individuals in RE1 have completed a VET program with graduation while about 30% did not complete their VET program and about 10% dropped out of school. The second type (n = 43, 9%) comprises changes from a first to a second regular education (RE2). In RE2 the rate of completion of vocational education is higher than in RE1 at about 80%. Individuals in the third type (n = 78, 16%) usually started in

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3   This comparison has the limitation that our sample is similar to a cohort, consisting of individuals aged under 30 at the moment of the measurement. The general population in contrast encompasses individuals up to age 64. As the share of individuals attaining higher qualifications increases with younger cohorts, our result indicates that our sample is particularly disadvantaged (BFS 2016).

Figure 1   Five types of educational trajectories (distribution of states)
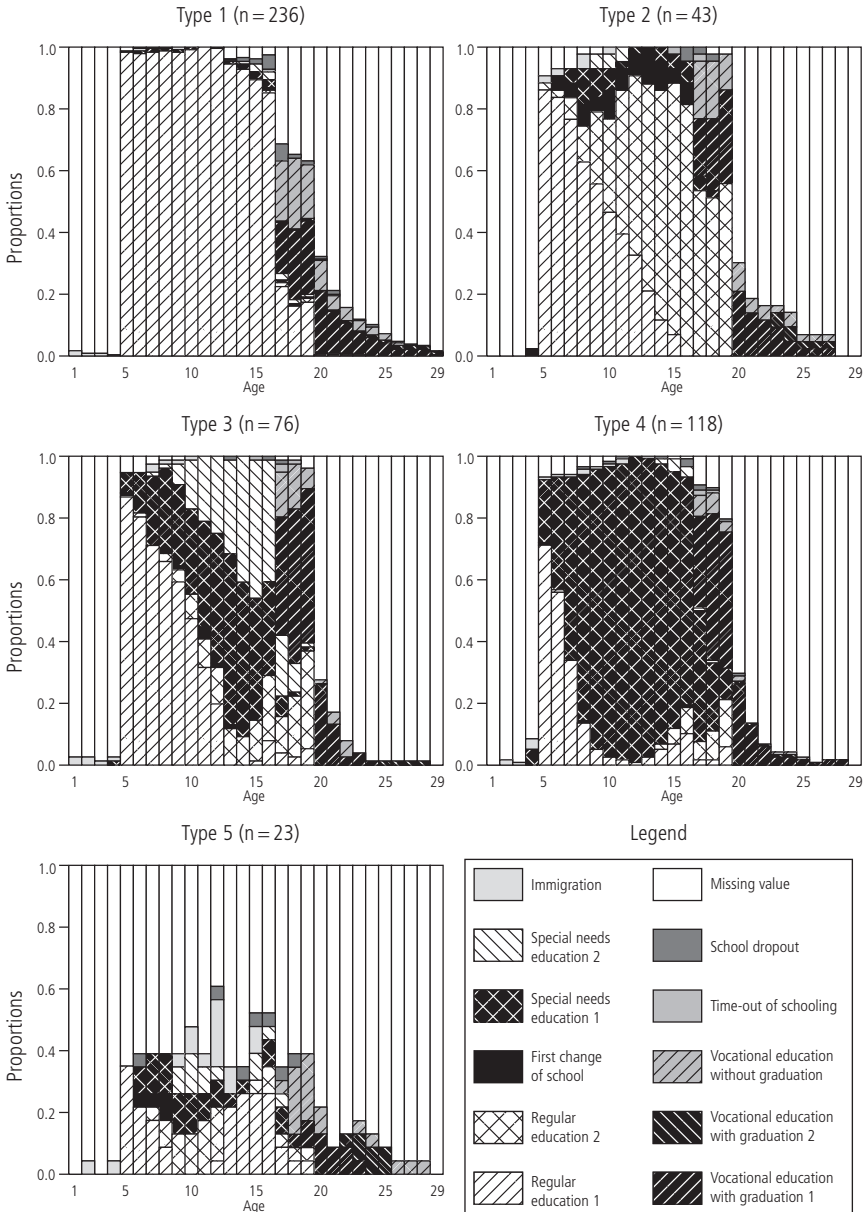
Note: The figures indicate trajectories from age 1 through age 29. N Type 1 (RE1) = 236, N Type 2 (RE2) = 43, N Type 3 (EC) = 76, N Type 4 (SNE) = 118, N Type 5 (EI) = 23.

regular education but eventually changed school to regular or special needs education or both (EC). EC is characterized by multiple changes of school. The fourth type (n = 118, 24%) includes individuals who spent most of their educational trajectory in special needs education (SNE). Individuals in SNS are characterized by a high level of completion of vocational education with about 80%. Finally, type five (n = 23, 5%) comprises individuals who interrupted their educational careers either at one or multiple points (EI). The share of individuals in this type who have completed any type of education is low.

4.2   Regression results

Model 1 in Table 1 presents the association between ICD-10 diagnosis and individuals' chances of being currently employed, controlling for age and nationality. Not surprisingly, age has a statistically significant but small effect. Individuals of Swiss nationality are significantly and substantially more likely to be currently employed than individuals of other nationalities. With respect to diagnosis, our analysis shows that compared to the reference category behavioral and emotional

Table 1   Logistic regression for being currently employed

Variables	Model 1		Model 2		Model 3	
	Coef.	SE	Coef.	SE	Coef.	SE
Age	0.010**	0.007	0.020***	0.007	0.008	0.008
Nationality (ref.: Other nationalities)						
Switzerland	0.180***	0.050	0.170***	0.060	0.180***	0.060
ICD-10 Diagnosis (ref.: F9)						
F0	0.002	0.130	−0.010	0.130	−0.010	0.130
F2	−0.140	0.080	−0.120	0.080	−0.100	0.080
F3	−0.180*	0.100	−0.160	0.100	−0.210**	0.100
F4 or F5	−0.180*	0.100	−0.170	0.100	−0.160	0.100
F6	−0.170*	0.080	−0.160*	0.080	−0.140*	0.080
F7	0.120	0.070	0.090	0.080	0.070	0.070
F8	0.050	0.080	0.020	0.080	−0.004	0.080
Educational trajectories (ref.: RE1)						
RE2			−0.010	0.070	−0.020	0.070
EC			0.110*	0.060	0.100	0.060
SNE			0.120**	0.050	0.120**	0.050
EI			−0.050	0.100	0.070	0.100
Highest qualification completed					0.100***	0.020
Constant/Intercept	−0.140	0.160	−0.260	0.180	−0.390	0.180
N	496		496		496	

Note: Significance levels: p ≤ 0.001 ***, p ≤ 0.01 **, p ≤ 0.05 *. The dependent variable distinguishes between (i) being currently employed (N = 171) and (ii) not being currently employed (N = 325).

disorders with onset occurring in childhood and adolescence (F9), individuals with mood (affective) disorders (F3), neurotic, stress-related and somatoform disorders or behavioral syndromes associated with psychological disturbances and physical factors (F4 or F5) and disorders of adult personality and behavior (F6) have lower employment prospects.

In Model 2 we add the educational trajectories and find that individuals who experienced educational change (EC) or special needs education (SNE) trajectories are significantly and substantially more likely to be currently employed than individuals in type regular education 1 (RE1). Model 2 also shows that individuals in regular education 2 (RE2) and educational interruption (EI) trajectories have lower chances of being currently employed than individuals in RE1 trajectories, although the effect is small. However, in terms of diagnosis, we no longer find statistically significant effects except for F6. This step provides us with similar effects for age and nationality as Model 1.

In Model 3 we add the highest qualification obtained and find that the higher the qualification, the higher the likelihood of being currently employed. With respect to educational trajectories, we find a strongly positive significant effect of SNE as compared to the reference category RE1. The effect of EC and EI are positive but not statistically significant. With respect to diagnosis we find a strongly negative significant effect of F3 and F6. Whereas age loses statistical significance, we still observe a large and statistically significant effect of nationality on individuals' chances of being currently employed.

5   Discussion

This paper examines how individuals' type of diagnosis, their educational trajectories and educational qualifications affect their employment prospects. We tested three competing hypotheses, each of which stated the relative importance of these three factors. Overall, our analyses showed that all of them contribute to the explanation of employment prospects. Yet, the type of diagnosis loses predictive power if educational trajectories and qualifications are included into the analysis; educational trajectories lose predictive power if educational qualifications are included. It seems however remarkable that educational trajectories still remain an important factor even if educational qualifications are included, indicating that attending special needs education *per se* provided individuals with better employment prospects.

In contrast to our first hypothesis on cumulative advantages/disadvantages, we found that individuals with diagnoses that typically have their onset in late adolescence or adulthood have weaker employment prospects than individuals with diagnoses that typically have their onset in childhood and early adolescence. Yet, this pattern has not been observed for individuals with a diagnosis of schizophrenia

with a typically late onset. This is in line with an earlier analysis of the same dataset that showed that individuals with schizophrenia receive disability pensions earlier than individuals with other types of diagnoses (Baer et al. 2015). As we do not have information about the effective age of onset of mental disorder, the assumption that individuals with an early onset have better employment prospects remains an interpretation.

Our study contributes to the discussion in the literature about whether so-called externalizing problems (which include F6, disorders of adult personality and behavior) or internalizing problems (which include F3, affective [mood] disorders) affect individuals' labor market status more strongly. In contrast to an earlier study from the Netherlands that found significant effects only for externalizing problems, we showed effects for both categories of problems (Veldman et al. 2015). A potential explanation of this finding is that our sample includes individuals up to age 29 when internalizing problems may be more strongly developed than in the sample of the Dutch study that included individuals only up to age 19. Moreover, the importance of F6 and F3 for individuals' employment prospects may be the work impairment associated with these disorders and a lack of early detection and targeted vocational interventions for individuals with these disorders (McIntyre et al. 2011).

We find support for our second hypothesis, assuming that special needs education acts as a protection from educational interruptions and leads to better employment prospects. We find indeed that individuals who attended special needs education either from early on or at least for a substantial part of their educational trajectory have better prospects of being employed in young adulthood. Taken together, these findings seem to suggest that individuals with an early onset of mental disorder who enter special needs education early on have the relatively best employment prospects. A possible explanation of this finding is that individuals who spent all or most of their educational career in special needs education often are employed in sheltered employment which may be attained even in the presence of impairments.

However, our cluster analysis also showed that individuals in trajectories involving special needs education have higher rates of completing VET programs than individuals in trajectories involving foremost regular education. This finding corroborates the assumption that special needs education provides support for individuals with mental disorders to complete their educational trajectory and avoid school dropout (Downes 2011). In fact, it has been argued that institutions such as the school system, the family and the labor market provide adolescents with opportunities and constraints, contributing to the establishment of normatively appropriate ways of behaving (Breen and Buchmann 2002). In German-speaking regions such as parts of Switzerland for instance, comparatively strong parental control and well-demarcated pathways into adulthood may provide adolescents with a relatively clearly defined set of social norms. As a consequence, special needs education may

attenuate the potential negative effects of mental disorders on educational and occupational outcomes.

Moreover, our analyses show that children and adolescents who attend regular school are more likely to drop out of school or leave the parental home early. A potential reason may be the existence of testing regimes that increases individuals' risks to drop out of school because of not passing the tests. This risk exists for all individuals but may be particularly high for those with special needs (Smith and Douglas 2014). Dropping out of school may in turn expose individuals to a higher risk of deviance (Merton 1959; Cohen 1965). Entering a regular educational trajectory may thus not only prevent individuals with special needs from attaining a qualification but also negatively affect their social integration, which in the long run may reduce their employment prospects.

Our finding that higher educational qualifications provide individuals with better employment prospects confirms our third hypothesis. It is in line with Allmendinger's (1989) theory on the link between educational systems and labor market outcomes suggesting that in highly standardized educational systems, such as Switzerland, qualifications provide employers with a guarantee of candidates' skills.

Overall, we find mixed evidence for a mechanism of CAD to be acting (Dannefer 2003). On the one hand, our analysis points to a negative effect of school dropout and leaving school without qualification on employment prospects which provides support to the CAD theory. On the other hand, we observe that individuals who mainly attended regular education – and thus were probably not disadvantaged in terms of mental disorders in early childhood – were more likely to drop out of school. Moreover, we find that these individuals were less likely to be employed at the moment of the measurement. At the same time, vulnerability of individuals with an early onset of mental disorders is buffered by an educational system that offer tracks for individuals with special needs. The existence of social institutions and companies who offer sheltered vocational training programs and sheltered employment may absorb individuals who otherwise would have bleak labor-market prospects. However, it seems that the labor market does not offer them the degree of support that they may need to pursue a standard occupational career in non-sheltered employment, which may hamper their social integration and financial independence. In line with recommendations by the OECD, future efforts may involve occupational counseling services that provide young adults with mental disorders with the necessary support to manage the transition to employment (OECD 2015).

Finally, we also found that individuals with Swiss nationality have better employment prospects than individuals with other nationalities. This is in line with earlier research: an experimental study simulated the job search of young adults who had completed an upper-secondary education in Switzerland (Fibbi et al. 2006). The authors find that individuals with a family name indicating an immigrant

background from non-European Union countries had substantially lower chances of being invited to a job interview.

Our study draws on an innovative method to explain the educational and occupational attainment of young adults with mental disorders. By considering not only educational qualifications but also the totality of the educational trajectory, we receive a more in-depth picture of potential mechanisms at work. Using longitudinal data and sequence analysis also allows us to differentiate between educational trajectories involving educational changes (EC) and special needs education (SNE), both of whose members have attended some special needs education, but, for members of EC, only during parts of their careers. Individuals who experienced an EC type of educational trajectory seem to be similar to those who have an SNE type of trajectory but are slightly more disadvantaged.

The method used, however, also presents some limitations. Cluster analysis is empirically led, meaning that the clusters are constructed by means of an algorithm which is not created based on theoretical considerations but based on the data at hand. Moreover, cluster analysis is probably subject to selection bias with not only observed but also unobserved characteristics driving the selection. In this scenario, we would expect that individuals with a later onset of mental illness are channeled into both regular educational trajectories and better employment prospects. However, having spent most of one's educational trajectory in regular education is not accompanied by advantages in terms of employment prospects. This indicates that selection effects do not (completely) explain the adherence to an educational trajectory.

Another limitation is possibly given by restrictions of our data. First, our sample is highly selective in the sense that it includes only individuals with mental disorders who have applied for disability benefits. As a consequence, our results are not generalizable to individuals who have never claimed disability benefits. Secondly, comorbidities were not assessed and information about the severity of the mental disorders was not available in our data. As severity is an important determinant of the dimension of individuals' constraints in daily life, it would have contributed to a more detailed understanding of the mechanisms determining individuals' employment prospects (OECD 2012). However, research shows that individuals with mild mental disorders are also negatively affected in terms of their labor market outcomes (Birnbaum et al. 2010). Thirdly, earlier research highlights the importance of individuals' socio-economic background for their educational attainment (Boone and Van Houtte 2013). As the respective information was not available in our dataset, we were not able to examine the effect of this factor in the present study. Finally, we do not know which type of special needs education individuals attended. Different outcomes would probably be attained if we were able to compare individuals who attended regular education with special needs interventions (integrated schooling) and individuals who attended special needs schools.

As integrated schooling has been institutionalized in Switzerland since the signature of the United Nations Convention on the Rights of Persons with Disabilities in 2014, research including these different types of special needs education will be possible in the future. Other future research directions involve a more detailed examination of the types of jobs – including job quality and wages – in which young adults with mental disorders are hired.

6   Conclusion

In comparison with the average population, young adults with mental disorders are less likely to attain educational credentials and to participate in the labor market. However, their employment prospects vary with respect to their diagnoses, educational trajectories and educational qualifications. Individuals with mental disorders that typically have an onset in early childhood, those who experience educational trajectories including special needs education and those attaining higher levels of qualifications are more likely to be employed in early adulthood – although often in sheltered jobs. This may imply that individuals with an early onset of mental disorder tend to attend special needs education, which prevents them from interrupting their educational trajectories or leaving education without qualification but leads them into sheltered vocational education programs. Receiving support and guidance is likely to enable them to attain higher levels of education than if they would have attended regular school. This increases their employment prospects. As a consequence, mechanisms such as cumulative disadvantages that reinforce early adversities may be attenuated. In contrast, individuals with a late onset of mental disorder probably tend to remain in regular education and experience a higher risk of not finishing education. We thus conclude that these individuals are the most vulnerable group of young adults with mental disorders.

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8   Appendix

Table A.1   Description of the measures

Measure	Description
Employment situation	
Currently employed	Employed in permanent jobs, fixed-term jobs, sheltered jobs, non-sheltered jobs and internships at the moment of the measurement. Vocational education is not included in this definition.
Not currently employed	Individuals who have been employed earlier but not at the moment of the measurement of the variable are defined as not currently employed. This category also includes individuals who have never been employed.
ICD-10 Diagnoses	
F0	Organic, including symptomatic mental disorders, e.g. organic anxiety disorder
F1	Mental and behavioral disorders due to psychoactive substance use. (This diagnosis was excluded from the sample due to the decision of the FSIO)
F2	Schizophrenia, schizotypal and delusional disorders, e.g. schizophrenia
F3	Mood (affective) disorders, e.g. depressive episode
F4	Neurotic, stress-related and somatoform disorders, e.g. phobic anxiety disorder. (F4 and F5 were taken together in one category because of the small number of observations with F5 diagnosis.)
F5	Behavioral syndromes associated with physiological disturbances and physical factors, e.g. eating disorder (F4 and F5 were taken together in one category because of the small number of observations with F5 diagnosis.)
F6	Disorders of adult personality and behavior, e.g. paranoid personality disorder.
F7	Mental retardation, e.g. mild mental retardation
F8	Disorders of psychological development, e.g. specific speech articulation disorder
F9	Behavioral and emotional disorders with onset usually occurring in childhood and adolescence, e.g. attention-deficit hyperactivity disorder

Continuation of table A.1.

Measure	Description
States in educational trajectories	
Regular education 1	First regular school attended
Regular education 2	School individuals attend who have changed school to another regular school
Special needs education 1	First special needs school attended. Individuals may have changed to the special needs school coming from a regular school or started their educational career with a special needs school
Special needs education 2	Special needs school individuals attend who have changed school to another special needs school
Immigration	Experienced an immigration from other countries before or during their educational career
Vocational education with graduation 1	First VET that led to the acquisition of a qualification
Vocational education with graduation 2	Second VET that led to the acquisition of a qualification
Vocational education without graduation	Participation in a VET program without acquiring a qualification
Time-out	Limited period during which individuals were excluded from school by authorities
Dropout	Definitive exclusion of school by authorities
Highest qualification completed	
No qualification	No qualification
ISCED 1	Primary qualification
ISCED 2	Lower-secondary qualification
ISCED 3C	Upper-secondary qualification, 2 years
ISCED 3B	Upper-secondary qualification, 3 years
ISCED 3A	Upper-secondary qualification, 4 years
ISCED 4	Tertiary qualification

Table A.2   Descriptive statistics

Variables	%	N
Age (mean)	22.3	496
Nationality		
Swiss	85.7	413
Other nationalities	14.3	69
Highest qualification completed		
No qualification	1.6	8
ISCED 1	4.6	23
ISCED 2	40.5	201
ISCED 3C	35.3	175
ISCED 3B	14.7	73
ISCED 3A	2.8	14
ISCED 4	0.4	2
ICD-10 Diagnosis		
F0	3.0	15
F2	17.5	87
F3	6.3	31
F4 and F5	6.0	30
F6	21.4	106
F7	22.2	110
F8	13.3	66
F9	10.3	51
Employment situation		
Currently employed	34.5	171
Not currently employed	65.5	325
Sheltered employment		
Currently in sheltered employment	49.6	81
Currently in non-sheltered employment	50.4	82

Note: Each group of variables sums up to 496 observations except "sheltered employment" where we have information only on individuals who are currently employed (although missing information on this variable for 8 individuals).

Gender Inequalities in Health Over the Life Course. Attitudes Towards Ill-Health in Men and Women Treated for Childhood Cancer

Agnes Dumas*

Abstract: Gender inequalities in health may result from differences in health care utilisation. This paper reports, using an interactionist approach, health-related beliefs of men and women treated for cancer in childhood and living with increased health risks ever since. We observed that normative masculine traits are sometimes used to legitimise a reluctance to undergo medical surveillance. Overall, men tended to express a passive attitude towards ill-health, resulting in a gendered health vulnerability.

Keywords: health care use, gender, inequalities, risk, interviews

Geschlechtsungleichheiten bezüglich Gesundheit im Lebensverlauf. Einstellungen zu Gesundheitsproblemen bei Männern und Frauen die als Kinder aufgrund einer Krebserkrankung behandelt wurden

Zusammenfassung: Geschlechtsungleichheiten bezüglich Gesundheit können sich aus dem unterschiedlichen Gebrauch medizinischer Versorgung ergeben. Mit einem interaktionistischen Ansatz untersucht diese Studie die Einstellungen von Männern und Frauen die in ihrer Kindheit aufgrund einer Krebserkrankung behandelt wurden. Wir zeigen, dass Vorstellungen von Männlichkeit gebraucht werden um den Widerwillen gegen medizinische Kontrollen zu legitimieren. Tendenziell zeigen Männer eine passivere Haltung gegenüber Gesundheitsproblemen, was zu einer geschlechtsspezifischen Gesundheitsanfälligkeit führt.

Schlüsselwörter: Pflegegebrauch, Geschlecht, Ungleichheiten, Risiko, Interviews

Inégalités de genre en matière de santé tout au long de la vie. Attitudes en matière de santé chez des hommes et des femmes traités pour un cancer durant l'enfance

Résumé: Les inégalités de genre en matière de santé résultent d'un recours différencié au système de santé. Dans une perspective internationaliste, nous explorons les croyances liées à la santé d'hommes et de femmes traités pour un cancer durant leur enfance, les risques pour leur santé s'étant aggravés depuis lors. Nous avons observé l'emploi de stéréotypes masculins pour légitimer des comportements à risque (refus de surveillance médicale, etc.) et une attitude passive des hommes à l'égard de leur santé, impliquant la construction d'une vulnérabilité genrée face à la santé.

Mots-clés: recours aux soins, genre, inégalités, risque, entretiens

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1   Introduction[1]

Gender inequalities in health reverse the established direction of social inequalities. While women are disadvantaged across a broad range of socioeconomic indicators as compared to men, they can expect to outlive men in almost every country (World Health Organization 2013). Female life expectancy has long exceeded that of males, especially in high-income countries: for instance in Sweden since the 18th century, and since the 19th century in Denmark, England and Wales (Barford et al. 2006). Nevertheless, the size of this gap, although still large, has been decreasing during recent decades in most European countries (Van Oyen et al. 2010).

1.1   Gender inequalities in health: the health-survival paradox

This "mortality advantage" (Bambra et al. 2009) of women is balanced by their higher physical and mental morbidity rate, resulting in a "health-survival paradox" (Verbrugge and Wingard 1987). This paradox, i. e. the contrast of higher mortality with lower morbidity for men than for women, is mainly explained by gender differences in the patterns of disease (Verbrugge and Wingard 1987). But sex differences in morbidity are not as simple to analyse as those in mortality, firstly because the male-female gap varies by disease and stage of the life cycle (Crimmins et al. 2002; Gorman and Read 2006), and secondly because of methodological challenges relating to disease definition, the severity measure used, and the age trajectories of particular diseases (Wingard 1984; Oksuzyan et al. 2008).

The most commonly proposed explanations of the health-survival paradox in biomedical research refer to differences in biological risks, lifestyle behaviours, and in risks acquired through social roles, and to reporting biases and differential healthcare access and utilisation (Macintyre et al. 1996; Oksuzyan et al. 2008). Differences in lifestyle behaviours are often highlighted, since cigarette smoking is the largest identifiable factor contributing to contemporary gender differences in mortality in western countries (Pampel 2003). Biases in reporting of symptoms and diseases may also account for the morbidity differential: as compared to men, women tend to report more symptoms (Ladwig et al. 2000) and also more trivial and often medically unexplained symptoms (Verbrugge and Wingard 1987). Moreover, variations in health complaints between boys and girls have been observed in adolescence (Hetland et al. 2002). But is this bias related to *reporting* of symptoms (because women feel more comfortable with reporting) or does it reflect more profound gender differences in pain or symptom *perceptions,* resulting in differential health care use? By health care use we mean what can be observed from health services

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data; but these represent only the final endpoint of complex social processes (Addis and Mahalik 2003).

Previous research has explored these pathways in terms of problem recognition and labelling or of help-seeking behaviours, using different designs aimed at controlling for different social and medical contexts. In trying to assess the role of social norms, Caroli and Weber-Baghdiguian (2016) found that individuals working in female-dominated environments tended to report worse health than individuals employed in male-dominated work environments. Some studies examining the attitudes and behaviours of individuals living with severe or life-threatening conditions such as cancer have not found sex differences in reporting symptoms (Macintyre et al. 1996) or in health care utilisation (Verbrugge 1985; Mor et al. 1990), while other studies have reported a gender differential in help-seeking behaviours (Fish et al. 2015). Others have found that the difference between men and women lies in the *timing* of symptom recognition, with men taking a longer time to recognize the seriousness of their symptoms, for instance in the context of rectal cancer (Ristvedt and Trinkaus 2008), or myocardial infarction (White and Johnson 2000). When controlling for symptom reporting, i. e. when comparing men and women reporting the same symptoms, women have been found to exhibit higher rates of health care utilisation (Ladwig et al. 2000).

Mechanisms explaining differences in lifestyle behaviours, symptom recognition and subsequent health care use have been studied within two distinct conceptual frameworks, namely *role theory* and *gender stereotypes.*

1.2   Health, gender role and stereotypes

Men's shorter life expectancy has been attributed to the influence of sex-role socialisation in encouraging men to put their health at risk (Harrison 1978). Differences between the sexes in symptom reporting are said to arise because women are more sensitive to bodily discomforts than men, while men are less expressive in disclosing somatic or psychic pain. Additionally, women may be expected to report more ill-health because the sick role is more socially acceptable for them.

This sex role socialisation theory has been extensively criticised by interactionist and feminist theories for being too essentialist and thus reductionist, presenting the role as something stable and inherent to every man and woman (West and Zimmerman 1987; Connell 2012). What has been called the "difference model," which argues that men and women are inherently different in their psychological traits and in behaviours such as verbal communication skills, has been refuted (Hyde 2005). Against gender essentialism, constructionists and interactionists have shed a light on the multidimensional and dynamic aspects of gender (Goffman 1977; West and Zimmerman 1987; Butler 1990; Hyde 2005; Ridgeway 2009). In this view, gender is not a static category but a situational and a "performative" one (Butler 1990), socially embodied within everyday interactions (Krieger 2005).

By looking at interactions rather than identities, constructivist theories have highlighted the importance of *gender stereotypes* in the *doing of health* (Courtenay 2000; Connell 2012). Gender stereotypes are characteristics that are generally believed to be typical either of women or of men. They provide "collective, organised and dichotomous meanings of gender and often become widely shared beliefs about who women and men innately are" (Courtenay 2000, 1387). For instance, the strongly health-related beliefs that men are independent, self-reliant, strong, robust, autonomous, and tough render being sick, expressing pain (i.e. showing weakness), asking for help or looking for information (i.e. confessing ignorance) less acceptable for men (Courtenay 2000).

Studies examining gender stereotypes and health have shown that holding traditional masculine values has been associated with increased engagement in health-risk behaviours and decreased engagement in health-promoting behaviours (Mahalik et al. 2007; Marcell et al. 2007; Springer and Mouzon 2011). In the context of cancer, machismo, self-reliance, stoicism or perception of health as a feminine issue have been associated with delayed help-seeking (Fish et al. 2015). In contrast, men who are highly feminine exhibit the highest health concerns (Kaplan and Marks 1995) and are more likely to use health services (Mitchell 1987). Moreover, a study has shown that men with higher femininity scores have a lower risk of death from cardiac disease, while men with more stereotypical masculine scores are at higher risk of premature mortality (Hunt et al. 2007).

1.3   Representations of health and ill-health in adolescents living with a health risk

Chronic conditions are characterised by unpredictability and by a range of uncertainties (Bury 1982), which together may represent a threat to traditional masculinity (Charmaz 1995). So investigating how ideals of masculinity are enacted by men and women situated within particular social and health contexts can make a substantial contribution to the understanding of health-related stereotypes. A singular way of investigating this issue is to examine representations of health and ill-health in adolescents who are living with a chronic condition (Prout 1989; Sweeting 1995; Williams 2000). Even though men and women are continuously learning gender-appropriate behaviours, including health and illness behaviours, gendered values may be most strongly enforced during childhood and adolescence socialisation processes (Montgomery 2005). Studies have found that adolescent boys with a chronic disease perceive ill-health as a threat to their masculinity which should therefore be hidden, particularly in the public, peer-based context of school (Prout 1989; Williams 2000). The thinness resulting from chronic illness has been found to be more stigmatising for boys because of the importance for them of being "physically fit and tough" (Prout 1989). Therefore, because of the importance of having an athletic body for performance of masculinity in the context of puberty (Swain 2003),

holding masculine values may act as a positive leverage for health because doing physical activity is highly valued in boys and of benefit to them (Williams 2000).

This paper sets out to contribute to this field of research by exploring the health-related beliefs and stereotypes of men and women who have experienced childhood cancer, by using a life course perspective (Giele and Elder 1998). We used qualitative methods, which have been widely used to depict biographies (Thomas et al. 1918) or trajectories (Becker 1963; Corbin and Strauss 1988), because they provide in-depth insight into the embedding of actors into social constraints and opportunities (Mayer 2009).

1.4   Living with a health risk after childhood cancer

Cancer in children is a rare event. It accounts for only 1% of all cancers. Each year, in Europe, 15 000 children are diagnosed with cancer; it is estimated that there are currently over 300 000 individuals in Europe who were treated for childhood cancer (Vassal et al. 2014). Survival rates of childhood cancer have drastically improved over the last few decades, from 30% to 80% (Trama et al. 2016). However, given the high toxicity of cancer treatments, late effects are numerous, and "survivors," as they are called in the biomedical literature, live with an increased health risk from childhood. The late effects of cancer and its treatments are various, and increase over time. They include functional limitations related to amputations or surgeries after osteosarcoma or soft tissue sarcoma; hearing loss or cognitive dysfunction, especially after cranial irradiation; and vision problems, especially after retinoblastoma. But there are also severe, life-threatening or disabling late-effect health conditions such as cardiac or cerebrovascular diseases or second cancer (Oeffinger et al. 2006). Data from a US cohort study have shown that less than 20 years after diagnosis, two-thirds of survivors reported at least one chronic condition related to childhood cancer therapy, of which half were severe or life-threatening (Oeffinger et al. 2006). The risk of dying from a cancer or a cardiac disease is greatly increased when compared to the general population of the same age and gender (Tukenova et al. 2010a; 2010b), resulting in a significant reduction in life expectancy.

2   Methods

Study participants were French members of the Euro2K cohort, an international multicentre cohort study which started to assess adverse effects of cancer treatment in the 1990s. Participants in this cohort were treated for solid tumours or lymphoma when they were children or adolescents (< 18 years old) in five French cancer centres (but not for leukaemia, which was not treated in these centres). All the patients diagnosed with these tumours in these five centres between 1948 and 1985 were included in the cohort. The detailed description of the cohort can be found

elsewhere (Dumas et al. 2017). For the qualitative study, a sample was constructed using random selection. Patients treated for brain tumours were excluded because of the specific challenges they face, due to the cognitive late effects of treatment (Boydell et al. 2008). Among the remaining participants (n = 1 389), a sample was constructed using random selection. Of the 97 participants contacted, 80 (82.5%) participated.

This analysis is a part of a wider research on the trajectories of adults who were treated for childhood cancer, and on the subjective embedding of the illness into their lives (Dumas et al. 2015). In 2011, we did an exploratory qualitative study *with 17 adults,* using life history interviews and eliciting personal *narratives.* The analysis of these interviews provided the relevant categories to design a comprehensive semi-structured interview guide. This exploratory study also revealed a great variability in situations and contexts. The number of subsequent interviews was high (n = 63) in order to stratify analysis by different subgroups according to type of cancer and age at diagnosis.

Medical data concerning childhood cancer (type of cancer, year and age at diagnosis, type of treatment) were obtained from medical records. All other data came from the interviews. The interview guide was structured around the *health and social trajectories* of individuals. Besides the description of immediate and long-term effects of cancer or other unrelated diseases, participants were asked how they currently dealt with late effects of childhood cancer. In addition, the participants were invited to depict the larger familial and social context in which their health trajectory took form, as well as the extent to which they had incorporated the illness in their identity. To investigate the subjective meaning of childhood cancer for interviewees, and to explore the way cancer had been integrated in their personal history and identity, we asked about the *doing of cancer narratives,* i. e. how cancer had been evoked in the family, in particular with parents, and, over the life course, with friends, partners, children, and significant others.

Interviews lasted one hour and a quarter, on average. All were tape recorded and transcribed. We used an inductive approach in data analysis (Strauss and Corbin 1998). We followed the pattern coding approach suggested by Miles and Huberman (1994). Content analysis was computer-assisted with qualitative data analysis software (Nvivo). The study received approval from the national commission controlling data collection in France (CNIL) and from the Ethics Committee of the French National Institute of Medical Research and Health (INSERM). Informed consent to inclusion in the study was obtained from all participants. Initials and names have been changed for this article.

3   Results

Participants (38 women, 42 men) came from socially diverse origins. They were 36 years old on average at the time of study (mean time elapsed since diagnosis: 30 years). At the time of interview, 11 persons did not know precisely the type of cancer they had or the treatment they underwent as children. Clinical characteristics of participants extracted from medical files (diagnosis, treatment, age at diagnosis and year of diagnosis) are presented in table 1. At the time of study, 69% of participants reported physical sequelae related to their childhood cancer; 19% of participants received economic compensation in relation to these sequelae. The majority of the adverse effects of treatments were cardiac and/or pulmonary diseases, functional limitations due to amputation, and/or severe musculoskeletal disorders. Sixteen persons had a recurrence or a second cancer – half of them during childhood or adolescence.

Table 1   Characteristics of participants (%)

Sex		Treatment	
Male	52.5	Chemotherapy	82.5
Female	47.5	Radiotherapy	57.5
Cancer diagnosis		Year of diagnosis	
Nephroblastoma	22.5	1970–1974	22.5
Lymphoma	22.5	1975–1979	28.8
Neuroblastoma	13.8	1980–1985	48.7
Soft tissue sarcoma	5.0	Age at diagnosis	
Bone sarcoma	8.7	Younger than 5 years old	41.2
Gonadal tumours	16.2	Between 5 and 9 years old	31.3
Retinoblastoma	2.5	Between 10 and 14 years old	23.7
Other	8.7	Between 15 and 18 years old	3.7

Interviewees (n = 80).

Different discursive patterns, reflecting contrasting gendered representations and attitudes concerning childhood cancer and ill-health, emerged from the inductive analysis. These contrasting attitudes were first perceptible through the account of the illness in childhood, which often turned out to be an "unspoken illness." Indeed, for half of the respondents, cancer had been a form of taboo within the familial sphere, during childhood and beyond. While women tended to disagree with their parents' attitudes, men tended to approve of them, and felt that they had been protected by the silence of their parents. These differences extended into adulthood, with gendered discursive patterns about ill-health: a passive attitude towards ill-health

was more likely to be reported by men, who sometimes drew upon stereotypes of masculinity to legitimise their attitude.

3.1 An unspoken illness since childhood

The place of cancer in family interactions is a salient feature of the interviews. In fact, this place was a "non-place": more than half of the people we met reported a silence surrounding childhood cancer in the family, during childhood and after (42/80). This absence of communication about the illness was sometimes defined as a "taboo" by interviewees. This avoidance was so strong that eight people learned that they had had cancer in more or less accidental circumstances, not from their own parents, but from a third party.

Different reactions to this silence were expressed by the interviewees, with a clear sex-pattern.

3.1.1 An approved silence

Silence about childhood cancer was perceived by eleven interviewees as a way to protect them. This opinion, largely expressed by men (9/11) presented silence as an appropriate attitude. Silence during and after the disease was reported in a great variety of situations, and was not related to type of cancer or age at diagnosis. This silence was even reported by persons who were treated as adolescents in a cancer centre, as in the case of Denis, who learned from his medical oncologist, when he was 25 years old, that he had been treated for prostate cancer at the age of 15, and who stated that "[his] parents were right to be silent." Likewise Paul was treated at the age of 11 for osteosarcoma and also approved his parents' attitude, even though he remembered that he felt "lost" during the treatment period:

> *I was a little lost. I did not understand what I had, for a long time. I think that my mother knew, but the word was not pronounced. We could talk about plenty of things, but never about that. In my opinion… Well, finally, now I think that I was also protected from being anxious…* (Paul, 40 years old, had a bone tumour at age 11)

Sometimes, the word "cancer" had never been pronounced, as in the case of Antony, 45 years old, whose mother had never said the word "cancer" in the thirty years following the illness. Like others, he explained the attitude of his mother as a way of protecting him.

> *The word "cancer" was not really used when I was a child. It is only afterwards, that I realized… I told myself "Yes, it was simply a cancer" (…) Even when I became an adult, my mother never used the word "cancer" (…) It was her way of protecting me.* (Antony, 45 years old, had a bone cancer at age 14)

This approval was counter-balanced by the opposite reaction of blaming.

3.1.2 A resented silence

Some participants (n = 14) did not approve of the silence about cancer and felt resentment towards their parents. In contrast, this view was dominant in women (9/14 were women). They blamed their parents for preferring technical terms that are meaningless for young children to that of "cancer." This led them to understand their history only belatedly, in a context they viewed as inappropriate. For instance Sabrina, treated when she was 5 years old, learned from her cousin when she was about 10 years old that she had had cancer. Instead of the word "cancer," her parents used the term "malignant tumour," which was meaningless for her.

> *It really disturbed me, to know nothing at all about it. I said to my parents:*
> *"Everybody knew about it except me!" That part, I did not like it so much.*
> (Sabrina, 37 years old, had a gonadal tumour at age 5)

Another woman, Nicole, who was treated when she was an 18-month old baby, revealed how she was systematically excluded by her mother from follow-up consultations. She discovered she had had cancer when, in her 20s, she received a letter from the cancer centre warning her about a risk of cardiac late effects related to the chemotherapy she received as a child. She did in fact have serious complications afterwards, and had to undergo a heart transplantation when she was 25. Her mother had died a few years after that; she had never discussed her medical history with her mother.

> *They did not really… tell me, they did not tell me in detail. In fact, when*
> *we were visiting the doctors, Mom would always say to me: "Stay in the*
> *waiting room, I'll see the doctor and after that, you can come in." My*
> *mother would listen to the doctor and, after that, I would come in. She did*
> *not want me to know… and I think that… Since my mom died… Well, I*
> *wish I knew more things. (…) I think they wanted to protect me but I like*
> *to know everything so… It is true that it is rather vague for me and… I*
> *think one day I will ask my father to tell me a bit more about my history…*
> (Nicole, 33 years old, had a soft tissue sarcoma at age 1)

Likewise, Sarah, who was treated for lymphoma at the age of 11, received chemotherapy for several months. She realized at the age of 14, listening to a radio show, that the hospital where she was treated was a cancer centre. She reported a very painful moment:

> *That lie hurt me… The fact that they did not talk about it, it hurt me…*
> *Afterwards, now, I understand, but at that precise moment, it was very,*
> *very hard to deal with…* (Sarah, 39 years old, had lymphoma at age 11)

These contrasting reactions to the same parental attitude of avoidance echoed gendered health-related attitudes and behaviours in adulthood. Just as men and women tended to be opposed in terms of their judgment of their parent's attitudes, there was also a clear gender pattern in attitudes towards ill-health in adulthood.

3.2   Attitudes towards ill-health in adulthood

Attitudes concerning childhood cancer and ill-health during adulthood were classified into two categories, a passive and an active one.

Participants were classified in the active category if they had: 1) looked for information about their cancer; 2) if cancer had been positively integrated into their identity; 3) if they worried about possible late effects; 4) if they said they took care of their health. Participants were classified in the passive category if 1) they had never looked for information about their medical history; or 2) they had distanced themselves from their history of cancer, trying to forget it; or 3) if they said they did not pay attention to their health, e. g. if they smoked or avoided medical appointments. While the active attitude category was composed of 15 men and 21 women, men were dominant in the category displaying a passive attitude towards health (22 men and 6 women).

3.2.1 An active attitude

An example of displaying an active attitude was provided by Carole. Like several other women, her concern about her medical history emerged when she was planning to have a child. She wondered if her childhood cancer was a genetic disease, and if the treatment she had received as a child could have an impact on the health of her offspring.

> *I really obtained information when I got pregnant, in 2008, when I was wondering about the possible consequences of the fact that I have only one kidney, and related to the treatments I had when I was a child, if that could have an impact on the baby. So I called someone from the paediatric department of the hospital, who sent me my medical file, and who told me that there was no problem for my pregnancy.* (Carole, 32 years old, had Wilm's tumour at age 1)

Several men also displayed proactive attitudes about their health. Ben, who was 29 years old at time of interview, was among the youngest persons we met. He was treated for Neuroblastoma when he was only a few months old. He reported how, a few years earlier, he had learned the name of his cancer by searching in his medical record and by questioning his parents.

> Interviewer: *"When did you understand what had happened to you when you were a child, that you had cancer?"*

> Ben: *"Well, the word cancer, that was kind of late, because this was not a word that was used… For instance I learned about the word 'Neuroblastoma' late, very late, when I was about 20 years old. Before that, I did not want to remember it… We did not talk about it that much… I was the one who looked in my health record. I was the one who interrogated my parents. I was the one to… (unfinished). It was not so long ago… Four, five years ago. Previously I could not give a name to it…"* (Ben, 29 years old, had Neuroblastoma when he was 6 months old)

3.2.2 A passive attitude

A passive and fatalist attitude towards ill-health was displayed even in the context of severe and chronic disease. For instance Patrick, a 28 year old accounting officer in the insurance sector, who had a cardiac disease because of the treatment he received 25 years earlier, demonstrated masculine stereotypes while explaining his smoking habit:

> *My parents think I am frail. Each time I go out, they say to me: "Don't drink too much, don't smoke too much." I don't have the feeling I smoke too much, I smoke only three, four cigarettes a day. I know this is not good. My aunt died of it… But for me it is a pleasure, I don't want to miss that pleasure because of… my childhood. So each time it gets on their nerves when I say: "I have already had cancer once. I will not have a second one. Anyway, I am invincible."* (Patrick, 28 years old, had neuroblastoma at age 3)

At times, the passive attitude was associated with approving the parental taboo about cancer; but it could also be performed together with enactment of gender stereotypes. Joel was treated for osteosarcoma at age 8, and underwent amputation at age 11. He has had a life-threatening respiratory disease since adolescence because of recurrence of cancer in the lung at age 16. Employed as a technician, he was registered as a disabled worker at the time of the interview. He recalled that, during his adolescence, "it [cancer] was not a complete taboo, but we did not talk about it at dinner." He enacted masculine traits of resistance in explaining his avoidance of medical appointments.

> *I have to feel extremely bad to go and see a doctor… Meanwhile, nothing really important happens to me! The day I will spit five litres of blood I will go and see a doctor!* (Joel, 44 years old, had osteosarcoma at age 8)

Many of those who exhibited masculine stereotypes with respect to health also suggested that they distanced themselves from cancer (12 men and 2 women reported such an attitude of distancing). This was the case for Lionel, a musician who was treated in 1982 for lymphoma and who has lived with HIV and HVC – both contracted at the hospital – ever since. While portraying himself as a survivor – saying

"yes, I have the feeling that I am a survivor, and I am quite proud of it," he acted as if cancer had "never happened."

> *I never asked my parents about what happened, I never looked for infor-*
> *mation… I acted like nothing had ever happened… Maybe I could have*
> *asked. For a very, very long time, I pretended it had never happened.*
> (Lionel, 40 years old, had lymphoma at age 10)

Participants who distanced themselves from cancer often reported that they did not pay attention to their health. Both these attitudes were mainly reported by men (12/14). Christian, a 33-year-old programmer, who was treated for Wilm's tumour at age 3, reported that "up to now, [he had] tried to forget, to live a normal life." A cardiac examination and follow-up was offered to Christian, in the same way as to many of the former patients who received anthracyclines, a chemotherapy which can seriously damage the heart function. He declined because he did not want to discover that he might have late effects related to childhood cancer.

> *It seems that the medications that were used back in the days when I was*
> *treated, they were kind of… experimental. They gave me one which is bad for*
> *the heart. I was supposed to do tests to check that, and I did not go because I*
> *did not want to find out I had late effects related to it.* (Christian, 33 years
> old, had a Wilm's tumour at age 3)

In the end, this passive attitude results in a lack of information about one's own medical history, possibly resulting in gendered vulnerabilities. At time of interview, 11 persons (14% of interviewees) did not know the type of cancer they had as children, or the type of treatments they received. Of these 11 persons, 7 were men.

4   Discussion

This study aimed to investigate health-related behaviours in adults who had a life-threatening illness during childhood or adolescence and who have had an increased health risk ever since. The accounts of participants reflected firstly the perceived lack of communication about childhood cancer. The medical context, in the 70s and 80s, was different from that of today. At that time, barely 30% of children with cancer survived the disease. An important finding was that reactions to this perceived lack of communication followed a gender pattern, with women unsatisfied and wanting to know more about their history, and men satisfied with the situation but enclosed in a passive position. Beyond this gender difference, the life course approach used in this study highlights the role of the parents' management of the illness, their difficulties in evoking the illness with their child and thus in providing their child with sufficient useful information to take care of their health adequately

as adults. Indeed, whether they were men or women, the participants' lack of knowledge about medical history originated in the parental reaction to the illness during cancer treatment and beyond, revealing a long-lasting familial construction of a health-related vulnerability.

Secondly, discourses provided insight into the intensity of masculine normative values and attitudes in this particular health context. A passive and fatalist attitude was mainly displayed by men. Avoidance of medical follow-up was also mostly reported by men, and was sometimes associated with a performance of masculine stereotypes. Our findings reflect the results of other qualitative studies, in which enacting masculine traits has been found to deter help-seeking behaviours such as reporting symptoms, and to be associated with reluctance to consult doctors, in the context of prostate cancer (Cameron and Bernardes 1998; Chapple and Ziebland 2002) or myocardial infarction (White and Johnson 2000). Some authors argue that the embarrassing nature of the symptoms of prostate cancer contributes in a unique way to reluctance to seek medical help (Chapple and Ziebland 2002), and therefore that disease does not constitute an adequate point of comparison. White and Johnson (2000) describe men's decision making in help seeking prior to admission to a coronary care unit with chest pain. These men sought assistance at a point beyond that which would have been logically expected by the clinical team. A feature of the men's experiences was that, although they had suffered intense pain prior to admission, they had ignored their feelings of ill-health because of masculine feelings of invincibility. Further light is shed on the role of masculine stereotypes in health-related attitudes by a study based on focus groups with 55 men from different social backgrounds, ages and health contexts (O'Brien et al. 2005). In this study, authors found "a widespread endorsement of a hegemonic view that men should be reluctant to seek help" (O'Brien et al. 2005, 503). However, such views were dominant in younger men who stressed the need to be obviously injured, seriously ill or pressured before they would consider seeking medical care. One of the interviewees of the study made by O'Brien et al., who was young and in good health, stated that "you have to be bed-ridden or half dead before you'll go to the doctor" because "that's what being a man is" (O'Brien et al. 2005, 508). In contrast, the authors report accounts of greater willingness to consult in older men in their 50's or over who have had prostate cancer or cardiac disease. The authors conclude that seeking help is perceived as a behaviour challenging the conventional norms of masculinity amongst young men "who adhered to a model of masculinity that men who had experienced serious illness had been forced to question" (O'Brien et al. 2005, 514). The authors thus introduce the idea of a "hierarchy of threats" to masculinity: in their study, in which men who have had prostate cancer or cardiac disease attribute a higher priority to the preservation of their health than to the preservation of their masculinity. In contrast, the accounts provided here by childhood cancer survivors indicate that the dominant model of invulnerable masculinity may still be prevalent,

and that the hierarchy of threats may still prioritise masculine ideals over health even in men who have been in bad health since childhood. One important point is that these masculine traits were spontaneously enacted by men *without being asked about it specifically,* since the scope of our study did not initially cover gendered health-related attitudes. This means that help-seeking behaviours, which include a wide range of manifestations, may have lacked the more sophisticated treatment that their full exploration merited. However, participants' accounts emphasized not only gendered *discourses* about health, but also stressed gendered *practices:* ignorance about one's own medical history, reluctance to seek medical care, and delay in physical examination for cardiac or respiratory diseases consequential to childhood cancer.

As Courtenay emphasizes, "by dismissing their health care needs, men are constructing gender" (Courtenay 2000, 1389). Because gender stereotypes are rooted in power relationships (Pyke 1996), Courtenay argues that men use health beliefs and behaviours to demonstrate dominant masculine ideals that clearly establish them as men:

> *[In] Exhibiting or enacting hegemonic ideals through health behaviours men reinforce strongly held cultural beliefs that men are more powerful and less vulnerable than women; that men's bodies are structurally more efficient than and superior to women's bodies; that asking for help and caring for one's health are feminine; and that the most powerful men among men are those for whom health and safety are irrelevant.* (Courtenay 2000, 1389)

Masculinities are multiple and socially located in both time and place, varying within persons and across situations and contexts (Connell 1995). Conformism to hegemonic masculinity, defined as the socially valued and idealised form of masculinity at a given place and time (Connell 1995), was enacted by some participants and was used to legitimise a reluctance to undergo medical surveillance. Paradoxically, adherence to hegemonic masculinity norms such as being strong, invincible and independent turned men into passive objects of care. A remarkable proportion of these men, irrespective of their social background, did not know the type of cancer they had as children or the treatments they had received, which is a major obstacle to prevention of late effects. This lack of control over information about their own history has the potential to put them at risk. Excess mortality related to childhood cancer treatment (in particular in relation to cardiovascular diseases and cancer) begins at age 40 (Tukenova et al. 2010a; 2010b). The standardised mortality ratio for cardiovascular mortality is 8 fold higher for survivors of childhood cancer as compared to the general population of the same age and gender (Tukenova et al. 2010b). Prevention strategies are possible, including medication reducing the risk of developing severe cardiac disease, and screening for cancer, possibly resulting in early detection and better prognosis (Mulder et al. 2013; Yeh et al. 2014). Not everyone needs regular medical surveillance; nonetheless, prevention of late effects

following cancer treatment presupposes a knowledge of at least the kind of therapy received during childhood.

However, not all men lacked interest in their medical history and their health. Our data also highlighted the diversity of experiences and practices within both sexes. While some women also displayed passive and fatalistic values about health, some men contested masculine norms, showing the limits of an essentialist concept of gender. In their study of help seeking for cardiac symptoms, Galdas et al. (2010) also demonstrated that while some individuals explicitly positioned their behaviour during the cardiac event as stereotypical of their gender, some behaviours that might be stereotypically considered as masculine or feminine practices were shared by both male and female participants. These results remind us that gender is not always central in the doing of health. Obviously, gender interacts with social class, culture, or ethnicity; other life events that occur over the life course may interfere with perceptions and representations of health so that, at different times and settings, individuals may hierarchise their priorities differently. More research on health attitudes and practices over the life course in different social and health contexts could make a substantial contribution to this issue.

5   Conclusion

These narratives provide insight into the gender construction of ill-health over the life course in a specific health context. Participants' accounts illustrate the construction of a health-related vulnerability caused by a lack of communication about the medical history of the child in the family, during childhood and after. The findings extend the literature on gender stereotypes and provide an example of the intensity of masculine stereotypes concerning ill-health in men who have experienced life-long illness or health risk. A passive attitude towards health, mostly reported by men, is likely to account for the formation of gendered vulnerabilities, especially in this population of individuals with an increased risk of developing chronic diseases.

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Christian Reutlinger

Machen wir uns die Welt, wie sie uns gefällt?
Ein sozialgeographisches Lesebuch

Seismo

Wieviel Pippi Langstrumpf steckt in uns? Wäre es manchmal nicht wunderbar, mit ein wenig Mut und Phantasie die Dinge ganz anders zu sehen und zu gestalten? Entscheidend für die Vorstellung von der Welt und ihrer Gestaltbarkeit sind der Standpunkt der Betrachtung und die Bereitschaft, bisherige Denkweisen und Normalvorstellungen zu hinterfragen. Das sozialgeographische Lesebuch nimmt konkrete soziale und räumliche Phänomene unter die Lupe: Nachbarschaften und ihr verlorenes Integrationspotential, benachteiligte Quartiere und ihr Einfluss auf das Lernen von Kindern, öffentliche Plätze und die Konflikte zwischen Jugendlichen und anderen Nutzenden oder zunehmende Migrationsbewegungen.

Mit der sozialgeographischen Perspektive der Aneignung werden die Welt oder Räume als Ergebnis und zugleich als Mittel für Handlungen betrachtet. Das Lesebuch gliedert sich in drei große Blöcke – öffentlicher Raum und Soziale Arbeit, Schule und Freizeit sowie ländliche und städtische Nachbarschaften und Gemeinschaften. Praxisnah und lebendig beschreibt Christian Reutlinger sozialgeographische Phänomene und bezieht dabei Perspektiven ein, die normalerweise wenig Gehör finden: von Kindern, Wohnungs- und Erwerbslosen oder benachteiligten Personen.

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Health-Related Inequalities in Life Satisfaction Among the 50+ Population in Europe: Evidence From SHARE

Valérie-Anne Ryser*, France Weaver**, and Judite Gonçalves***

Abstract: Based on the theory of Cumulative (Dis)Advantage over the life course, this study makes three contributions. Using the concentration index, it documents the extent to which life satisfaction (LS) is unequally distributed with respect to health status (HS) in the 50+ population of SHARE. It shows that HS, widowhood and adaptation processes are important factors that correlate significantly with these inequalities in all countries studied. Finally, this study reveals that the 50+ population across Europe experiences cumulative disadvantage, both in terms of HS and LS.

Keywords: health status, life satisfaction, inequalities, cumulative (dis)advantage, SHARE

Gesundheitsbezogene Ungleichheiten bezüglich Lebenszufriedenheit in der Bevölkerung 50+ in Europa: Befunde auf der Basis von SHARE

Zusammenfassung: Basierend auf der Theorie der kumulativen Vor- und Nachteile leistet diese Studie drei Beiträge. Mittels des Konzentrations-Indexes dokumentiert sie, inwiefern die Lebenszufriedenheit (LZ) je nach Gesundheitszustand in der Stichprobe von Befragten mit Alter 50+ von SHARE ungleich verteilt ist. Gesundheit, Witwenschaft und Adaptationsprozesse sind wichtige Faktoren, die in allen untersuchten Ländern stark mit diesen Ungleichheiten korrelieren. Die Bevölkerung mit Alter 50+ in Europa weist damit einen kumulativen Nachteil auf, sowohl in Bezug auf die Gesundheit als auch auf die LZ.

Schlüsselwörter: Gesundheitszustand, Lebenszufriedenheit, Ungleichheiten, kumulative Vor- und Nachteile, SHARE

Inégalité de satisfaction avec la vie en fonction du statut de santé au sein de la population âgée de plus de 50 ans vivant en Europe : résultats basés sur l'enquête SHARE

Résumé : Basée sur le modèle théorique des Avantages Désavantages Cumulés, cette étude apporte trois contributions. Utilisant l'indice de concentration, elle documente dans quelle mesure la satisfaction avec la vie (SV) est inégalement distribuée en fonction du statut de santé au sein de la population de SHARE âgée de 50 ans et plus ; elle montre que la santé, le veuvage et les processus d'adaptation sont significativement corrélés à ces inégalités. Finalement elle révèle que cette population cumule des désavantages de santé et de SV.

Mots-clés : statut de santé, satisfaction de vie, inégalités, (dés)avantages cumulés, SHARE

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1   Introduction[1]

The ageing process is characterized by physical and cognitive slowdown (e. g., Cullati et al. 2014), and health issues correlate with and determine life satisfaction (LS) (e. g., Ferrer-i-Carbonell and Frijters 2004; Dolan et al. 2008; Graham 2008; Binder and Coad 2010; Hsu 2012; Gana et al. 2013). However, as individuals become older, health status is characterized by high heterogeneity (Chandola et al. 2007; Mitnitski et al. 2017). At the same age and level of comorbidity, people have different functional profiles, which in turn relate to their LS in various ways (Graham et al. 2011; Freedman et al. 2012; Binder and Coad 2013; van Campen and van Santvoort 2013). Taking into account a life course perspective, specifi-cally the theoretical framework of Cumulative Advantage and Disadvantage (CAD model) over the life course (Merton 1968; Dannefer 1987; Merton 1988; Dannefer 2003)[2], the main aim of our study is to document the extent to which individuals who experience health disadvantages are also disadvantaged in terms of LS. Thus, we capture a cumulative double disadvantage in terms of both health status and LS, that is, what we refer to as health-related inequalities in LS. Decomposing these inequalities sheds light on the factors that are associated with them and helps identify vulnerable groups that should be the target of policy interventions aimed at reducing inequalities in Europe.

Using data from the *Survey of Health, Ageing, and Retirement in Europe* (SHARE), this article estimates the extent to which LS is unequally distributed by health status in the second half of life. These health-related inequalities in LS are based on the concentration index, a generalization of the Gini index. We then decompose these inequalities to show how health status itself as well as socio-economic, demographic, and psycho-social characteristics contribute to them. To our knowledge, this is the first study that addresses these issues.

2   Development and determinants of life satisfaction in the second half of life

LS is a subjective process that captures the cognitive dimension of subjective well-being by asking individuals to evaluate their life in general or for specific domains

2   The theory of cumulative (dis)advantages introduced initially by Merton (1968; 1988) is defined as "a systematic tendency for interindividual divergence in a given characteristic (e. g. money, health, status) with the passage of time" (Dannefer 2003, 327).

(Diener et al. 1985). It implies a comparison of personal circumstances and a mental representation of what is thought to be an appropriate standard (Schwarz and Strack 1999). LS is broadly used in the literature because its validity and reliability are well documented in fields of research, e. g. psychology, sociology, gerontology, or health economics (e. g. Pavot and Diener 1993; Dolan et al. 2008; Krueger and Schkade 2008; Diener et al. 2013). It is particularly important to have a better understanding of the processes that lead to advantages or disadvantages in LS, because LS is a proxy for measuring the quality of the psychological adaptation to the ageing process and is a marker of successful ageing (Baltes and Baltes 1990). Overall, there is very little knowledge about the distribution of LS with respect to health status over the life course and especially at older age. Most of the literature shows the extent to which health is correlated with LS, but does not look at how the distribution of LS is related to health, which is the first aim of our study.

Based on cross-sectional or longitudinal studies, it has been documented that the evolution of LS over the life course is U-shaped (e. g., Blanchflower and Oswald 2008). Middle age (between about 45 and 65 years of age) is often linked to the lowest levels of LS. Then, an increase in LS is observed at older ages (Diener and Suh 1997). It has been shown that people in their sixties have high levels of LS. Finally, there is evidence that a decrease in LS tends to occur in the fourth age (e. g., Mroczek and Spiro 2005).

According to the CAD theoretical model (Dannefer 1987; 2003), LS results from cumulative processes over the life course. Exposure to poor or good circumstances earlier in life, or risk versus protective factors, influence the level of LS differently. Demographic characteristics, socioeconomic status, health status, social interactions and activities, as well as psychological characteristics explain the processes by which social advantages and disadvantages affect LS at different stages in life (Dolan et al. 2008; Stutzer and Frey 2010; Burton-Jeangros and Zimmermann-Sloutskis 2016). In middle age, individuals accumulate a different level of constraints: e. g. at the individual level by the professional activity, at the family level by difficulties in combining work and family demands. These constraints impact LS negatively compared to older people who tend to have less constraints. At an older age, individuals who cumulate advantages, such as higher level of education, better physical, psychological and emotional health, or who benefit from social support, also tend to cumulate a higher level of LS (Hsu 2012). In addition, people compare themselves to others. They may have a good or poor self-evaluation using social comparison with their perceived peers (Festinger 1954). Thus, relative measures influence LS as well, in particular relative health or relative income (Clark and Oswald 1996; Kaplan and Baron-Epel 2003; Ferrer-i-Carbonell 2005; Carrieri 2012). Individuals who cumulate perception of better health or think that they are wealthier, compared to their peers, tend to express higher LS (Girardin et al. 2008). The opposite holds for individuals who perceive themselves as being

less healthy or less wealthy than their peers: they tend to cumulate disadvantages and have lower levels of LS.

3   Health during the second half of life and its implication on the distribution of life satisfaction among the older population

Health affects LS to various extent. Health is a generic term that encompasses many different facets, such as diagnoses, mortality risk, functional capacity, subjective health, and frailty[3] (Johnson and Wolinsky 1993; Smith et al. 2002; Spini et al. 2007). Overall, the prevalence of chronic conditions and comorbidities – co-occurring disease such as diabetes, cardiovascular disease, osteoarthritis, dementia, or depression – tend to be quite high among the 50+ population and persist at older ages (Barnett et al. 2012; WHO 2014; Weaver 2016).

People with low levels of education tend to cumulate negative outcomes and thus experience health deterioration earlier in their life course, compared to individuals with higher levels of education (for a review Cullati 2015). The heterogeneity of health status during the ageing process has a gender dimension as well. Women tend to experience more serious health deterioration than their male counterparts. For example, life expectancy with severe disabilities after the age of 80 is twice longer for women that for men, in part because men reaching these ages are typically healthy (Romoren 2001; Romoren and Blekeseaune 2003). Yet, health trajectories are heterogeneous and dynamic: Some studies highlight a linear pattern of degradation (Cullati 2015) whereas others emphasize that health improvements are observed even among the oldest persons (e. g., Borrat-Besson et al. 2013).

The chronic and often irreversible nature of health deterioration impacts LS negatively and persistently (Gana et al. 2013). Typically, both objective and subjective health indicators, such as self-assessed health, medical conditions, or disability, are correlates of LS (Ferrer-i-Carbonell and Frijters 2004; Binder and Coad 2010). Each of these measures relate differently to LS. However, all of them tend to decrease LS when they deteriorate and increase it when they improve. Yet, patterns of health deterioration and their impacts on LS may differ across individuals. This heterogeneity in health will therefore lead to an unequal distribution of LS with respect to health, namely the presence of health-related inequalities in LS. That means that individuals accumulate disadvantages in term of both health and LS.

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3   Frailty is defined as a gradual process of cognitive and physical deterioration that affects the reserves in different physiological, sensorimotor and cognitive systems (Spini et al. 2007).

4   Health-related inequalities in life satisfaction: motivations

A large body of cross-sectional and longitudinal studies explored individual LS over time and with age. These LS trajectories reflect both within-person and between-person differences (e.g., Mroczek and Spiro 2005; Schilling 2006; Gerstorf et al. 2008; Berg et al. 2009). Most studies on individual LS are based on a correlative approach (Pinquart and Sörensen 2000), which provides adjusted (based on regression analyses) or unadjusted mean correlations that are relevant only to the "average person" in each study. At the macro level, international comparisons are based mainly on mean estimations of LS by country (Blanchflower and Oswald 2004; Helliwell et al. 2013). Some studies assess the correlation between macro-level inequalities in income and individual LS (Alesina et al. 2004; Schwarze and Härpfer 2007; Rözer and Kraaykamp 2012).

To our knowledge, little attention has been paid to inequalities in LS. Most of the existing estimations concentrate solely on the overall inequalities in LS, that is, the degree to which LS is unequally distributed in the population. Two institutional reports compare inequalities in LS across countries (OECD 2011; Eurofound 2013). They rely on crude or univariate measures of inequalities: the differences in mean LS between the top and bottom percentiles/quintiles of the country distributions and the mean distance in LS between two individuals chosen at random (i.e., equivalent to the Gini index). Weaver and colleagues (2016) also estimate overall inequalities in LS, using a variant of the Gini index. These three studies find that Northern European countries tend to have the lowest inequalities, and Southern countries (e.g., Italy and Spain) have lower inequalities than Germany or Austria, for example. Stevenson and Wolfers (2008) look at the variance of LS across different sociodemographic groups in the United States. One study assesses income-related inequalities in LS, that is, the extent to which LS is unequally distributed by income levels in some European countries (Weaver et al. 2015). So far, no studies have investigated how LS is distributed by health status in the population.

The purpose of this study is to fill that gap. The first step is to estimate the extent to which LS is unequally distributed by health status in the ageing populations of twelve European countries. These health-related inequalities in LS are estimated using the concentration index, a generalization of the Gini index. The second step is to decompose these inequalities in order to explain the cumulative advantages or disadvantages of different determinants that contribute to these inequalities: health status itself, socioeconomic status, sociodemographic characteristics, social interactions and activities, and psychological characteristics.

This analytical strategy allows us to go beyond the simple variation in LS across individuals, by documenting the extent to which individuals who experience health disadvantages are also disadvantaged in terms of LS. Thus, we capture a double disadvantage in terms of both health status and LS. Decomposing these inequalities

allows identifying factors associated with them and helps detect vulnerable categories of individuals that should be the target of policy interventions aimed at reducing inequalities in Europe.

4.1   Data, sample and method

Our analysis is based on the non-institutionalized population aged 50+ living in the twelve countries participating in W2 and W4[4] of the *Survey of Health, Ageing and Retirement in Europe* – SHARE (Börsch-Supan et al. 2013). SHARE is a multidisciplinary and multi-country panel survey composed of individuals aged 50+ and their spouses, regardless of age. For more information and details regarding the survey sampling design, methodology, and questionnaires refer to http://www.share-project.org.

The two waves are treated as two cross-sections. Only a few individuals are observed two times. This occurs because, to compensate for attrition at W4, refreshment samples were added for nine of the twelve countries participating at W2. Because SHARE is a household survey, in the analysis, the standard errors are adjusted for household-level clustering resulting from observing several individuals nested within households, including individuals observed twice.[5] The calibrated cross-section weights are taken into account to obtain nationally representative results for each country.

The twelve countries included in the analyses, organized by type of welfare state (Arts and Gelissen 2002; Bambra 2007), are the following: The central conservative countries include Germany (DE), France (FR), and Switzerland (CH); the central social-democracies are Austria (AT), Belgium (BE), and The Netherlands (NL); the Northern countries comprise Denmark (DK) and Sweden (SE); the Southern ones are Spain (ES) and Italy (IT); and the Eastern European countries are the Czech Republic (CZ), and Poland (PL). Table 1 displays the descriptive statistics for each country.

5   Measures

5.1   Dependent variable

Life satisfaction (LS) is measured on a scale with 11 levels, based on the question: "On a scale from 0 to 10, where 0 means completely dissatisfied and 10 means completely satisfied, how satisfied are you with your life?" This variable is rescaled to the 0–1 interval to facilitate interpretation (See the Analytical strategy section).

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4   W1 does not contain a question on life satisfaction and W3 is a different survey, i. e. SHARELIFE.
5   This strategy is used to disentangle the intra and inter-households variability. This method assumes that individuals living in the same household share more than individuals living in different households.

5.2   Health measures

In order to have one comprehensive measure of *health* that captures the multiple aspects and dimensions of health, we rely on a continuous latent index (Bound et al. 1999; Jürges 2007; Bonsang 2009; Lindeboom and Kerkhofs 2009). For this latent index, objective and subjective health indicators are taken into account and are used to predict self-reported health[6], by estimating an ordered probit model separately by country. These objective and subjective health indicators are:

1. Chronic conditions – long lasting or persistent health issues.
2. Limitations in the activities of daily living and instrumental activities of daily living – two scales that refer to people's daily self-care activities that measure their functional status.
3. Diagnoses – medical identification of illnesses.
4. Symptoms of health issues.
5. Mental health – a measure or mental illness.
6. Cognition – a measure of mental processes.
7. Grip strength – a measure of the force applied by the hand to pull on or suspend from objects and is a specific part of hand strength.
8. A measure of lung capacity.

All variables have the expected signs and most of them are statistically different from zero (results of the probit model available on request). The latent health status index is standardized to vary between 0 (worst health) and 10 (perfect health).[7] The main strengths of this comprehensive measure of health are to include both subjective and objective dimensions that both impact LS (Hilleras et al. 2001; Smith et al. 2002) and to adjust for possible cross-cultural bias across countries. Two binary indicators of *Relative health* are built: *Low relative health* and *high relative health* capture whether individual health is in the bottom or top deciles of the health distribution within the reference group for each individual. The reference group consists of individuals of the same gender, five-year age group, country, and wave.[8]

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6   "Would you say your health is… Excellent; Very good; Good; Fair; Poor."
7   According to Jürges (2007, p. 2) the basic assumption underlying the analysis is that "there is such thing as a 'true' and comparable health status. This implies that one must be willing not to accept the respondent's own judgements as absolute […]. Conceptually, I consider true health as a continuous, latent (i. e., unobservable) variable. When respondents answer survey questions about their health, they assess their true health (possibly with measurement error […]) and project this value onto the scale provided. Equivalent econometric formulations are the ordered logit or probit models […]. Differences in language use that affect the relationship between true health and self-assessed health can be interpreted as differences in the so-called thresholds or cut points between adjacent health categories."
8   Education level and region were also considered for creating the reference groups but resulted in some groups with too few observations. In addition, their inclusion did not significantly impact results.

5.3   Sociodemographic variables

Age is categorized in four groups: 50 to 59, 60 to 69, 70 to 79, and 80 and over. These age groups are interacted with *Gender* to observe whether the demographic composition of the population explains differences in health-related inequalities in LS across countries (*Males 50–59* constitute the reference group).

5.4   Family situation

Marital status is captured by a set of binary indicators of being widowed, divorced/ separated (or married but not living together, partnership dissolution), single, and married (or registered partnership; the reference group). The *Number of children* is measured by a continuous variable.

5.5   Socioeconomic status

Level of education is measured by an ordered categorical variable based on the International Standard Classification of Education (ISCED). *Primary education* includes incomplete compulsory school, compulsory school, elementary vocational training, domestic science course, and one year school of commerce (reference category); *secondary education* includes general training school and apprenticeships; *tertiary education* combines the higher levels of education up to university degrees. *Employment status* distinguishes between individuals who are working, unemployed or retired (the reference category). *Income* is the household equivalent income; the OCDE equivalence scale is used (www.oecd.org/els/soc/OECD-Note-EquivalenceScales.pdf). It is transformed into a natural logarithmic scale. As for health, we assess whether large differences between the person's income and income of the reference group, as defined above, are associated with LS. *Low relative income* and *high relative income* are binary indicators that capture whether household income is in the bottom or top deciles of the reference group distribution.

5.6   Processes of adaptation

Religious activities is a dichotomous variable that takes value one if the individual participates in the activities of a religious organization almost every week and zero otherwise.[9] *Social activities* is also a dichotomous variable that takes value one if the individual participates in any of four social activities – volunteering, training courses, political/community-related, or sports-related – and zero otherwise.[10] *Trust*

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9   "How often in the past twelve months did you taken part in the activities of a religious organization (church, synagogue, mosque etc.)? Almost daily; Almost every week; Almost every month; Less often."

10   "Which of the activities listed on this card – if any – have you done in the past twelve months? Done voluntary or charity work; Attended an educational or training course; Gone to a sports, social or other kind of club; Taken part in a political or community-related organization; Read books, magazines or newspapers; Did word or number games such as crossword puzzles or Sudoku; Played cards or games such as chess; None of these."

is a continuous variable that measures the extent to which individuals express that most people can be trusted on a scale of 0 to 10.[11]

5.7   Region of residence

Lastly, we control for *Region of residence* using the Nomenclature of Territorial Units for Statistics (NUTS). NUTS is a geocode standard developed by the European Union to define the administrative divisions of countries. NUTS allow controlling for local differences, such as different living conditions, social, economic, cultural, and political environment (Arts and Gelissen 2002; Bambra 2007). The number of NUTS varies from 1 to 16 across countries.

5.8   Time trend

Because two waves of data are used, we control for time, using a binary indicator.

6   Analytical strategy

The analysis is conducted separately by country. The estimation procedure is bootstrapped in order to assess the standard errors on the contributions of health status and the other factors to the estimated inequalities (100 iterations). As stated above, the use of calibrated cross-sectional weights provides nationally representative results. Because SHARE is a household survey and the analyses are based on W2 and W4, the standard errors are adjusted for household-level clustering. The analysis is conducted in two steps. First, the health-related inequalities in LS are determined. Second, these inequalities are decomposed to understand the pathways through which health influences them and to determine the overall contribution of health and other factors to the inequalities. The methods employed in this study are commonly used to estimate and decompose all kinds of inequalities (e. g. income-related inequalities in health, or in healthcare services use) (Tubeuf and Jusot 2011; Hajizadeh et al. 2014; Devaux 2015).

6.1   Estimation of health-related inequalities in life satisfaction

The concentration index (CI) is a generalization of the Gini index that provides bivariate measures of inequalities; in other words, the CI reveals the distribution of one variable in the population, according to another variable (Van Doorslaer and Van Ourti 2011; Van Ourti et al. 2014). Here, the CI relates the ranking of individuals according to their health status to the corresponding cumulative distribution of LS in that country. The CI can potentially vary between –1 and 1. A positive

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11   "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people? Please tell me on a scale from 0 to 10, where 0 means you can't be too careful and 10 means that most people can be trusted."

CI shows that higher LS is disproportionately concentrated among persons with better health status, which is what is expected in this study. In contrast, a negative CI would mean that higher LS is disproportionately concentrated among persons with worse health status. A CI = 0 would indicate that all individuals in a country express the same level of LS.[12] The larger the absolute value of the CI is, the more pronounced the health-related inequalities in LS are.

As LS is a bounded variable that varies between [0, 1], we estimate the CI as proposed by Erreygers (2009). The CI measures the covariance between LS and the fractional rank[13] resulting from ordering individuals from worst to best health status. The exact formula is presented in Weaver et al. (2015).

6.2   Decomposition and contributions

The decomposition of the CI provides two types of results: the pathways through which health status and other factors contribute to health-related inequalities in LS and the contributions of those factors to these inequalities, in percentages. Health and the other factors can influence the CI in two ways. The first pathway consists of the association between health status, the control variables, and LS. This association is obtained by estimating a linear model of LS as a function of health status and the other variables presented above. The estimated coefficient on health status can be interpreted as the percentage point variation in LS when health changes by 10 percentage points.

The second pathway captures the overall inequalities in health and the health-related inequalities in each of the selected factors (Erreygers 2009). These inequalities are measured using the generalized concentration index *(GCI)*, which relates the ranking of individuals by health status to the cumulative distributions of health status *(GCI[health])* or the other factors. As for any CI, a non-zero *GCI* indicates that a given variable is unequally distributed across health status. Note that *GCI(health)* corresponds to the overall inequalities in health status, which is similar to the Gini index, because it relates the ranking of individuals by health status to the cumulative distribution of health status itself.

Once the two pathways are estimated, i.e. the coefficients in the LS model and the *GCIs,* they are combined to obtain the overall contributions of health status and the other factors to health-related inequalities in LS (for details on the methods refer to Weaver et al. 2016 or Erreygers 2009). These contributions are reported as percentages of the overall health-related inequalities in LS. A positive contribution means that the distribution of health or any other factor in a country exacerbates the

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12   The CI also equals zero if the inequalities among the least healthy and the inequalities among the healthiest cancel out.

13   The fractional rank corresponds to an individual's position in the national distribution of health status, with individuals ranked from the worst to the best health status.

health-related inequalities in LS in that country. A negative contribution indicates that the distribution of the considered factor alleviates those inequalities.

7   Results

7.1   Descriptive statistics

Descriptive statistics of LS and contributing factors are displayed in Table 1. Mean LS is the highest in the Northern countries and CH. Lower mean LS levels are found in the Eastern countries. The highest mean health status levels are found in CH and the CZ, and FR and PL have the worse levels of health status.

The demographic composition of the sample is fairly similar across the twelve countries. However, small differences can be observed in marital status: For example in the Southern countries (IT, ES), the proportion of divorced/separated is lower than in the other countries. Differences can also be observed in the distributions of education and working status. For instance, CH, CZ, ES, PL, and IT have the lowest proportions of individuals who have attained a tertiary level of education. PL is the country where the rate of unemployment among the 50+ individuals is the highest. The Eastern and Southern countries have lower average levels of income. PL is the country where people are the most involved in religious activities. The Eastern and Southern countries have the lowest levels of social participation. Finally, FR is the country where people tend to have the least trust in others.

7.2   Health-related inequalities in life satisfaction

Figure 1 presents the estimated health-related inequalities in LS, ordered by increasing level of inequalities. The results reveal that health-related inequalities in LS are statistically significant in all countries. As expected, healthier individuals detain a more-than-proportional share of the total "stock" of LS in every country. The inequalities vary largely across countries: The NL has significantly lower health-related inequalities in LS than most other countries, except DK and SE. The highest health-related inequalities in LS are found in PL and IT.

With the exception of AT, most countries are grouped according to their type of welfare state: The Northern countries (DK, SE) and two of the central social-democracies (BE, NL) have among the lowest health-related inequalities in LS. The central conservative countries (CH, DE, and FR) are in the middle. The Southern countries (ES, IT), the Eastern European countries (CZ, PL), and AT (a central social-democratic country), have higher health-related inequalities.

Table 1 Descriptive statistics by country (SHARE W2 and W4 combined)

Variables	Min.	Max.	NL	DK	SE	CH	BE	FR	DE	CZ	ES	AT	PL	IT
N			4453	4214	3858	4561	7196	7039	3517	7787	4595	5681	3465	5737
Life satisfaction														
Mean	0	1	0.80	0.85	0.83	0.84	0.77	0.73	0.76	0.72	0.74	0.79	0.69	0.74
Health status														
Health	0	10	7.50	7.31	7.08	7.63	7.13	6.73	7.40	7.61	7.43	7.03	6.71	7.21
Low relative health	0	1	0.28	0.21	0.25	0.19	0.26	0.23	0.32	0.23	0.20	0.25	0.29	0.24
High relative health	0	1	0.16	0.22	0.22	0.23	0.22	0.20	0.22	0.29	0.23	0.28	0.26	0.21
Demographics														
Age[a]	50	104	65.08	64.98	66.18	65.62	65.75	65.43	66.26	64.44	65.98	65.85	64.93	66.27
Female[a]	0	1	0.52	0.52	0.53	0.53	0.53	0.55	0.55	0.56	0.54	0.55	0.56	0.54
Male 50–59	0	1	0.18	0.18	0.15	0.18	0.18	0.18	0.15	0.18	0.17	0.16	0.18	0.16
Male 60–69	0	1	0.17	0.17	0.17	0.15	0.14	0.13	0.16	0.15	0.14	0.15	0.14	0.15
Male 70–79	0	1	0.09	0.09	0.09	0.09	0.10	0.09	0.11	0.08	0.10	0.10	0.09	0.10
Male 80+	0	1	0.04	0.04	0.05	0.04	0.04	0.05	0.04	0.03	0.05	0.04	0.03	0.05
Female 50–59	0	1	0.17	0.18	0.16	0.18	0.17	0.19	0.15	0.19	0.17	0.17	0.19	0.16
Female 60–69	0	1	0.17	0.18	0.18	0.16	0.15	0.15	0.17	0.19	0.16	0.18	0.18	0.17
Female 70–79	0	1	0.11	0.10	0.12	0.12	0.13	0.12	0.14	0.12	0.13	0.12	0.13	0.14
Female 80+	0	1	0.06	0.07	0.08	0.08	0.08	0.09	0.08	0.06	0.08	0.08	0.06	0.08
Family situation														
Single	0	1	0.06	0.07	0.07	0.08	0.05	0.08	0.06	0.03	0.08	0.08	0.05	0.07
Divorced/Separated	0	1	0.11	0.12	0.15	0.15	0.11	0.10	0.10	0.16	0.05	0.12	0.08	0.03
Widow	0	1	0.15	0.14	0.13	0.13	0.15	0.15	0.17	0.17	0.16	0.19	0.23	0.19
Nb children	0	16	2.26	2.25	2.30	2.09	2.14	2.23	2.01	2.01	2.29	2.03	2.50	1.90

Continuation of table 1 on the next page.

Continuation of table 1.

Variables	Min.	Max.	NL	DK	SE	CH	BE	FR	DE	CZ	ES	AT	PL	IT
Socioeconomic status														
Secondary education	0	1	0.26	0.41	0.31	0.60	0.27	0.33	0.56	0.44	0.10	0.50	0.49	0.24
Tertiary education	0	1	0.25	0.40	0.24	0.13	0.28	0.21	0.28	0.12	0.10	0.23	0.08	0.06
Working	0	1	0.43	0.42	0.42	0.47	0.32	0.34	0.34	0.30	0.37	0.27	0.21	0.33
Unemployed	0	1	0.09	0.08	0.04	0.04	0.08	0.05	0.07	0.05	0.09	0.03	0.15	0.03
Income	0	238 153	26 516	21 468	22 855	38 282	29 835	24 024	20 975	11 174	13 142	19 732	6 619	14 546
Low relative income	0	1	0.12	0.11	0.13	0.11	0.10	0.10	0.12	0.10	0.11	0.10	0.13	0.12
High relative income	0	1	0.09	0.09	0.09	0.09	0.11	0.11	0.09	0.10	0.10	0.10	0.09	0.09
Processes of adaptation														
Religious activities	0	1	0.10	0.04	0.06	0.09	0.07	0.05	0.07	0.04	0.09	0.08	0.19	0.08
Social activities	0	1	0.61	0.64	0.54	0.54	0.48	0.43	0.42	0.29	0.19	0.37	0.08	0.21
Trust	0	10	6.39	7.43	6.60	6.39	5.35	4.67	5.30	5.68	5.36	5.81	5.14	5.03

Note: (a) Age and female are shown for descriptive purposes; the interactions between age groups and gender enter into the model.

Figure 1   Health-related inequalities in life satisfaction by country
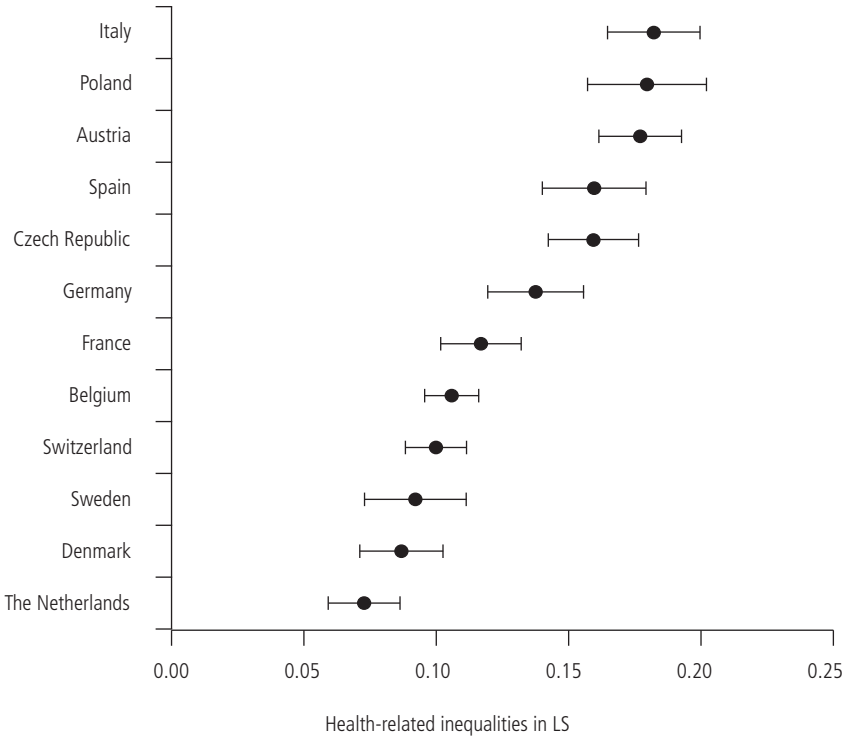
Note: Concentration indices and 95% confidence intervals.

7.3   Decomposition: life satisfaction model

Table 2 summarizes the first pathway through which the selected factors contribute to health-related inequalities in LS: The LS model that gives the correlation between each factor and LS. Results reveal large heterogeneity in these correlations across countries.

As expected, health status is statistically significant and positively correlated with LS in all countries: People tend to cumulate better health and higher LS. Yet, the magnitude of this association varies largely across countries. For example, a 10 percentage point increase in health status is associated with a 1.4 percentage point increase in LS in the NL and with a 4.1 percentage point increase in IT. Also, as expected, low relative health is negatively and significantly associated with LS in all countries. The opposite is observed for high relative health: It is positively and significantly correlated with LS in all countries, except BE.

Table 2   Linear regression. Life satisfaction model by country

Variables	NL	DK	SE	CH	BE	FR	DE	CZ	ES	AT	PL	IT
Health status												
Health	0.014***	0.017***	0.018***	0.023***	0.023***	0.023***	0.030***	0.037***	0.036***	0.034***	0.031***	0.041***
Low relative health	−0.027***	−0.027***	−0.035***	−0.050***	−0.025***	−0.033***	−0.043***	−0.042***	−0.051***	−0.047***	−0.056***	−0.049***
High relative health	0.023***	0.018***	0.028***	0.029***	0.006	0.044***	0.032***	0.024***	0.037***	0.035***	0.023***	0.031***
Demographics: ref. male 50–59												
Male 60–69	0.007	0.002	0.031***	0.016**	0.014**	0.012	0.013	0.020*	0.018	0.012	0.021	0.008
Male 70–79	0.011	0.022*	0.036***	0.047***	0.023**	0.014	0.009	0.018	0.010	0.028	0.048***	0.005
Male 80+	−0.006	0.011	0.031**	0.039**	0.047***	−0.002	0.034	0.050***	−0.005	0.021	0.065***	0.020
Female 50–59	−0.011	0.013	0.013	0.000	0.006	−0.004	0.037***	−0.014	0.005	0.037***	0.012	−0.009
Female 60–69	0.016**	0.029***	0.044***	0.032***	0.011	−0.004	0.018	0.007	0.007	0.014	0.031**	0.011
Female 70–79	0.013	0.034***	0.053***	0.043***	0.027***	0.008	0.022	0.020	0.004	0.045***	0.029	0.003
Female 80+	0.020	0.022	0.026	0.084***	0.057***	0.010	0.040	0.046**	0.024	0.022	0.096***	0.039*
Family situation												
Single: ref. married	−0.053***	−0.032***	−0.060***	−0.023**	−0.015	−0.040***	−0.073***	−0.046**	−0.041***	−0.009	−0.094***	−0.071***
Divorced/Separated: ref. married	−0.046***	−0.029***	−0.055***	−0.021**	−0.064***	−0.048***	−0.025*	−0.056***	−0.049***	−0.032***	−0.082***	−0.084***
Widow: ref. married	−0.022***	−0.017**	−0.035***	−0.015*	−0.050***	−0.041***	−0.034***	−0.040***	−0.046***	−0.009	−0.058***	−0.060***
Nb children	−0.001	0.003*	0.006***	0.005***	0.000	0.001	0.006***	0.007**	0.003	0.004*	−0.003	0.006**
Socioeconomic status												
Secondary education: ref. primary	−0.002	0.001	−0.002	0.004	0.002	0.000	−0.007	0.023***	0.005	0.022***	0.005	0.007
Tertiary education: ref. primary	−0.009	−0.014	−0.029***	0.011	0.004	−0.001	−0.008	0.036***	0.003	0.023***	0.034**	0.016
Working: ref. retired	0.004	0.017**	0.007	−0.010	0.009*	0.000	0.019*	0.021**	0.012	0.015	−0.003	−0.009
Unemployed: ref. retired	0.002	−0.010	−0.046***	−0.060***	−0.014	−0.023	−0.040***	−0.045**	−0.042***	−0.051**	−0.020	−0.061**
Log(income)	0.015**	0.019***	0.011	0.011**	−0.002	0.020***	0.007	0.021***	0.002	0.012*	0.023***	0.002
Low relative income	0.001	−0.029***	−0.009	−0.006	−0.003	−0.003	0.001	−0.009	−0.013	−0.023	0.006	−0.004
High relative income	−0.012	−0.013	−0.007	0.010	−0.002	0.001	−0.018	0.003	0.003	−0.011	−0.006	0.009
Adaptation processes												
Religious activities	0.016***	0.016	0.024***	0.008	0.021***	0.005	0.033***	0.013	0.014	0.006	0.031***	0.027**
Social activities	0.013***	0.007	−0.002	0.016***	0.010**	0.004	0.024***	0.011	0.024***	0.019***	0.018	0.010
Trust	0.003***	0.010***	0.004**	0.002*	0.004***	0.006***	0.006***	0.015***	0.003**	0.010***	0.006***	0.006***
Time trend												
Wave 2	−0.006	0.001	−0.010*	0.005	−0.013***	0.005	−0.011*	−0.028***	−0.020***	−0.049***	−0.050***	−0.015**

Note: NUTS fixed effects are not reported. * p≤0.05; ** p≤0.01; *** p≤0.001; DE Germany; FR France; CH Switzerland; AT Austria; BE Belgium; NL The Netherlands; DK Denmark; SE Sweden; ES Spain; IT Italy; CZ the Czech Republic.

The significance and magnitude of the correlations between LS and age/gender differ largely across countries. Generally, women and older people have higher LS compared to men aged 50–59, the reference category. Family situation is significantly associated with LS in all countries. Being single, divorced/separated, or widowed, as opposed to being married, is negatively linked to LS. Level of education does not play a significant role, except in CZ and AT, and to a lesser extend in PL and SE. In a few countries, compared to being retired, working is significantly and positively linked to LS (DK, BE, DE, and CZ), and unemployed people express lower LS in about half of the countries (SE, CH, DE, CZ, ES, AT and IT). Household income is significantly and positively associated with LS in seven of the twelve countries. Low relative income is significant only in DE, and high relative income is not statistically significant in any country. Finally, the adaptation processes are statistically significant and positively correlated with LS in all countries. For example, trusting other people leads to higher levels of LS in all countries. Interestingly, no general patterns can be found across welfare state regimes.

7.4   Decomposition: generalized concentration indices

The second channel through which the selected factors contribute to health-related inequalities in LS is the degree to which they are themselves unequally distributed by health status. Results presented in Table 3 indicate that nearly all factors are unequally distributed by health in all countries. Unsurprisingly, health is largely unequally distributed in all countries, as indicated by the large positive values of the *GCI(health)*. A negative values for *GCI(low relative health)* means that being in the bottom decile of the health distribution among one's peers is concentrated among individuals with poor health. Inversely, a positive values for *GCI(high relative health)* confirms that being in the top decile of the health distribution among one's peers occurs disproportionately among those with better health.

In all countries, males aged 60–69 are more concentrated among individuals with higher health status. Inversely, males 80 plus and females 70 plus are disproportionately concentrated among the less healthy individuals. In all countries, widows are disproportionately concentrated among the less healthy individuals.

Those with tertiary education are more concentrated among the healthier individuals. Interestingly, individuals who work tend to be more concentrated among the less healthy segment of the population. As expected, all income variables are unequally distributed by health status. Unsurprisingly, the health-related inequalities in income are statistically significant in all countries and are the largest in FR and DE. Low relative income is more concentrated among individuals with poorer health and high relative income is concentrated among individuals with better health.

Finally, being socially active and trusting in others are more concentrated among the healthier individuals, as indicated by positive *GCIs*. Again, health-related inequalities in the selected factors do not exhibit clear patterns by type of welfare state.

Table 3   Generalized concentration indices with respect to health by country

Variables	NL	DK	SE	CH	BE	FR	DE	CZ	ES	AT	PL	IT
Health status												
Health	0.819***	0.944***	0.922***	0.797***	0.937***	0.895***	0.854***	0.767***	0.884***	0.918***	1.004***	0.832***
Low relative health	−0.146***	−0.128***	−0.111***	−0.105***	−0.137***	−0.104***	−0.139***	−0.113***	−0.105***	−0.127***	−0.144***	−0.105***
High relative health	0.072***	0.097***	0.098***	0.074***	0.091***	0.063***	0.099***	0.111***	0.080***	0.103***	0.090***	0.077***
Demographics: ref. male 50-59												
Male 60–69	0.019***	0.016***	0.021***	0.023***	0.017***	0.014***	0.020***	0.011***	0.019***	0.013***	0.017***	0.030***
Male 70–79	−0.002	−0.006**	−0.002	−0.003	−0.003	−0.008***	−0.004	−0.009***	0.002	−0.005*	−0.010***	−0.004
Male 80+	−0.006**	−0.008***	−0.013***	−0.012***	−0.011***	−0.018***	−0.012***	−0.008***	−0.010***	−0.009***	−0.007***	−0.013***
Female 50–59	0.002	0.006	0.003	0.009*	0.011***	0.022***	0.023***	0.021***	0.020***	0.019***	0.034***	0.025***
Female 60–69	−0.011***	0.002	0.007	−0.010**	−0.002	0.000	0.007	0.001	−0.016***	0.011***	−0.005	−0.008**
Female 70–79	−0.016***	−0.015***	−0.028***	−0.026***	−0.029***	−0.023***	−0.023***	−0.031***	−0.044***	−0.017***	−0.046***	−0.048***
Female 80+	−0.021***	−0.027***	−0.033***	−0.029***	−0.028***	−0.042***	−0.034***	−0.031***	−0.036***	−0.039***	−0.029***	−0.045***
Family situation												
Single: ref. married	−0.011***	−0.004	0.000	−0.002	−0.001	0.007*	0.005	0.004**	0.012***	0.000	0.003	−0.001
Divorced/Separated: ref. married	−0.011*	−0.009**	−0.020**	−0.006	−0.002	0.000	0.002	−0.002	0.003	0.002	0.009**	0.000
Widow: ref. married	−0.024***	−0.029***	−0.035***	−0.029***	−0.035***	−0.047***	−0.045***	−0.046***	−0.056***	−0.042***	−0.046***	−0.059***
Nb children	0.007	0.010	0.029	0.020	0.013	−0.038*	−0.057***	−0.017*	−0.120***	−0.004	−0.098***	−0.103***
Socioeconomic status												
Secondary education: ref. primary	0.014**	−0.005	0.010	0.023***	0.011**	0.026***	−0.012	0.046***	0.028***	0.021***	0.064***	0.057***
Tertiary education: ref. primary	0.033***	0.047***	0.043***	0.014***	0.033***	0.047***	0.048***	0.019***	0.026***	0.039***	0.012***	0.018***
Working: ref. retired	−0.037***	−0.051***	−0.096***	−0.066***	−0.053***	−0.081***	−0.062***	−0.089***	−0.090***	−0.058***	−0.065***	−0.085***
Unemployed: ref. retired	−0.034***	−0.034***	−0.011***	−0.017***	−0.025***	−0.009***	−0.014***	−0.011***	−0.003	−0.006***	−0.009*	−0.006***
Log(income)	0.061***	0.073***	0.078***	0.065***	0.057***	0.082***	0.083***	0.070***	0.059***	0.052***	0.050***	0.051***
Low relative income	−0.024***	−0.022***	−0.028***	−0.015***	−0.010***	−0.017***	−0.013***	−0.010***	−0.003	−0.011***	−0.008*	−0.011***
High relative income	0.011***	0.010***	0.013***	0.004	0.007***	0.011***	0.016***	0.013***	0.007*	0.013***	0.010***	0.017***
Adaptation processes												
Religious activities	0.006*	0.000	−0.008***	−0.008***	0.000	0.003	0.001	−0.001	−0.006*	0.006**	0.017***	−0.005
Social activities	0.044***	0.049***	0.053***	0.045***	0.051***	0.047***	0.040***	0.045***	0.029***	0.048***	0.016***	0.049***
Trust	0.195***	0.173***	0.206***	0.168***	0.178***	0.099***	0.276***	0.168***	0.174***	0.199***	0.168***	0.268***
Time trend												
Wave 2	−0.001	−0.018***	−0.002	0.012	−0.005	0.000	0.019***	−0.004	−0.018**	−0.025***	−0.030***	−0.038***

Note: NUTS fixed effects are not reported. * p≤0.05; ** p≤0.01; *** p≤0.001. DE Germany; FR France; CH Switzerland; AT Austria; BE Belgium; NL The Netherlands; DK Denmark; SE Sweden; ES Spain; IT Italy; CZ the Czech Republic.

7.5   Overall contributions

The contributions of each factor to the health-related inequalities in LS are obtained by combining the correlations from the LS model (Table 2) and the general concentration indices (Table 3). These contributions can be found in Table 4 and are reported as percentage of the estimated health-related inequalities in LS.

The three health indicators significantly and largely contribute to health-related inequalities in LS in all countries. The contributions of health status vary from 63.9% in the NL to 80% in BE. These numbers mean that, for instance, in PL the health-related inequalities in LS would be 69.5% lower if health status was not associated with LS or was equally distributed in the population. Such high contributions are attributable to both the strong association of health and LS (Table 2) and the unequal distribution of health in the population (Table 3). In all countries low relative health contributes more to health-related inequalities in LS than high relative health.

Most of the other selected factors contribute to the health-related inequalities in a heterogeneous fashion across countries, if at all. In NL, FR, and ES gender and age do not contribute *at all* to health-related inequalities in LS. Widowhood is the only family situation indicator that significantly contributes to the health-related inequalities in LS in all countries, except AT. For instance in IT, the health-related inequalities in LS would be 7.8% lower if widowhood was not associated with LS or was equally distributed by health status. Looking at the socioeconomic status, at least one of the indicators significantly contributes to health-related inequalities in LS in all countries, except in BE and ES. Interestingly, whether level of education, working status or income contributes to the inequalities differs by country. Turning to the processes of adaptation, we observe that being socially active or trusting others contributes to the inequalities. For example, trust in others contributes to health-related inequalities in LS in all countries except CH. Again, the magnitude of the contributions varies by country, from 1.3% in ES to 7.9% in DK. Religious activities contribute to a lesser extent to health-related inequalities.

To summarize, three types of factors contribute significantly to health-related inequalities in LS in all countries: health status, widowhood, and the adaptation processes. The sociodemographic and other control variables have heterogeneous contributions across countries. These results highlight that not only the list of significant contributing factors differs largely across countries, but the magnitude of their contributions varies too. Again, no general pattern can be drawn from the grouping of countries into different types of welfare regimes.

Table 4 Contributions in percentages to health-related inequalities in life satisfaction, by country

Variables	NL	DK	SE	CH	BE	FR	DE	CZ	ES	AT	PL	IT
Health status												
Health	0.639***	0.731***	0.726***	0.740***	0.800***	0.697***	0.737***	0.720***	0.795***	0.702***	0.695***	0.746***
Low relative health	0.214***	0.160***	0.167***	0.211***	0.127***	0.118***	0.174***	0.119***	0.134***	0.134***	0.181***	0.113***
High relative health	0.091***	0.083***	0.121***	0.085***	0.022	0.095***	0.093***	0.066***	0.073***	0.081***	0.046**	0.051***
Demographics: ref. male 50–59												
Male 60–69	0.007	0.001	0.029*	0.015*	0.009*	0.006	0.008	0.006	0.009	0.004	0.008	0.005
Male 70–79	–0.001	–0.007	–0.003	–0.005	–0.003	–0.004	–0.001	–0.004	0.000	–0.003	–0.011*	0.000
Male 80+	0.002	–0.004	–0.018*	–0.019**	–0.019***	0.001	–0.012	–0.010***	0.001	–0.004	–0.010**	–0.006
Female 50–59	–0.001	0.004	0.002	0.000	0.002	–0.003	0.025*	–0.007	0.003	0.016*	0.009	–0.005
Female 60–69	–0.010	0.003	0.013	–0.012*	–0.001	0.000	0.003	0.000	–0.003	0.003	–0.004	–0.002
Female 70–79	–0.011	–0.024**	–0.064***	–0.045***	–0.030***	–0.006	–0.015	–0.016	–0.005	–0.017***	–0.030	–0.003
Female 80+	–0.024	–0.028	–0.037	–0.098***	–0.061***	–0.014	–0.040	–0.036**	–0.022	–0.020	–0.063***	–0.038*
Family situation												
Single: ref. married	0.033***	0.006	0.000	0.002	0.000	–0.010	–0.010	–0.005	–0.012**	0.000	–0.006	0.001
Divorced/Separated: ref. married	0.027	0.012*	0.048**	0.005	0.006	0.000	–0.001	0.003	–0.004	–0.002	–0.017*	0.001
Widow: ref. married	0.030***	0.023*	0.053***	0.018*	0.067***	0.066***	0.044***	0.046***	0.064***	0.008	0.060***	0.078***
Nb children	0.000	0.002	0.008	0.004	0.000	–0.001	–0.010*	–0.003	–0.008	0.000	0.007	–0.015**
Socioeconomic status												
Secondary education: ref. primary	–0.002	0.000	–0.001	0.003	0.001	0.000	0.003	0.026**	0.003	0.010**	0.007	0.009
Tertiary education: ref. primary	–0.016	–0.029	–0.054***	0.006	0.005	–0.001	–0.011	0.017**	0.002	0.020***	0.009	0.006
Working: ref. retired	–0.009	–0.040*	–0.028	0.025	–0.018	–0.001	–0.034*	–0.047**	–0.027	–0.020	0.005	0.017
Unemployed: ref. retired	–0.004	0.016	0.023*	0.042***	0.014	0.007	0.016*	0.013**	0.003	0.007**	0.004	0.009*
Log(income)	0.052**	0.064***	0.036	0.029*	–0.004	0.056***	0.016	0.037***	0.004	0.015*	0.025***	0.002
Low relative income	–0.001	0.030***	0.011	0.003	0.001	0.002	–0.001	0.002	0.001	0.006	–0.001	0.001
High relative income	–0.007	–0.006	–0.004	0.002	–0.001	0.000	–0.008	0.001	0.001	–0.003	–0.001	0.003
Adaptation processes												
Religious activities	0.005*	0.000	–0.009*	–0.003	0.000	0.000	0.001	0.000	–0.002	0.001	0.012*	–0.003
Social activities	0.031**	0.016	–0.004	0.028***	0.019**	0.007	0.027***	0.013	0.017***	0.021***	0.006	0.011
Trust	0.034**	0.079***	0.034**	0.014	0.024***	0.019**	0.050***	0.064***	0.013*	0.045***	0.024***	0.037***
Time trend												
Wave 2	0.000	–0.001	0.001	0.002	0.002	0.000	–0.006	0.003	0.009**	0.027***	0.033***	0.013**

Note: NUTS fixed effects are not reported. * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$. DE Germany; FR France; CH Switzerland; AT Austria; BE Belgium; NL The Netherlands; DK Denmark; SE Sweden; ES Spain; IT Italy; CZ the Czech Republic.

8   Conclusion

Based on the theoretical framework of Cumulative Advantage/Disadvantage (CAD) over the life course (Dannefer 1987; 2003; Merton 1968; 1988), this study documents the extent to which individuals who experience health disadvantages are also disadvantaged in terms of LS. Thus, we capture a cumulative disadvantage in terms of both health status and LS.

The estimation of the concentration index (CI) and its decomposition provide several pieces of information. First, health-related inequalities in LS in the 50+ population are significant in all twelve selected European countries. Yet, the levels of these inequalities vary largely across countries. Second, the only factors that systematically contribute to these inequalities in all countries, and lead to higher vulnerability, are health status, widowhood, and the adaption processes. Again, the magnitude of these contributions differs across countries. Third, the demographic, family situation (except widowhood), and socioeconomic factors have heterogeneous contributions; they matter in some countries and not in others. Lastly and interestingly, the level of inequalities is similar in countries with similar welfare state regimes. However, there is no pattern of the contributing factors to these inequalities by type of welfare regime. Overall, the results confirm that there are some similarities across countries, for example, the fact that health is a major contributing factor to inequalities in LS. However, the results also emphasize major differences across countries. Targeting the relevant vulnerable groups may require interventions that are specific to each nation.

Our results demonstrate that the most vulnerable groups of individuals are those who cumulate disadvantaged in LS and also disadvantage in health status, widowhood, and the adaption processes. All three factors play a key role in shaping health-related inequalities in LS. Therefore, to limit or reduce health-related inequalities in LS among the baby boomers and the elderly, effective policies should focus on their health status, pay attention to widows, and work on adaptation processes. Limiting health deterioration and improving the capacity of individuals to adapt to new situation would reduce health-related inequalities in LS.

Our study answers new questions and reveals the vulnerable groups that would benefit from policy intervention aiming at reducing inequalities in Europe. Despite its strengths, this work has some limitations. First, with most of the studies on inequalities, this analysis focuses on correlations. It does not provide causal pathways. For example, there is some evidence that LS impacts health (Binder and Coad 2010; George 2010; Diener and Chan 2011). Thus our study raised the question of the reversed causality that should be addressed in future work, in particular by relying on longitudinal data.

Second, the interdisciplinary perspective of health economics and social psychology is both a strength and a weakness. Each discipline theorizes the concept

of LS differently and focuses on different research questions and analytical challenges. Bridging the two disciplines required some conceptual and methodological compromises that have allowed us to propose unique and innovative ways to address new research questions. Such an approach is promising and could facilitate further explorations. For example, for policy purposes our study raised the importance of conducting similar analyses on other age groups, such as the working age population or children.

This study is the first to document the extent to which individuals who experience health disadvantages are also disadvantaged in terms of their LS, in other words, health-related inequalities in LS. Understanding such cumulative disadvantages is needed to design policy interventions that are effective at simultaneously improving the health and well-being of the population aged 50+. Furthermore, our results not only validate the importance of conducting this type of analyses separately by country, but more importantly, emphasize the need to think about these inequalities in the national context and to address them at a national rather than a supranational level.

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Sonja Engelage (Hrsg.)
Migration und Berufsbildung in der Schweiz

Seismo

Migrantinnen und Migranten gelten in Bezug auf Bildungsbeteiligung und Bildungserfolg ebenso wie auf Erwerbsbeteiligung und Erwerbserfolg als vulnerable Gruppe. Dabei gibt es in jeder Gruppierung je nach Herkunftsland, Bildungsaspiration und Bleibewahrscheinlichkeit andere Muster und Bedürfnisse. Um zu beurteilen, welche individuellen und strukturellen Komponenten den Bildungserfolg und die Integration in den Arbeitsmarkt bestimmen, werden Bildungswahl und Bildungswege von Migrantinnen und Migranten ebenso analysiert, wie deren Eintritt in den Arbeitsmarkt und deren Karriereverlauf.

Eine grosse Herausforderung ist aktuell der Umgang mit jungen Flüchtlingen in der Schweiz, deren Integration in die Berufsbildung und in den Arbeitsmarkt für die Schweiz eine Chance sein kann, aber auch mit besonderen Risiken behaftet ist. Für ältere Migrantinnen und Migranten gelten andere Bedingungen, insbesondere die Anerkennung von Abschlüssen, Kompetenzen und Berufserfahrungen spielen hier eine wichtige Rolle.

Ziel des Buches ist es, einen Überblick über den Forschungsstand im Bereich Migration und Berufsbildung mit Fokus auf die Situation in der Schweiz zu geben. Dabei werden Themen wie die Geschichte der Migration in der Schweiz, Sprachkompetenzen, Lernkultur, Schule und Lehrpersonen sowie Bildungs- und Berufsverläufe aus verschiedenen Perspektiven beleuchtet und Aspekte erfolgreicher Integration identifiziert.

Sonja Engelage, Bildungssoziologin, ist am Eidgenössischen Hochschulinstitut für Berufsbildung EHB zuständig für die Koordination der nationalen Forschungstätigkeiten. Ihre Themengebiete sind Bildungs- und Berufskarrieren, Gender und Migration sowie Governance und Bildungssysteme in der Schweiz und international vergleichend.

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Parenthood and Later Life Health: An International Life Course Analysis of Parents and Childless Adults Aged 50 and Older

Nadine Reibling* and Katja Möhring**

Abstract: This study investigates how women's and men's fertility history affect their health in later life and if this relationship varies across countries and cohorts. We use life history data and current health status of persons aged 50 and over from the Survey of Health, Ageing and Retirement in Europe (SHARE) for 13 countries. Country-fixed effects regressions show that parenthood itself and the number of children have little impact on later life health, but fertility timing is important. Moreover, significant country and cohort differences show that the health implications of timing depend upon the socio-historic context.

Keywords: parenthood, health, life course, SHARELIFE, welfare state

Elternschaft und Gesundheit im höheren Lebensalter: Eine internationale Lebenslaufanalyse von Eltern und kinderlosen Erwachsenen im Alter 50+

Zusammenfassung: Der Beitrag untersucht, wie sich die Elternschaft auf die Gesundheit von Männern und Frauen im höheren Alter auswirkt und ob sich der Zusammenhang zwischen Elternschaft und Gesundheit für verschiedene Länder und Geburtskohorten unterscheidet. Die Studie verwendet Lebenslauf- und Gesundheitsdaten für Personen im Alter 50+ aus dem Survey of Health, Ageing and Retirement in Europe (SHARE). Fixed-effects-Regressionen für 13 Länder zeigen, dass die Elternschaft und die Anzahl der Kinder geringen Einfluss auf die Gesundheit im höheren Alter haben, der Zeitpunkt der ersten Elternschaft aber bedeutsam ist. Signifikante Länder- und Kohortenunterschiede zeigen, dass die Bedeutung des Zeitpunkts vom jeweiligen sozio-historischen Kontext abhängt.

Schlüsselwörter: Elternschaft, Gesundheit, Lebenslauf, SHARELIFE, Wohlfahrtsstaat

Parentalité et santé à un âge avancé : une analyse internationale des parents et des personnes sans enfants à âgés de 50 ans et plus

Résumé : Cet article examine comment la parentalité influence la santé des femmes et des hommes à un âge avancé et si cette relation diffère selon les pays et les cohortes de naissance. Cette étude utilise des données biographiques et des informations sanitaires issues de l'enquête SHARE, portant sur des personnes de 50 ans et plus. Des régressions fixed-effects pour 13 pays indiquent que la parentalité et le nombre d'enfants ont peu d'influence sur la santé à un âge avancé, mais que l'âge à la naissance est important. Des différences significatives entre pays et cohortes indiquent en outre que l'importance de l'âge à la naissance dépend du contexte social et historique.

Mot-clés : parentalité, santé, parcours de vie, SHARELIFE, État-providence

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1   Introduction[1]

An increasing number of studies aims to link family and health trajectories in a life course framework (Mayer 2009). This rising effort strives both from a growing interest in the sociology of health to identify early-life predictors of non-communicable diseases/mortality (Burton-Jeangros et al. 2015) and in family sociology to understand the consequences of family transitions and their timing (Nauck et al. 2009). Moreover, investigating family trajectories can help to enlighten the distal causes of social disparities in health, since partnership and parenthood are, for instance, strongly associated with one's socioeconomic development over the life course (Furstenberg Jr. et al. 1987; Taylor 2009).

Becoming a parent is one of the most fundamental and transformative life course transitions. As a biological event, pregnancy and childbirth can have direct consequences for the health of mothers. However, it also affects various dimensions of social life including labor force participation, socio-economic development, marital quality, gender equality, leisure activities and social integration which are important determinants of physical and mental health for both men and women (indirect effects). As a result, there has been a multidisciplinary interest in the analysis of how becoming and being a parent affects individual's health.

The changing fertility behaviour during the second half of the 20th century with a decreasing number of children per couple and a rising age of mothers and fathers at first birth has further fuelled the debate on the health consequences of parenthood. The total fertility rate dropped in the United States from 2.48 in 1970 to 2.04 in 2003 and decreased even further in many European countries, e.g., in Spain from 2.88 in 1970 to 1.27 in 2003. The percent of births to women aged 40 and older doubled during that period, for instance, in the US, Denmark, and Sweden. And in all countries the share of first and second births among the age group 40 and older has increased substantially (Billari et al. 2007). Clinicians express strong concerns over the health consequences of delayed childbearing (Breart 1997; Ben-David et al. 2016) which fuel the public debate of this issue.

While all advanced, industrialized nations share these demographic trends, there are still marked differences in the fertility rate and timing of parenthood across countries. Moreover, welfare states offer different contexts for parenthood: Nordic welfare states, for instance, provide strong support for families through generous parental leave and public childcare, while in other regions, such as Southern Europe, the welfare states provide less help to families' care-taking responsibilities. Comparing the effects of parenthood on health across studies from different countries

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suggests that institutional contexts may not only shape fertility behaviour, but also influence how parenthood affects parents' health.

Considering the potential significance of both demographic trends and institutional contexts, this paper investigates life course effects of parenthood for health across countries and cohorts. We use life history data and health status information from the Survey of Health, Ageing and Retirement in Europe (SHARE) for 13 European countries. The analysis group comprises women and men older than 50 years. Based on country-fixed-effects regressions, we compare parenthood effects across three health measures: depressive feelings, self-rated health status, and the number of chronic diseases.

2   Theory

The advent of parenthood defines a core transition in the life course that may catalyse and interlock sets of social and biological consequences. The timing of that transition implicitly gauges how smoothly the social and biological spheres come together, with lifelong consequences for health. (Mirowsky 2002, 340)

We start by reviewing theories that have been developed for explaining the link between the fertility history and health. These theories not only make predictions regarding the overall effect of parenthood on health, but also consider the health consequences of parity, i. e. number of children, and their timing. Three strands of theoretical mechanisms can be identified in this body of literature: *biological explanations, social mechanisms,* and *selection processes.*

2.1   Biological explanations

Evolutionary and developmental frameworks suggest direct biological effects of parenthood for the physical health of mothers. The disposable soma theory argues that there is a "trade-off between longevity and reproduction," because reproduction uses resources that would have otherwise been available to the somatic maintenance of the mother's body (Westendorp and Kirkwood 1998). Thus, this framework suggests that mothers are in worse health than childless women and that this health disadvantage increase with the number of pregnancies women have. Empirical support for this perspective can be found in the fact that both in historic (Westendorp and Kirkwood 1998) and in recent cohorts (Hurt et al. 2006), a very high number of children is associated with increased mortality.

Biological arguments have also been important in the literature on fertility timing, because there is a biological fertility limit that ranges for women from around 16 to the early 40s. Therefore, a developmental perspective suggests that the "optimum age at first birth [is] shortly after the reproductive system is ready,

while the organism enjoys the energy and resilience of youth" (Mirowsky 2005, 32). Clinicians are concerned about teenage births, because they often occur prior to the complete development of the reproductive system and are therefore associated with a higher risk for complications and health risks for mothers and children (Ozalp et al. 2003). However, the primary concern of bio-medical frameworks have been the health risks for mothers and children arising from late childbearing such as birth defects, stillbirths, and maternal morbidity and mortality (Kozuki et al. 2013; Restrepo-Méndez et al. 2015; Lisonkova et al., 2017). Older mothers are also more likely to receive intensive medical interventions such as caesarean deliveries (Ben-David et al. 2016).

However, clinical research has also highlighted health advantages of motherhood particularly the long-term protection against breast cancer that arises from multiple and early births (Russo et al. 2005). On the other hand, motherhood and higher parity have also been shown to increase the risk for other cancer types (Muñoz et al. 2002).

In sum, biological explanations suggest mostly direct negative effects for mothers' physical health. These negative effects should be more pronounced the more children a woman has and if births occur either too early or too late.

2.2   Social mechanisms

Social scientists have stressed the various social correlates of parenthood which can exhibit positive or negative indirect effects on mothers' and fathers' health. Unlike biological frameworks, social scientists also consider implications for parents' mental health. On the one hand, parenthood can be viewed as a beneficial transition (role accumulation/enhancement) (Sieber 1974; Marks 1977) that provides meaning to one's life, increases social integration and responsibility towards one's own health. For instance, parents are less likely to engage in risk behaviour (Arnett 1998). On the other hand, parenthood can lead to role strain (Goode 1960) which creates stress and promotes unhealthy behaviour such as low physical activity, less sleep, and worse dietary habits (Nomaguchi and Bianchi 2004).

Later life health might to some extent also reflect the costs and benefits that adult children have for parents (Umberson et al. 2010). The relative importance of current effect of children and accumulated life course influences of parenthood also depend on the dimension of health. For instance, physical health (e. g., the development of chronic conditions such as heart disease) will reflect more strongly long-term strains and resources associated with parenthood.

Since parenthood can entail benefits as well as strains, research has highlighted the importance of timing. *Early parenthood* can lead to a process of cumulative disadvantage (DiPrete and Eirich 2006), because young parents are more likely to experience a disadvantaged socio-economic development and more disruptive partnerships (Taylor 2009). Therefore, in contrast to bio-clinical research, social

scientists see delaying childbirth as beneficial for mothers' and fathers' health (Lacey et al. 2017), because at a later age individuals have acquired educational, financial, and social resources that help them to cope with the costs and stresses of parenthood.

There has been a debate to what extent there is a limit to the benefits of delaying childbirth. Some theorists suggest that from a resource perspective delaying as long as possible is beneficial (Mirowsky 2005). Others have argued that such a limit might exist particularly for women. If women have births later than social norms expect or later than they personally envisioned, this can create psycho-social stress with negative implications for their health (Carlson 2011). Psycho-social stress is particularly likely if late childbearing reflects experienced difficulties with conception.

In sum, social mechanisms suggest that parenthood can be good for parents' health if the benefits outweigh the costs and that this is more likely with lower parity and delayed childbearing. Unlike the biological explanations, the indirect effects postulated by social mechanisms also suggest an impact of fatherhood on health. While delaying childbirth is expected to be generally beneficial for men, there may be a limit to the benefits of late childbirth for women if they feel that they had their children too late considering the present normative expectations or their own life plans.

2.3   Selection

There are also a variety of selection processes that may affect the relationship between parenthood and health in later life. First, *health selection* could affect whether persons become parents, but also parity and timing so that potentially the effect of all three characteristics on later life health is underestimated. Parents could be a healthier group than childless persons, since healthier women are more likely to marry and have children (Brockmann and Klein 2004). Parents with more children could be healthier than parents with less children, since biological fertility is associated with health. Finally, older mothers/fathers could be a healthier group than younger mothers/fathers, because they are still able to conceive at an age where other men and women have reached the end of fecundity (Yi and Vaupel 2004). The significance of the health selection effect is seen as important in historic populations (Hurt et al. 2006). In contemporary samples they are seen as less relevant (Huijts et al. 2013), because fertility is stronger determined by social factors since it can be controlled via contraceptives (Hurt et al. 2006). Second, social selection processes can affect fertility. Men and women with a higher socioeconomic status face higher opportunity costs and might thus more often be childless or have less children. Moreover, a low socioeconomic status seems to increase the likelihood of an early birth.

In sum, selection mechanisms could lead to an overestimation of the negative consequences of childlessness and early age at first birth for later life health, while the costs of higher parity and late age at birth for later life health might be underestimated.

3   Empirical evidence

In the following part, we review the empirical evidence on the relationship between characteristics of the fertility history and health outcomes.

3.1   Parenthood

Studies on the general effect of parenthood on health find either no health differences between parents and childless persons (Eggebeen and Knoester 2001; Mirowsky 2005; Teachman 2010; Kroll et al. 2016) or a health advantage for parents on a variety of health outcomes (Grundy and Tomassini 2005; Kohler et al. 2005; Helbig et al. 2006; Hurt et al. 2006; Teachman 2010; Read et al. 2011; Gibney et al. 2015). Interestingly, this is in contrast to research on happiness and life satisfaction which usually finds that parents with resident children are unhappier than childless persons (Hansen 2012). Age at first birth (Mirowsky 2005) and marital status (Nomaguchi and Milkie 2003) are important moderators of the effect of parenthood on health. Moreover, the effect of parenthood/childlessness seems to vary cross-nationally (Huijts et al. 2013; Tanaka and Johnson 2014).

3.2   Parity

There is mixed evidence concerning the implications of the number of births for health. While a number of studies find excess mortality (Hurt et al. 2006) and worse health for parents with a higher number of children (Kington et al. 1997; Kohler et al. 2005; Read et al. 2011), others find no associations (Henretta 2007; Spence 2008). Comparative studies show interesting – albeit contradictory – variations across contexts. In a three country comparison, Grundy (2009) reports that higher parity is associated with higher mortality in England/Wales and the US, but lower mortality in Norway. She suggests that the availability of public childcare might lead to the health benefits in Norway. In contrast, Hank's (2010) comparison of East and West German women finds that in West Germany higher parity is related to better health, while higher parous East German women have worse health in later life, even though childcare was widely available in the Eastern, but not in the Western part of Germany.

3.3   Early age at first birth

A large number of studies confirms that early childbearing is associated with poorer physical (Kington et al. 1997; Mirowsky 2002; Mirowsky 2005; Henretta 2007; Spence 2008; Taylor 2009; Barban 2013; O'Flaherty et al. 2015) and mental health for mothers (Mirowsky and Ross 2002; Spence 2008; Carlson 2011; Read and Grundy 2011). The evidence base for fathers is smaller. Most Anglo-Saxon studies also suggest negative health implications of early births for men (Mirowsky 2002;

Mirowsky and Ross 2002; Grundy and Tomassini 2005; O'Flaherty et al. 2015) while a study based on German data finds no effects of timing for fathers (Hank 2010).

3.4   Late age at first birth

The health effects of late childbearing are more controversial. For mothers, late age at first births is associated with a higher risk for breast cancer (Merrill et al. 2005), health limitations (Read et al. 2011), and sometimes a poorer physical (Mirowsky 2002; Mirowsky 2005) and mental health (Mirowsky and Ross 2002; Spence 2008; Carlson 2011). However, late births neither have a negative effect on overall mortality (Mirowsky 2005; Henretta 2007; Grundy 2009) nor on the likelihood to have (any) cancer (Henretta 2007). Late childbearing can even decrease the risks for certain cancers such as endometrial and cervical cancer (Merrill et al. 2005). For fathers, a late age at birth is either not associated with health (Hank 2010) or seems to convey health benefits (Mirowsky 2002; Mirowsky 2005; Mirowsky and Ross 2002).

The health implications of parenthood have been studied quite extensively. However, the existing evidence base is ambiguous with respect to several characteristics except the negative consequences of early births. Only a small number of studies have also considered fathers. Reviewing the evidence already suggests that the parenthood effects on health might not be universal, but depend upon the historical or social context. This is why the aim of this study is to systematically compare the later life consequences of parenthood across cohorts and countries.

4   Institutional and historical context

4.1   The 1920 to 1959 birth cohorts

The cohorts to be examined in this study are born between 1920 and 1959. They cover an interesting period of fertility trends in Europe: About half of our sample consists of pre-WWII cohorts and the other half was born after the war. The youngest cohort reached adolescence right before WWII. In our sample, less than 1% of the births occurred before or during the war. Thus, this study analyses primarily post-WWII fertility patterns occurring mostly between 1950 and 1980. The earlier cohorts from 1920 to 1944 are the parents of the baby boom generation. They display a higher fertility and a lower age at first birth than previous cohorts. For instance, in Austria the total fertility rate was 2.4 in 1950 compared to 1.96 in 1930, in France 2.93 in 1950 compared to 2.27 in 1930, and in Denmark 2.58 compared to 2.30 in 1930 (Tomka 2013). The later cohorts who reached adolescence not before the 1960s already exhibit part of the demographic change towards lower and later fertility in the Western countries that continued into the 21st century.

4.2   Implications of the social-historical context

The majority of existing work on parenthood and later life health comes from single-country studies. However, comparing the results across studies from different countries (Hansen 2012) and recent comparative work (Grundy 2009; Hank 2010; Huijts et al. 2013; Gibney et al. 2015) suggests that the wider social context could affect how parenthood and its timing affects later life health. Thus, scholars have become increasingly interested in exploring the "historical, cultural and social variations" in the relationship between parenthood and health (Mirowsky and Ross 2002, 1293). This interest strongly relates to the comparative health inequalities literature which has investigated how contextual factors such as the institutional arrangement of the welfare state moderates social influences on health (Bambra 2006; Beckfield et al. 2015). With respect to parenthood, we argue that the social context could moderate both the biological and the social mechanisms that link parenthood and health.

First, while the biological consequences of parenthood are based on physiological processes, the social context can affect the likelihood of certain risks as well as their impact on health. For instance, better nutrition and living standards have contributed to a reduction in maternal mortality (Scalone 2014). Even more important was the progress in the safety of maternal care for the decreasing biological risks of pregnancy and childbirth (Loudon 2000). The establishment of universal healthcare systems in European countries strongly increased the access to maternity care (Kennedy et al. 2015). Since both living standards and access to maternity care substantially improved in the second half of the 20th century, we can expect that parenthood, higher parity, and early or late age at first birth have been less detrimental to later life health in the younger than in the older cohorts.

Second, the social context might also affect the social costs and benefits that parenthood entails. A number of scholars have suggested that welfare states, particularly transfers and services provided to families, might increase the benefits and reduce the costs of parenthood (Curtis and Phipps 2004; Aassve et al. 2005; Aitken et al. 2015). This might be especially true for women, for whom family policy also suggests independence from their partner and "the capacity to form and maintain an autonomous household" (Orloff 1993, 319; original was in italics). This could be especially important for younger mothers who are more likely to have extra-marital births (Taylor 2009). Thus, we expect that countries with more generous family policy and services, i.e. that provide more public care services and more generous parental leave arrangements, such as Scandinavian and Eastern European welfare states, should show more positive effects of parenthood and less negative effects of early childbirth than regimes that mostly rely on family support such as conservative and Mediterranean welfare states.

4.3   Hypotheses

This study tests the following hypotheses: (1) childless individuals are in worse health than parents *(Parenthood)*, (2) a higher number of children is associated with worse health for mothers and less so for fathers *(Parity)*, (3) early parenthood is detrimental to parents' health *(Timing-Early)*, (4) for mothers, health improves with increasing age at childbirth until a certain age and then declines, while fathers' health continuously improves with delaying childbirth *(Timing-Late)*, (5) the parenthood characteristics are most strongly associated with chronic conditions which incorporates experiences over a long period of time and least with depression which can change more quickly based on current life circumstances *(Health-Outcomes)*, (6) negative effects of higher parity and young age at first birth are smaller in younger cohorts *(Cohort)*, and (7) negative effects of higher parity and lower age at first birth are smaller in welfare states with more generous family policy and services (Scandinavia < Eastern < Continental < Southern) *(Country)*.

5   Data, operationalization, and methods

5.1   Data

The empirical analysis is based on data from the *Survey of Health, Ageing and Retirement in Europe* (SHARE) waves 4 (2010, Release 1.1.1) and 5 (2013, Release 1.0.0) and information on the marital, fertility, and employment history from SHARELIFE (wave 3, 2008/2009, Release 1) (Schröder 2011; Börsch-Supan et al. 2013).[2] Health information and the control variables are drawn from wave 4 and wave 5 for those who did not participate in wave 4 and combined with the life history information from wave 3. The analysis sample consists of 5 577 men and 6 242 women who were older than 50 years at the time of the interview for SHARELIFE, hence born in 1920 to 1959. The sample comprises the 13 countries Austria, Belgium, Czech Republic, Denmark, France, East Germany, West Germany, Italy, The Netherlands, Poland, Spain, Sweden and Switzerland.

5.2 Operationalization

As dependent variables we use three health indicators. The *number of chronic conditions* is used to operationalize physical health. A measure for *self-rated health* is used ranging from 1 (excellent) to 5 (poor). To operationalize mental health we use the *EURO Depression Scale* provided in SHARE (Prince et al. 1999). The scale is an additive index reporting the number of depressive symptoms, ranging from 1 to 12 with higher values reflecting greater levels of depressive feelings. We operationalize the fertility history by means of two indicators: the number of children in three groups: no children (used as reference category), one to two children, three or more children; and the age at the birth of the first child. The life-course factors span the period from the year 1935, when the oldest sample members were 15 years old, to 2008, when the youngest became 59 years. To take into account health selectivity with respect to fertility behaviour, we control for respondents' childhood health and their parents' mortality. The information on childhood health status refers to the period from birth until the respondent become 16 years old and comprises three variables: self-rated health; whether parents smoked; and whether the respondent was confined to bed or home for one month or longer due to illness or disability. The variable on parents' survival is differentiated in three categories for each parent: mother/father died before age 60 (used as reference category); died between ages 60–74; and died at age older than 75 or is not deceased at the time of the interview. It provides a proxy information on an individual's genetic health disposition.

To analyse cohort differences, we assigned the respondents to two cohorts: those born between 1920 and 1944 are the older cohort; born between 1945 and 1959 are the younger cohort. To differentiate welfare state types, we use a categorisation in four groups following Castles and Obinger (2008): the largest group of Continental countries comprises Austria, Belgium, France, West Germany, The Netherlands, and Switzerland[3]; Scandinavian/Social-democratic are Denmark and Sweden; Southern European countries are Italy and Spain; the Central and Eastern European group comprises countries with a socialist legacy, those are the Czech Republic, East Germany, and Poland. As exogenous control variables we include age and marital status. Furthermore, we control for several socioeconomic status indicators including years of education, whether a respondent was active on the labour market, homeownership, and the logarithmized household income. Table A.1 in the Appendix gives an overview of all variables included in the statistical estimations.

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3   Switzerland and the Netherlands are ambiguous cases which have been assigned to different regimes in welfare state typologies. In this more historic perspective and in the absence of other liberal countries, we consider their assignment to the Continental cluster as most adequate for our data.

5.3   Methods

Multilevel regressions were estimated using Country Fixed Effects models. These regression models are appropriate for data-sets with a small number of macro-level units (N < 20), since they control for the residual variance on the country level (Allison 2009; Möhring 2012; Maas and Hox 2005). The regression equation for these kind of models is (linear model):

$$y_{ij} = \underbrace{y_0 + \beta_1 x_{1ij} + \; ... \; + \beta_k x_{kij} + \alpha_1 u_{j1} + \; ... \; + \alpha_{N-1} u_{jN-1}}_{\textit{fixed part}} + \underbrace{e_{ij}}_{\textit{random part}}$$

with

y_{ij}: Individual-level outcome of observation i in country j

y_0: Intercept over all countries

$\beta_k x_{kij}$: Estimator of individual-level variable number k of observation i in country j

$\alpha_1 u_{j1} + \; ... \; + \alpha_{n-1} u_{jn-1}$: fixed effects for the N–1 countries

e_{ij}: Residual variance for observation i within country j

As the metric of the outcome variable varies, we use different regression model specifications: negative binominal models to analyse the number of chronic conditions; ordered logit models for the self-rated health with five values; and OLS linear regression models for the continuous EURO Depression scale. All regression models are estimated separately for men and women and include the variables on the fertility history (number of children; age at first birth), on childhood and adolescence health until age 16 (self-rated health; periods of confined to bed/home for more than one month); parents' health behaviour when the respondent was young (parents smoked); parents' mortality (mother's survival status; father's survival status), as well as the control variables, socioeconomic status, and the country dummies as described above.

6   Results

Table 1 includes the results of the multivariate models for our three dependent variables separated by gender. In all models, we control for childhood health conditions, parents' mortality, and several indicators associated to the respondents' current socio-economic status. Our main variables of interest are the number of children and age at the birth of the first child.

First of all, differences between parents and childless individuals as well as according to the number of children are weak. Only depressive feelings for women and chronic conditions for men are significantly related with childlessness and parity. Women with one or two children have on average a 0.65 scale points reduction in the number of depressive symptoms compared to childless women. Additional analyses

Table 1   Regressions of fertility history on later life health outcomes for women and men aged 50 and above (coefficients for self-rated health and depression, marginal effects for chronic conditions)

Variables	Women			Men		
	Chronic conditions	Self-rated health	Depression	Chronic conditions	Self-rated health	Depression
Number of children (RC: No children)						
1–2 children	−0.269	−0.362	−0.645*	0.407*	−0.081	−0.013
	(0.164)	(0.246)	(0.297)	(0.202)	(0.249)	(0.262)
3+ children	−0.254	−0.355	−0.594*	0.371	−0.024	0.071
	(0.165)	(0.247)	(0.298)	(0.202)	(0.250)	(0.263)
Age at 1st Child	−0.134***	−0.241***	−0.226***	−0.101***	−0.116**	−0.187***
	(0.031)	(0.042)	(0.050)	(0.027)	(0.039)	(0.040)
Age at 1st Child squared	0.002***	0.004***	0.004***	0.001**	0.002**	0.003***
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)
Childhood health status (birth until age 16)						
Self-rated health	0.124***	0.286***	0.159***	0.056**	0.212***	0.092***
	(0.018)	(0.025)	(0.029)	(0.018)	(0.026)	(0.027)
Parents smoked	0.041	0.009	0.096	0.069	0.091	0.113*
	(0.037)	(0.049)	(0.060)	(0.038)	(0.053)	(0.056)
Confined to bed/home for 1+ month	0.121*	−0.144	0.087	0.167**	0.037	0.023
	(0.055)	(0.076)	(0.091)	(0.057)	(0.083)	(0.087)
Parents' mortality						
Mother's survival status (RC: Died before age 60)						
Died age 60–74	0.159*	−0.295**	−0.281**	−0.095	−0.176⁺	−0.215*
	(0.064)	(0.090)	(0.107)	(0.065)	(0.095)	(0.099)
Died age 75+/Not deceased	0.031	−0.316***	−0.227*	−0.112*	−0.185*	−0.129
	(0.056)	(0.078)	(0.092)	(0.056)	(0.082)	(0.086)
Father's survival status (RC: Died before age 60)						
Died age 60–74	−0.089	−0.201**	−0.181*	−0.028	−0.010	−0.013
	(0.051)	(0.071)	(0.085)	(0.051)	(0.073)	(0.077)
Died age 75+/Not deceased	−0.177***	−0.225***	−0.213**	−0.183***	−0.220**	−0.108
	(0.047)	(0.065)	(0.078)	(0.048)	(0.068)	(0.071)

Continuation of table 1 on the next page.

Continuation of table 1.

| Variables	Women			Men		
	Chronic conditions	Self-rated health	Depression	Chronic conditions	Self-rated health	Depression
Controls						
Married	−0.058	−0.063	−0.065	−0.021	−0.060	−0.078
	(0.041)	(0.056)	(0.067)	(0.050)	(0.072)	(0.075)
Log. household income	0.000	−0.069***	−0.055*	0.004	−0.090***	−0.138***
	(0.015)	(0.020)	(0.025)	(0.016)	(0.023)	(0.024)
Age	0.033***	0.043***	0.028***	0.024***	0.037***	0.033***
	(0.002)	(0.003)	(0.004)	(0.002)	(0.004)	(0.004)
Years of Education	−0.026***	−0.046***	−0.026***	−0.005	−0.045***	−0.022***
	(0.005)	(0.006)	(0.007)	(0.004)	(0.006)	(0.006)
Employed	−0.592***	−0.364***	−0.098	−0.619***	−0.425***	0.088
	(0.065)	(0.073)	(0.088)	(0.064)	(0.078)	(0.081)
Owner	−0.169***	−0.195***	−0.273***	−0.215***	−0.268***	−0.119+
	(0.041)	(0.057)	(0.068)	(0.044)	(0.063)	(0.066)
Constant			5.708***			4.179***
			(0.813)			(0.730)
Cut-point 1		−5.276***			−3.840***	
		(0.682)			(0.710)	
Cut-point 2		−3.803***			−2.325**	
		(0.680)			(0.708)	
Cut-point 3		−1.842**			−0.336	
		(0.679)			(0.707)	
Cut-point 4		0.107			1.540*	
		(0.679)			(0.708)	
N	6 242	6 242	6 242	5 577	5 577	5 577
Log Likelihood	−1.06e + 04	−8378.405		−9 071.983	−7 527.678	
Chi square	1 135.238	1 600.559		707.597	1 122.799	
R squared			0.113			0.075
Adjusted R squared			0.108			0.070

Notes: Standard errors in parentheses; *** p≤0.001, ** p≤0.01, * p≤0.05; model specification varies by the metric of the outcome variable: chronic conditions: negative binomial (marginal effects reported), self-rated health: ordered logit; depression scale: OLS; higher values indicate worse health.
Source: Own calculations using SHARE waves 4–5 and SHARELIFE.

have shown that this result only applies to older women (age 65 and above), whereas for the younger of age 50 to 64 no significant differences in depressive symptoms between childless women and mothers exist (see Table A.2 in the Appendix). The reverse relationship exists for men's physical health: men with one or two children have on average a 0.41 scale points higher number of chronic conditions, while there is no significant difference between men with three or more children and childless men. To sum up, we do not find evidence to support our first hypothesis: *parents are not in better health than childless individuals,* the only exception being depressive feelings among women. With respect to physical health of men we even find those without children to be in a better condition than parents. Therefore, Hypothesis 2 assuming worse health for individuals with a high number of children is only supported with respect to men's chronic conditions.

Timing of the first birth, however, is significantly associated with later life health for both genders. As the linear and the quadratic term are significant, the relationship of age at first birth and later life health appears to be u-shaped for all health outcomes. Accordingly, for mothers and fathers, health improves with increasing age at childbirth until a certain age and then declines. While the effect strength for chronic conditions is similar for men and women, gender differences exist for self-rated health and depressive feelings. For both outcomes, the interrelation of age at first child and later life health is much stronger for women compared to men. Also for men, the curvilinear relationship is not as pronounced as for women. The relationship of men's physical health in later life and age at first birth appears to be almost linear with negative health consequences only for very young fathers (Figure 1). To sum up, early as well as late parenthood have detrimental health consequences for both genders. Therefore, our Hypothesis 3 is supported, while the u-shaped relationship assumed in Hypothesis 4 only for women in fact applies to both genders. Only for chronic conditions we find an almost linear relationship for men indicating that health continuously improves with delaying childbirth.

The relationship of parity and later life health differs between birth cohorts for women (Figure 2). While for those born between 1920 and 1944 significant health differences exist according to number of children, the relationship is insignificant in the younger cohorts born between 1945 and 1959. For the older cohorts, the later life health status is the better, the more children a women has. For men, the number of children is neither in the older nor in the younger cohort significantly related to any later life health outcome. Figure 1 shows the marginal effects of age at first child for both genders and all health outcomes separated for birth cohorts of 1920 to 1944 and 1945 to 1959. For all outcomes, significant differences between the two cohorts exist indicating better health outcomes for the younger cohort. The cohort differences are smallest for depressive symptoms and largest for chronic conditions for both genders. Apart from depressive symptoms for men, the negative effect of lower age at first birth is smaller in the younger cohort. Accordingly,

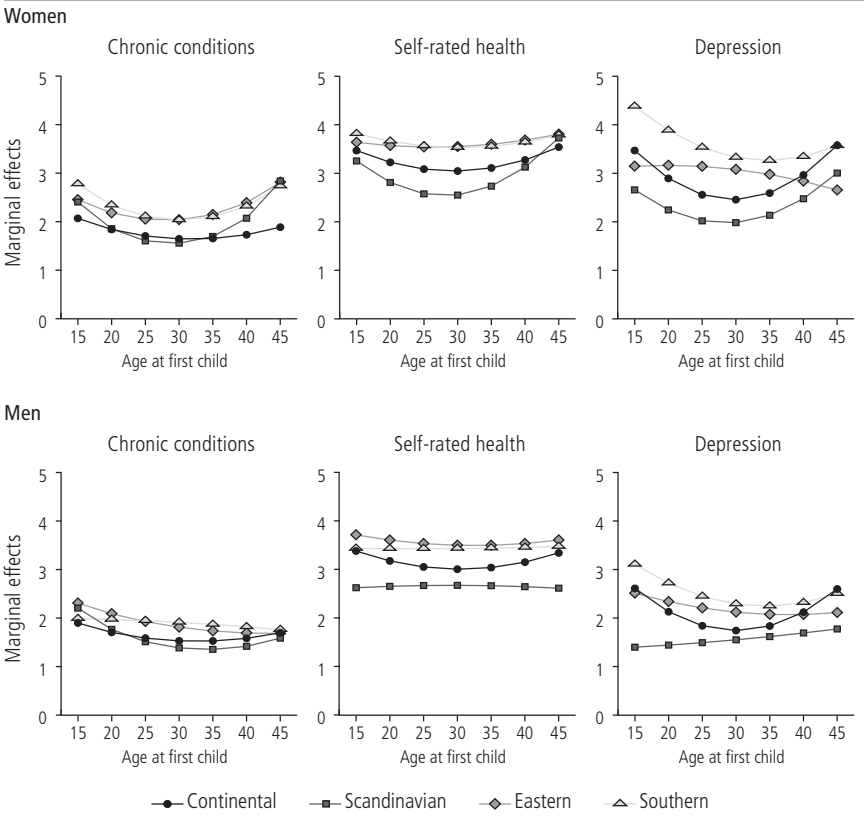Figure 1 Marginal effects of the health outcomes according to of age at first child for different cohorts
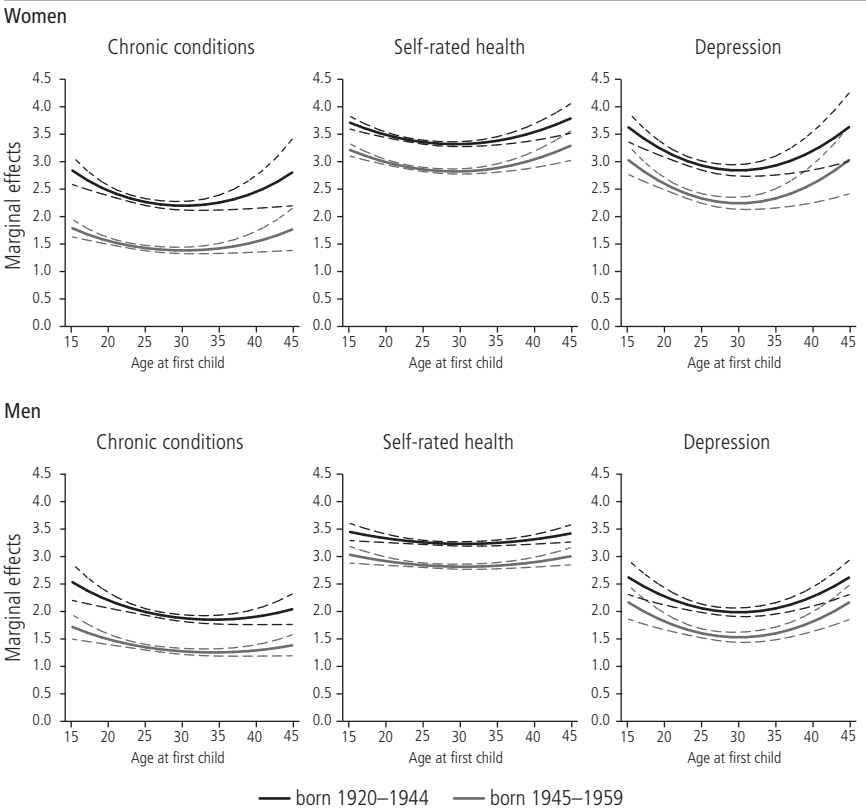
Notes: Regression models include all variables as presented in Table 1; for simplified presentation results for self-rated health based on linear regression models.
Source: Own calculations using SHARE waves 4–5 and SHARELIFE.

we find support for Hypothesis 6 stating that the detrimental health effects of high parity and low age at first birth are smaller in the younger cohort. Significant differences between individuals' health according to number of children can only be found among women born 1920 to 1944, and this effect mainly stems from the worse later life health of childless women in this cohort.

An analysis separated for welfare state types gives more indication on the prevalence of the u-shaped relationship between age at first child and later life health. Figure 3 depicts the marginal effects of age at first child for both genders and all health outcomes separated for the four country groups Continental, Scandinavian,

Figure 2   Predicted values of the health outcomes according to number of
                  children for different cohorts
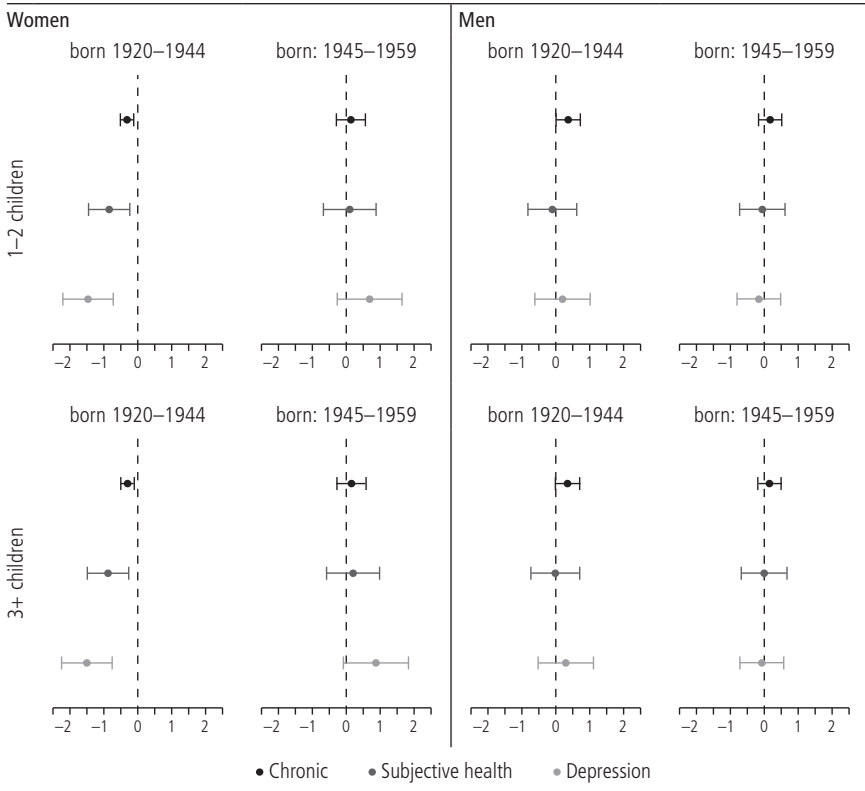
Notes: Regression models include all variables as presented in Table 1.
Source: Own calculations using SHARE waves 4–5 and SHARELIFE.

Eastern and Southern European states. The differences between these regions are
largest for self-rated health, and small for chronic conditions, especially women's. In
Eastern and Southern European countries later life health appears to be generally on
a lower level, however, the relationship of fertility timing and health is less intense
in these countries. The pronounced u-shaped relationship of age at first child and
health outcomes, which emerged in the combined regressions, applies only to women
in Continental and Scandinavian countries, while we find rather linear relationships
in Eastern and Southern countries. For men, only in continental welfare states a
clear u-shaped pattern emerges for all health outcomes. Differences in later life
health according to the number of children are insignificant for both genders in
all welfare state types with the only exception being depression among women in

Figure 3   Marginal effects of the health outcomes according to of age at first child for different regions

Notes: Regression models include all variables as presented in Table 1; for simplified presentation results for self-rated health based on linear regression models.
Source: Own calculations using SHARE waves 4-5 and SHARELIFE.

Continental countries. Here, childless women have an increased likelihood to suffer from depressive symptoms (Figures A.1 and A.2 in the Appendix). To sum up, we do not find clear evidence to support our last hypothesis that negative effects of higher parity and lower age at first birth are smaller in welfare states providing more generous family policy and services. With respect to age at first child, a clear age structured pattern can only be found in Continental and Scandinavian countries.

The final models we report in Table 1 all include indicators for childhood health and parents' mortality to control to some degree for selection effects into fertility behavior. For both genders and all later life health outcomes, the general health status during childhood is a strong predictor: those who suffered from bad health

at young ages have an increased likelihood for worse physical and mental health in later life than their counterparts with no health problems during childhood. We also find a positive significant relationship between severe illnesses in childhood (being confined to bed or home for one month or more) and chronic conditions in later life. Furthermore, parents' mortality is mostly significantly related to their children's health in later life: if parents lived longer or are still alive, children's health status is usually better. Only for men's mental health parents' mortality is irrelevant and the relationship between women's chronic conditions and their mothers' mortality is reversed. The results indicate that genetic disposition (operationalized by own parents' longevity) and childhood conditions have a significant impact on an individuals' later life health. However, none of the fertility history indicators (parity and timing of first birth) changes their significance or effect direction after including the variables for childhood and parents' health. This gives some indication that selection effects do not play a large role or different types of selection effects cancel each other out for the outcomes we are interested in. An exception are the women of the older birth cohort: the fact that here childless women suffer from worse mental and physical health than their counterparts with children hints to involuntary childlessness due to predispositions. However, generally it would be necessary to have more detailed health history information covering the whole life span to rule out all selectivity effects.

7   Conclusion

Based on life course data from the Survey of Health, Ageing and Retirement (SHARE), we investigated the role of fertility history for later life health across two birth cohorts and 13 European countries. The central findings are that parenthood and the number of children have little impact on health in later life, while the timing of the first birth is important across health outcomes for both men and women.

First, our results indicate that mothers are in better (mental) health in later life than childless women, while there is no relationship for men. Mothers with three or more children do not differ from those with one or two children. This confirms earlier research which found either no effects or benefits of parenthood for later life health (e.g., Eggebeen and Knoester 2001; Teachman 2010, see section 3.1). Previous research also indicated that parenthood effects vary across countries (e.g. Grundy 2009). Indeed, our study shows that the health benefits of parenthood are limited to the older cohort (born between 1920 and 1945) and mothers in Continental Europe.

Second, fertility timing is important for all three health outcomes. Delaying childbirth until 30 years at age of first birth is beneficial for both men and women, but more so for mothers. However, late childbearing (> 35) is also more detrimental

to women's than to men's health. The lesson we learn from this – confirming previous research (e. g. Mirowsky 2002; Mirowsky 2005, see section 3.4), is that delaying childbirth until the 30s is beneficial to parents' later life health. Considering that in our sample, 55% of the women and 25% of the men had their first child before 25, we might expect that the demographic trends towards later childbirth since the 1960s (2014 the mean age of women at first birth was 28.9 in the European Union), has been a positive development with respect to population health.

Finally, our study adds to the literature insights that can be drawn from comparing the timing effect across different health outcomes, cohorts, and welfare regimes. On the one hand, this comparison suggests that first births between 25 and 30 for women and (less consistently) between 25 and 35 for men are associated with the best later life health outcomes in almost all of our analysis groups. This universal pattern indicates that biological mechanisms partially account for the relationship between timing and later life health, particularly for mothers. On the other hand, there is substantial variation in the degree to which timing matters for health across contexts. This indicates that social mechanisms play a powerful role in this relationship. In terms of historical context, we find that timing of first birth has become less important in younger cohorts. This suggests – in line with our theoretical expectations – that in times of greater prosperity, social security and availability of safe maternity care an early age at first birth will be less problematic for later life health. Our study did not directly test the relative importance of biological, social, and selection mechanisms. However, the wide variation that timing effects have across contexts and the decreased importance over historical time suggests that the inevitable health costs of both teenage and late childbearing should not be exaggerated (Furstenberg 2007), since the social context strongly affects their implications for health. Identifying the underlying institutional and normative variables of these context effects will provide insights into the causes of timing effects and potentially opportunities for social intervention. However, one also needs to consider that paternal age has also other implications, most importantly probably the health and developmental outcomes of children. Children from teenage parents are more likely to have poorer behavioral and psychological outcomes (Shaw et al. 2006). A higher maternal age has mixed effects for children. On the one hand it increases the risks for chromosomal abnormalities and adverse neonatal outcomes for a small group of children (Kozuki et al. 2013; Restrepo-Méndez et al. 2015), but is generally associated with better cognitive ability of children in more recent cohorts (Goisis et al. 2017).

Our aim was to explore the role of one contextual variable, welfare state arrangements, in our country-comparative analysis of timing effects. However, the patterns that we found across countries were more complex and did not confirm our expectations that the generosity of parental leave and childcare services are the primary mechanism behind cross-national variation in timing effects. For

women, timing matters to a much larger degree in Continental and Scandinavian countries than in Eastern or Southern Europe. For men, timing matters mostly in Continental Europe, while for the other country groups the results vary across outcomes, but mostly show less impact of timing. The implication of the result that there are stronger differences between Continental/Scandinavian compared to Eastern/Southern European countries might suggest two venues for further research of context effects. First, fertility trends in the number and timing of children developed quite differently in these two country groups than in Continental Europe and Scandinavia which show similar trends as the Anglo-Saxon countries which are most researched for parenthood health effects (Tomka 2013; Freijka 2016). Second, Eastern and Southern European countries had political dictatorships after WWII, while Continental Europe and Scandinavia were democratic. To gain deeper insights into the relative importance of these factors and welfare state development, it seems particularly important for further research to differentiate between country groups and cohorts and if possible include younger cohorts, e. g. who experienced democratization in Southern Europe.

The results of our study are restricted by several limitations. First, as we rely on cross-sectional information on the health outcomes, we are unable to track health changes throughout later life. So, our study cannot inform about the change and duration of specific health conditions in later life. Second, the life course information provided in SHARELIFE may suffer from retrospective memory bias. The respondents who were between the age of 50 and 91 were asked to recall information from the period that they were 15 to 49, which may not be remembered accurately. However, the approach using calendar interviews in SHARELIFE is likely to have limited this bias (Schröder, 2011). Finally, our results may be biased due to selective mortality.

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9   Appendix

Table A.1   Summary statistics for the variables used for the
                     statistical estimations

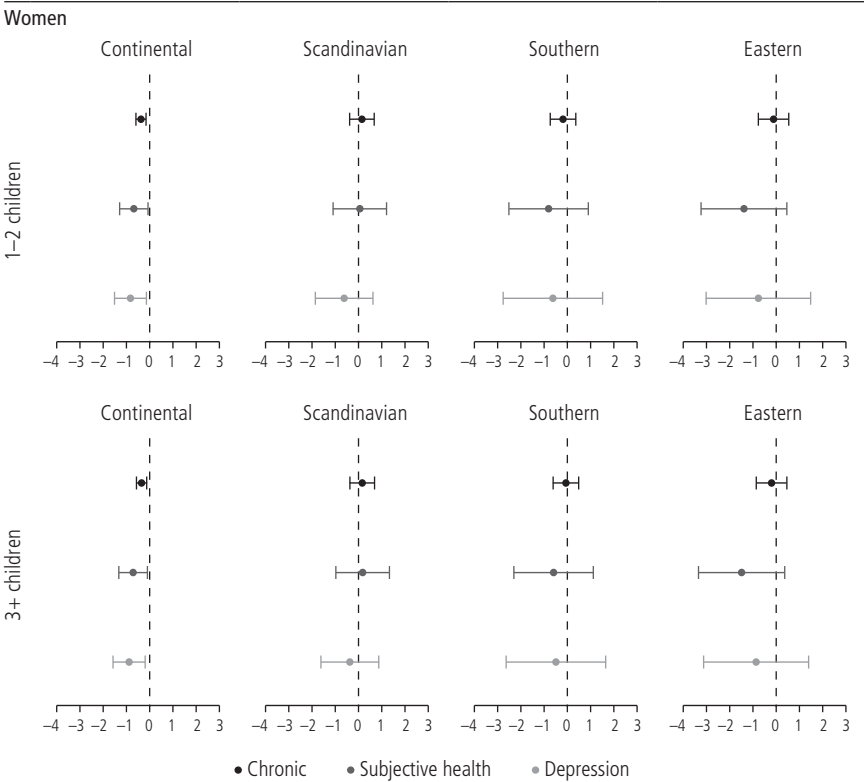| Variables	Women				Men			
	Mean	Standard Deviation	Minimum	Maximum	Mean	Standard Deviation	Minimum	Maximum
Number of chronic diseases	1.90	1.60	0	13	1.68	1.47	0	10
Self-perceived health	3.15	1.07	1	5	3.08	1.05	1	5
EURO depression scale	2.71	2.34	0	12	1.87	1.99	0	12
Age at 1st Child	24.78	4.41	15	46	27.73	4.74	17	55
Age at 1st Child squared	633.60	238.26	225	2 116	791.55	289.55	289	3 025
Number of children								
No children	0.01	0.09	0	1	0.01	0.10	0	1
1–2 children	0.62	0.48	0	1	0.61	0.49	0	1
3+ children	0.37	0.48	0	1	0.38	0.49	0	1
Childhood health status	2.09	1.01	1	5	2.03	1.00	1	5
Parents smoked	0.62	0.48	0	1	0.66	0.48	0	1
confined to bed/ home 1+ month	0.11	0.32	0	1	0.11	0.31	0	1
Mother's survival status								
Died age 60–74	0.11	0.31	0	1	0.11	0.31	0	1
Died age 60–74	0.18	0.39	0	1	0.19	0.39	0	1
Died age 75+/ Not deceased	0.71	0.46	0	1	0.71	0.45	0	1
Father's survival status								
Died age 60–74	0.18	0.38	0	1	0.18	0.39	0	1
Died age 60–74	0.29	0.46	0	1	0.30	0.46	0	1
Died age 75+/ Not deceased	0.53	0.50	0	1	0.51	0.50	0	1
Age	67.90	9.04	52	91	68.94	8.58	52	91
Birth cohort								
Born 1920–1944	0.51	0.50	0	1	0.57	0.50	0	1
Born 1945–1959	0.49	0.50	0	1	0.43	0.50	0	1
Log. HH income	9.95	1.34	1.73	13.86	10.18	1.24	1.73	13.86
Years of Education	10.04	4.49	0	25	10.88	4.87	0	25
Employed	0.17	0.38	0	1	0.18	0.38	0	1
Owner	0.72	0.45	0	1	0.78	0.42	0	1
Married	0.66	0.47	0	1	0.85	0.36	0	1

Source: Own calculations using SHARE waves 4–5 and SHARELIFE.

Figure A.1   Predicted values of the health outcomes according to number of
                    children for men in different regions
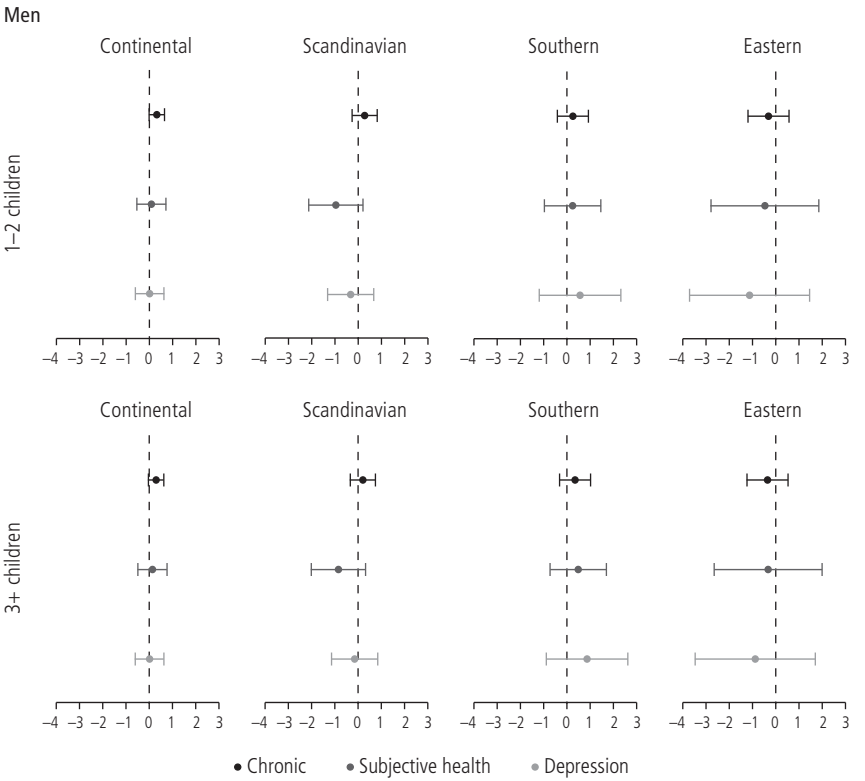
Notes: Regression models include all variables as presented in Table 1.
Source: Own calculations using SHARE waves 4–5 and SHARELIFE.

Figure A.2   Predicted values of the health outcomes according to number of
                    children for women in different regions

Notes: Regression models include all variables as presented in Table 1.
Source: Own calculations using SHARE waves 4-5 and SHARELIFE.

Variables	Women				Men			
	Mean	Standard Deviation	Minimum	Maximum	Mean	Standard Deviation	Minimum	Maximum
Owner	0.72	0.45	0	1	0.78	0.42	0	1
Married	0.66	0.47	0	1	0.85	0.36	0	1

Source: Own calculations using SHARE waves 4–5 and SHARELIFE.

Table A.2   Regressions of fertility history on later life health outcomes for
                   women and men aged 50 and above (coefficients for self-rated
                   health and depression, marginal effects for chronic conditions)
                   with interaction effects of age in groups and number of children

Variables	Women			Men		
	Chronic conditions	Self-rated health	Depression	Chronic conditions	Self-rated health	Depression
Age groups (RC: Age 50–64)						
Age 65–79	0.928	0.968	1.836*	0.040	0.922	−0.141
	(0.498)	(0.627)	(0.750)	(0.464)	(0.595)	(0.609)
Age 80–91	1.589***	1.843**	2.645***	−0.248	0.088	−0.301
	(0.457)	(0.562)	(0.706)	(0.523)	(0.615)	(0.668)
Number of children (RC: No children)	ref.	ref.	ref.	ref.	ref.	ref.
1–2 children	0.236	0.114	0.610	0.132	−0.005	−0.295
	(0.400)	(0.402)	(0.525)	(0.293)	(0.349)	(0.374)
3+ children	0.291	0.212	0.774	0.118	0.060	−0.156
	(0.402)	(0.405)	(0.528)	(0.296)	(0.353)	(0.378)
Interaction effects						
1–2 children * Age 65–79	−0.482	−0.661	−1.667*	0.235	−0.793	0.279
	(0.500)	(0.630)	(0.753)	(0.467)	(0.599)	(0.613)
1–2 children * Age 80–91	−0.808	−0.785	−1.917**	0.835	0.864	1.185+
	(0.461)	(0.568)	(0.713)	(0.528)	(0.625)	(0.677)
3+ children * Age 65–79	−0.524	−0.766	−1.797*	0.231	−0.762	0.224
	(0.502)	(0.632)	(0.756)	(0.469)	(0.602)	(0.616)
3+ children * Age 80–91	−0.861	−0.930	−2.174**	0.767	0.807	1.078
	(0.464)	(0.572)	(0.718)	(0.530)	(0.627)	(0.680)
Age at 1st Child	−0.121***	−0.219***	−0.209***	−0.094***	−0.104**	−0.178***
	(0.031)	(0.042)	(0.050)	(0.027)	(0.039)	(0.040)
Age at 1st Child squared	0.002***	0.004***	0.003***	0.001**	0.002**	0.003***
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)
Further regression output omitted						
N	6 242	6 242	6 242	5 577	5 577	5 577
R squared			0.113			0.077
Adjusted R squared			0.109			0.072

Notes: Standard errors in parentheses; *** p ≤ 0.001, ** p ≤ 0.01, * p ≤ 0.05; including all control variables as in main regressions (Table 1); model specification varies by the metric of the outcome variable: chronic conditions: negative binomial (marginal effects reported), self-rated health: ordered logit; depression scale: OLS; higher values indicate worse health.
Source: Own calculations using SHARE waves 4–5 and SHARELIFE.

Seismo

Terrains des sciences sociales

Arnaud Frauenfelder, Eva Nada, Géraldine Bugnon
Ce qu'enfermer des jeunes veut dire
Enquête dans un centre éducatif fermé

Seismo
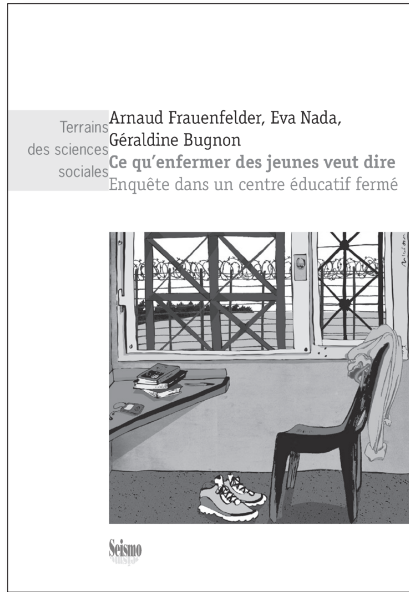
Arnaud Frauenfelder
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Ce qu'enfermer des jeunes veut dire
Enquête dans un centre éducatif fermé

240 pages, SFr. 32.—

Cet ouvrage revisite la « question carcérale » en décortiquant ses enjeux contemporains. En Suisse comme en Europe, la délinquance juvénile attise les sensibilités publiques et nourrit les discours sécuritaires. Parallèlement, les mineur·e·s sont progressivement reconnus comme des sujets de droit, dont il faut protéger l'intégrité physique et morale. Ce contexte politique et moral contraint les institutions d'enfermement à garantir plus de « dignité » dans la vie quotidienne des jeunes (réduction des temps d'encellulement, prise en charge pluridisciplinaire), tout en imposant davantage de « fermeté » (renforcement des aménagements sécuritaires, sanctions disciplinaires).
Les auteur·e·s explorent cette ambivalence à partir d'une enquête de terrain réalisée dans un centre éducatif fermé de Suisse romande. Comment les acteurs professionnels s'approprient-ils leur espace de travail ? Quelle raison d'être confèrent-ils à leur mission professionnelle ? L'ouvrage analyse les rivalités de territoires, met en évidence la diversité des conceptions éducatives et les différents rap-

ports de l'institution à l'environnement extérieur. Il s'attache ainsi à saisir les formes de recomposition de l'économie morale de l'enfermement des jeunes. Cette analyse sociologique de la justice pénale des mineur·e·s « par le bas » souligne combien les pratiques de l'État, dans cet univers particulier, s'expriment d'abord par le travail de ses agents.

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