



## Understanding the effects of Covid-19 through a life course lens

Richard A. Settersten Jr.<sup>a,\*</sup>, Laura Bernardi<sup>b</sup>, Juho Härkönen<sup>c</sup>, Toni C. Antonucci<sup>d</sup>, Pearl A. Dykstra<sup>e</sup>, Jutta Heckhausen<sup>f</sup>, Diana Kuh<sup>g</sup>, Karl Ulrich Mayer<sup>h</sup>, Phyllis Moen<sup>i</sup>, Jeylan T. Mortimer<sup>j</sup>, Clara H. Mulder<sup>k</sup>, Timothy M. Smeeding<sup>l</sup>, Tanja van der Lippe<sup>m</sup>, Gunhild O. Hagestad<sup>n</sup>, Martin Kohli<sup>o</sup>, René Levy<sup>p</sup>, Ingrid Schoon<sup>q</sup>, Elizabeth Thomson<sup>r</sup>

<sup>a</sup> Human Development and Family Sciences, College of Public Health and Health Sciences, Oregon State University, 433 Waldo Hall, Corvallis, OR, 97331-1946, USA

<sup>b</sup> LIVES Center, University of Lausanne, Geopolis, Quartier Mouline, Lausanne, 1015, Switzerland

<sup>c</sup> Department of Political and Social Sciences, European University Institute, and Department of Sociology, Stockholm University, EUI, Via dei Roccettini 9, 50014, San Domenico di Fiesole, Florence, Italy

<sup>d</sup> Institute for Social Research and Department of Psychology, University of Michigan, 426 Thompson Street, Ann Arbor, MI, 48104, USA

<sup>e</sup> Department of Public Administration & Sociology, Erasmus University Rotterdam, Burgemeester Oudlaan 50, 3062 PA, Rotterdam, the Netherlands

<sup>f</sup> Department of Psychological Science, University of California, Irvine, 4201 Social and Behavioral Sciences Gateway, Irvine, CA, 92697-7085, USA

<sup>g</sup> MRC Unit for Lifelong Health and Ageing, University College London, United Kingdom

<sup>h</sup> Max Planck Institute for Human Development, Lentzeallee 94, 4 169, Berlin, Germany

<sup>i</sup> Life Course Center, University of Minnesota, 1123 Social Science Building, 267 19th Avenue South, Minneapolis, MN, 55455, USA

<sup>j</sup> Sociology, College of Liberal Arts, University of Minnesota, 909 Social Sciences Building, 267 19th Avenue South, Minneapolis, MN, 55455, USA

<sup>k</sup> Population Research Centre, Faculty of Spatial Sciences, University of Groningen, Landleven 1, 9747 AD, Groningen, the Netherlands

<sup>l</sup> LaFollette School of Public Affairs, University of Wisconsin-Madison, 3464 SSSB, 1180 Observatory Drive, Madison, WI, 53706, USA

<sup>m</sup> Department of Sociology, Utrecht University, Padualaan 14, 3584 CH, Utrecht, the Netherlands

<sup>n</sup> Agder University, Kristiansand, Norway and Northwestern University, Evanston, IL, USA

<sup>o</sup> Department of Social and Political Sciences, European University Institute (EUI), Via dei Roccettini 9, I-50014, San Domenico di Fiesole, Italy

<sup>p</sup> University of Lausanne, Switzerland

<sup>q</sup> UCL Institute of Education, University College London, 55-59, Gordon Square, London, United Kingdom

<sup>r</sup> Demography Unit/Department of Sociology, Stockholm University and Center for Demography and Ecology, University of Wisconsin-Madison, 106 91, Stockholm, Sweden

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### ABSTRACT

The Covid-19 pandemic is shaking fundamental assumptions about the human life course in societies around the world. In this essay, we draw on our collective expertise to illustrate how a life course perspective can make critical contributions to understanding the pandemic's effects on individuals, families, and populations. We explore the pandemic's implications for the organization and experience of life transitions and trajectories within and across central domains: health, personal control and planning, social relationships and family, education, work and careers, and migration and mobility. We consider both the life course implications of being infected by the Covid-19 virus or attached to someone who has; and being affected by the pandemic's social, economic, cultural, and psychological consequences. It is our goal to offer some programmatic observations on which life course research and policies can build as the pandemic's short- and long-term consequences unfold.

### 1. Introduction

The Covid-19 pandemic has reminded people and societies today of a

world they forgot, a time when long and relatively healthy lives – even life itself – could not be taken for granted. In most western nations, the long arc of the twentieth century brought extraordinary gains in human

\* Corresponding author.

E-mail addresses: [richard.settersten@oregonstate.edu](mailto:richard.settersten@oregonstate.edu) (R.A. Settersten), [laura.bernardi@unil.ch](mailto:laura.bernardi@unil.ch) (L. Bernardi), [juho.harkonen@eui.eu](mailto:juho.harkonen@eui.eu) (J. Härkönen), [tca@umich.edu](mailto:tca@umich.edu) (T.C. Antonucci), [dykstra@essb.eur.nl](mailto:dykstra@essb.eur.nl) (P.A. Dykstra), [heckhaus@uci.edu](mailto:heckhaus@uci.edu) (J. Heckhausen), [d.kuh@ucl.ac.uk](mailto:d.kuh@ucl.ac.uk) (D. Kuh), [mayer@mpib-berlin.mpg.de](mailto:mayer@mpib-berlin.mpg.de) (K.U. Mayer), [phylmoen@umn.edu](mailto:phylmoen@umn.edu) (P. Moen), [morti002@umn.edu](mailto:morti002@umn.edu) (J.T. Mortimer), [c.h.mulder@rug.nl](mailto:c.h.mulder@rug.nl) (C.H. Mulder), [smeeding@wisc.edu](mailto:smeeding@wisc.edu) (T.M. Smeeding), [T.vanderlippe@uu.nl](mailto:T.vanderlippe@uu.nl) (T. van der Lippe), [gohagestad@gmail.com](mailto:gohagestad@gmail.com) (G.O. Hagestad), [martin.kohli@eui.eu](mailto:martin.kohli@eui.eu) (M. Kohli), [rene.levy@unil.ch](mailto:rene.levy@unil.ch) (R. Levy), [i.schoon@ucl.ac.uk](mailto:i.schoon@ucl.ac.uk) (I. Schoon), [elizabeth.thomson@sociology.su.se](mailto:elizabeth.thomson@sociology.su.se) (E. Thomson).

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welfare and predictability in the life course. Indeed, in the postwar decades, the stability that had emerged and the scripts that people were socialized to follow were described by psychologist Bernice Neugarten in 1969 as the “normal, expectable life.” The emergence of the “tripartite” life course, to use sociologist Martin Kohli’s (1986) phrase – with education and training on the front end, work in the middle, and retirement and leisure at the end – rested on these securities and a complex overlay of social institutions and policies that were built around it. And although there are major debates about the stability of family life in the second half of the century, revolutionary reductions in mortality and fertility over the twentieth century meant that family members could at least be counted on to co-survive for long stretches of time, and that major vulnerabilities and encounters with illness and death would come in old age.

Covid-19 is fundamentally shaking these views of the life course. In this article, we show how a life course perspective can make important contributions to understanding the effects of the Covid-19 pandemic on individuals, families, and populations. This is not just about predictability but about the pandemic’s implications for the organization and experience of transitions and trajectories within and across life’s central domains. Because Covid-19 is a viral pandemic, we begin with its implications for health and then turn to matters of personal control and planning, social relationships and family, education, work and careers, and migration and mobility. It is our goal to offer some programmatic observations on which life course research can build, raising questions, generating hypotheses, and steering data collection as the pandemic’s short- and long-term consequences unfold. In viewing Covid-19 through a life course lens, we are able to identify risks, vulnerabilities, and inequalities that may come to individuals and groups, and for this reason, we also address some emerging policy concerns and hope to inform interventions.

To anchor the paper, we briefly highlight the most central aspects of a life course perspective; its concepts and principles can be found elsewhere (e.g., Ben-Shlomo, Cooper, & Kuh, 2016; Bernardi, Huinink, & Settersten, 2019; Dannefer, 2020; Elder, Shanahan, & Jennings, 2015; Mayer, 2004). A life course perspective on Covid-19 requires attention to time and time-related phenomena. At an individual level, time is represented by ages and life stages. At a social level, time is reflected in family and historical generations. Time-related phenomena include life transitions and turning points, and the cumulative nature of life courses, viewed as trajectories. These dynamics must also be understood from subjective standpoints: that is, how people anticipate or project their lives looking forward, and how they review, interpret, and evaluate their lives in the present and looking backward.

Life courses should be analyzed with a dual emphasis on social structure and human agency: On one hand, a variety of social contexts play powerful roles in shaping the life course and creating both inequalities and shared experiences; on the other hand, human beings can take actions and make decisions, individually and collectively, that affect their life pathways and outcomes. Finally, it is important to emphasize interdependencies across multiple levels of analysis (from inner-individual to macro levels), multiple life domains (e.g., education, work, family), and multiple interrelated people (the “linked lives” of family, friends, and acquaintances).

The future course of the pandemic is unclear.<sup>1</sup> We are writing during what may be a movement toward the pandemic’s culmination – or

during what may prove to still be its beginning. We can say with certainty, however, that Covid-19 is already one of the deadliest infectious diseases of the last 100 years, that it has ruptured much of social life, and that its threat and disruptions will continue for some time.

There are two distinct aspects to parse: (1) having Covid-19, or being attached to someone who does, and (2) being affected by the social, economic, cultural, and psychological consequences of Covid-19. In other words, there is an important difference between being *infected* and being *affected*.<sup>2</sup> Both things matter, and the analysis of both is served well by a life course perspective. The pandemic is at heart a health challenge. As the world awaits a medical solution – particularly a vaccine – the most effective remedy has been behavioral: physical distancing.<sup>3</sup> It is this behavioral remedy that has immediately and significantly altered every domain of life – through restricted mobility and social interaction, voluntary or involuntary quarantines, lockdowns for whole populations, remote working and learning, or loss of work altogether. Physical distancing measures arise from a widely recognized need and political will to manage the virus, as political decisions and specific policies are guided by varying interpretations of the causes of the virus’s spread, what should be done, and who is responsible for controlling it.

Two caveats moving forward. First, we are an international group, but our view is inherently western. We hope that our observations will stimulate questions and hypotheses that can be asked and tested in countries other than our own, which are themselves remarkably different in the spread of and response to Covid-19 and also in their cultural characteristics and institutional arrangements. Second, we actively decided to keep the number of citations to a bare minimum. Research into the pandemic is rapidly evolving. At this time, it is largely focused on the virus itself and matters of public and allied health, and its quality is variable and many results unstable. Our goal is not to generate a set of guidelines for future research based on a review of science during this early stage. Instead, we use a more essayistic form, drawing freely on our collective knowledge and experience, with the intention of fostering a program of life course research on important questions that need to be asked and answered.

## 2. Health

Epidemiological estimates of the Covid-19 virus vary widely due to differences in testing and tracing systems. A large percentage of the population may eventually be infected, but smaller subsets become ill, require hospitalization, need intensive treatment, and die. Knowledge about the short-term course of individual infections and effective treatments is improving but there is still much to learn about long-term health consequences. The health risks of the virus increase strikingly by age and are greater for men and for ethnic and migrant groups, which are intertwined with social disadvantage. Exposure, infection, and quality of health care are directly and indirectly related to occupations and living conditions, especially in societies without universal health-care. For example, workers in some fields like health, food, or transport services are more directly exposed to the virus. So are people who live in favelas or high-poverty neighborhoods or in cramped living quarters, such as labor migrants and refugees in camps. Those in high-stress jobs, such as “gig economy” workers, may similarly have greater risks that

<sup>1</sup> It is difficult to know the pandemic’s ultimate course, as knowledge about the virus is still accumulating while we are writing and modeling its diffusion is extraordinarily complicated. Projected scenarios for individual countries – and for the world at large – differ dramatically by a variety of factors, including future orders related to migration, mobility, physical distancing, mask use, school and work closings and resumption criteria, testing, tracing, hospital capacity and equipment, and when an effective vaccination will be developed and available.

<sup>2</sup> We originally heard such distinction by Parfait Eloundou-Enyegue when acting as panelist in the International Union for the Scientific Study of Population’s (IUSSP) webinar series, *Positioning population studies to understand the short and long-term impacts of the COVID-19 pandemic*, May 20, 2020.

<sup>3</sup> Rather than the commonly used phrase “social distance,” we prefer the term “physical distance” or just “distance” because “social distance” is an important interactional concept in the social sciences, carrying the implication of hierarchy and of social groups that are separated from one another in space or status.

come about indirectly, through the weakening of the immune system.

An obvious link between the life course and Covid-19 is the strong association between old age and the risk of developing a severe form of the disease and dying from it. The greater vulnerability of older people distinguishes the current pandemic from the Spanish flu, for instance, which killed younger individuals at a much higher rate. Yet an epidemiological or public health perspective on the life course reminds us that it is problematic to have too singular a focus on mortality and older people. Infection cases that do not result in death can nonetheless have long-term consequences for the health and wellbeing of individuals and populations of all ages. In addition, infection and post-infection risks are not equally distributed across the population and are likely to exacerbate existing social inequalities in health.

A life course perspective emphasizes that the health risks of Covid-19 depend on prior (and accumulated) biological, psychological, and social exposures. Many of the known prognostic health factors of severe responses to the virus, such as some forms of diabetes, cardiovascular disease, and cancer, take years to develop through exposure to pollutants and toxins, poor diet, and lack of exercise. Life course research in epidemiology and other fields has shown that major health and disease conditions in adulthood and later life often have early developmental origins, stemming even from the prenatal period. The underlying risk of developing a severe response to Covid-19 can vary greatly between individuals of the same age, and a life course approach urges analyses beyond chronological age as a proxy for risks and instead toward a focus on lifetime exposures to the specific risk factors in question.

Such evidence needs to be taken into account when identifying interventions to mitigate the impact of the virus. A crucial sensitizing question is how lifetime exposure to relevant pathogens, such as previous coronaviruses, or environmental pollution might affect individual and cohort susceptibility to Covid-19. For example, the timing of an infection intersects with the lifetime trajectory of immune function of individuals, including the adaptive immunity acquired in early life and immunosenescence (the gradual deterioration of the immune system due to normal aging) in older adults – which may increase susceptibility to newly-emerging pathogens. Indeed, an individual's history of risk factors is associated with markers of “immune age,” which in turn may alter vulnerability to Covid-19.

The Covid-19 pandemic is an example of a global “macro” environmental event that may challenge the health of birth cohorts, or subgroups of those cohorts, across their lives. Health can be affected by exposure and susceptibility to the virus and any immediate or delayed responses to an infection; government responses to control the virus; local, regional, and national health systems; and political systems that to varying degrees prioritize economic growth or stability over public health – when public health is also good for the economy.

Individuals will resist, recover, and adapt to the virus in ways that may risk or protect their health in the long term. Dynamics related to the growth, maintenance, and decline of physical and mental capacities should be tracked, as well as the onset and progression of chronic diseases and their preclinical intermediate phases. Evidence is already emerging that some survivors of severe Covid-19 infection are taking a long time to fully recover or may even endure permanent negative health effects. To inform health care and epidemiology, it will be important to monitor the long-term health outcomes of those with both severe and more moderate responses to the virus. It will be ideal to study cohorts whose pre-infection capacities and diseases are known, permitting an examination of whether the infection produces a dip and recovery in their functional trajectories, a permanent reduction in function, and/or an accelerated rate of functional decline. Research also needs to account for the psychological consequences of the virus, such as the fear and anxiety triggered by it, as well as the uncertainty of living with it, for oneself or loved ones, now and in the future.

In many countries, the pandemic has been accompanied by unprecedented lockdowns, the enforcement of physical distancing, and the prioritizing of health systems for the care of Covid-19 patients. Research

is needed to investigate the effects of these responses and their timing on short- and long-term health outcomes. The disruption of regular health, social care, and emergency services, as well as of informal family care not necessarily related to Covid-19, can lead to additional deaths. Less preventive care, later diagnoses, and delayed treatments for other illnesses and diseases are affecting population health.

There are reports that domestic and child abuse, and mental health crises, including suicide, have increased during the pandemic – and yet, these are likely to be underestimates because clinicians, teachers, and other mandatory reporters were not as often interacting with or observing women and children, and because reaching out to authorities may have been more difficult or risky. Lockdowns have heightened these problems, as well as negative health behaviors like physical inactivity and alcohol consumption. Lockdowns and requirements for face coverings have in some countries incited much social unrest related to government control and individual behavior that endangers others. Lockdowns may be triggering prior, new, or future mental health crises to which individuals may be more or less susceptible at different ages or life stages. Examples include children developing anxiety in seeing their parents distressed or being confronted with rules about dangers they cannot see; parents worrying about the health of their parents; and elders worrying about their high risk of infection and death as well as that of children or grandchildren in high risk occupations.

While it is natural to focus on the pandemic's immediate effects on adults, it may be children who suffer the deepest and longest effects. For parents in vulnerable groups, there may be a large negative two-generation effect of the pandemic, and the trickle-down consequences for children may not be revealed for decades. Pandemic conditions are likely to harm the health, social, and material wellbeing of children, with the poorest children, including homeless children and migrant children, hit hardest because both Covid-19 infections and the disruptions caused by the pandemic disproportionately affect disadvantaged populations. As children grow older, the pandemic may bring lasting scars through factors such as poor nutrition, anxiety, family instability, exposure to domestic violence, reduced access to services, or lower educational attainment. Taking inspiration from sociologist Glen Elder's (1974) *Children of the Great Depression*, it will be particularly important to observe the pandemic experiences of children in different stages of development, and to compare them as they grow older in order to estimate the distinct effects of the pandemic on their physical and mental health. The shadow of the pandemic may be longer and darker for toddlers and preschoolers than for preadolescents and teens, and interventions may be needed years after the pandemic for the former group and during or soon after the pandemic for the latter group.

Health and wellbeing will be indirectly affected by the economic decline and high rates of unemployment that have resulted from lockdowns. Loss of livelihood is already a reality for many individuals and families. From a life course perspective, the timing of economic downturns in a cohort's biography can be important in the long-term. For example, as we will discuss in a later section, the working careers of young adults entering the labor market at such a time may never catch up to those of earlier or later cohorts; their continuing disadvantage can lead to poorer health outcomes later in life and widening inequalities. Similarly, the effects of poverty and instability on children are long-lasting and affect learning and other developmental progress, which are also tied to later health outcomes.

### 3. Personal control and planning

The pandemic has brought a pervasive sense of being unsettled and losing control, making it difficult for individuals to plan, let alone optimize or coordinate their plans. Extreme loss of control could lead to disengagement from important life goals. Under a common external threat, however, individuals might abandon individual agency for collective agency – that is, they might join with others to make social change that reduces or removes external constraints to future life course

opportunities of whole populations or communities. The global movement to protest systemic racism, which arose after the killing of George Floyd at the hands of the police in the U.S., has done just that, creating collective agency and a future perspective for those who have been hit hardest by the pandemic due to their greater exposure in high-risk jobs, inferior access to health care, and other vulnerabilities. Collective agency was broadened and strengthened by the recognition that some of the pandemic's social, economic, and health risks are shared by the majority. In many countries, there have been increases in volunteering or helping others, especially neighbors, in need. Collective responses to the pandemic might increase political and civic participation later in the life course, with positive effects on an individual's sense of control, social integration, and health.

The greater uncertainty created by the pandemic over the short and long term is likely to have somewhat different effects by age, social class, gender, and race/ethnicity and be modified by a country's welfare system and the emergency interventions of its institutions. Consider young adults on the brink of finishing school and entering the workforce. The precarious life conditions of the pandemic might lead young people to lower their goals or limit their risk-taking in ways that return to post-World War II values of material security and stability that are not well-matched to the realities of the labor market in the globalized world today. Any disadvantages that young adults suffer in the short term may grow over time. In being young, though, they have a longer time horizon to adjust or recover. Moreover, they tend to have greater optimism than their parents and grandparents. Many youths are exploring life goals and choices in connection with a range of "possible selves" and anticipated futures, and their lives are not yet as "canalized" by prior choices as older adults. These circumstances make it easier to deal with the threat to control and planning brought about by the pandemic.

The disruption to young adults may *feel* especially heavy, however, because they do not yet have a long history of experience or accumulated resources to fall back on as they rework life goals or adapt to life's disappointments. A shrinking labor market takes away opportunities to acquire experience or resources which, in turn, can have lifelong scarring effects. Modern cohorts of youth and young adults have been socialized in ways that emphasize their agency and aspirations. The pandemic has underscored the reality that life's possibilities are limited. Young people and their parents will naturally blame the pandemic for some outcomes that might not have been appreciably different without it. Differences by socioeconomic status are likely to be substantial in this regard because reduced control and choices already characterize the lives of those with few family resources. They may be in "survival mode" without long-term backup plans for education, careers, and families. Those who are more favorably situated may have a more difficult time adjusting their aspirations, but they may also more successfully surmount pandemic challenges, feeling ready sooner to resume striving for ambitious goals and be more confident going forward.

Those well into adulthood are more firmly embedded in family and work responsibilities. The pandemic's toll may be particularly acute for them and others who rely on them. Their family statuses leave them with fewer choices if they need to reorient themselves in work. They typically shoulder responsibilities for supporting young adult children and caring for older parents. By midlife, one's time horizons are growing shorter and efforts are focused on building security for the later years. There are fewer opportunities to recover from hard times and it is too early to retire. In many countries, the safety nets for working-aged adults are intentionally temporary and meant to replace only a limited portion of lost income. Likewise, midlife adults might more often need to change plans to help others, such as extending working life to support younger family members who are without jobs. The greater personal, social, and economic capital of those in midlife, however, might expand their choices or foster a sense of control. But just as these individuals have more capital to leverage for coping, they also have more to potentially lose. Any control they feel may be precarious, and lower SES individuals have fewer resources at their disposal to redirect their lives.

Older adults, in further contrast, can be expected to focus more on the present than the future: immediate joys, uplifting daily events, the relationships of close family members and friends – thereby optimizing positive and minimizing negative affective experiences. Their shrinking time horizon leads them to place a greater premium on goals and experiences that bring meaning. They have the least time to recover economically from any market consequences of the pandemic. Their economic wellbeing is dependent on public and private pension plans, personal assets, and often family members.

Older people have better emotion regulation, more advanced coping strategies, and a broader range of experiences within which to place the pandemic experience and judge its relative significance. These judgments will not only be rooted in purely personal experiences, but also in their historical location. A nonagenarian today would have been born at the start of the Great Depression and a teen by the close of World War II; a septuagenarian would have been born in the decade following World War II and a young adult during the politically and socially turbulent late 1960s and early 1970s. Even in these two examples, both anchored in later life, the pandemic will be interpreted through different historical lenses. More generally, older generations might, by virtue of their experience, take the perspective that "this, too, will pass" or recognize that there are many things in life people do not get to decide or that cannot be controlled. These different ways of understanding the world and seeing life will be meaningful intergenerationally, especially in families, which are natural meeting places for different historical generations. When three or more generations are assembled together, families contain a patchwork of historical experiences that can span even a century. Given the age segregation of many social environments today, families are the key forum for making sense of history.

In both families and societies, these generational differences in worldviews can be both sources of tension and bridges to solidarity. Amid Covid-19, there have been reports that ageism has been on the rise, on the older end perhaps driven by blame for lockdown measures that have brought so much disruption or of health system overload, and on the younger end perhaps driven by resentment of teens and young adults who have disregarded protective measures based on their belief that they are not at risk of illness or death.

For older adults we can again expect socioeconomic differences in the effects of the pandemic. In many countries, the wealth (versus income) of older people is much greater than those of younger adult ages, but so are differences among older people, reflecting advantages and disadvantages that have accumulated across the life course. Poor and minority elders, at least in countries like the U.S., often live in dense and underserved communities or in badly run and understaffed nursing homes, where they are significantly exposed to infection risks and die under dreadful circumstances. These older adults are likely to feel significant loss of control and despair. Later life is a highly precarious period: control capacity and self-efficacy are more possible when health, wealth, and social relationships are intact, but weaken as these resources come undone.

An individual's attempts to adapt to the crisis will be shaped by their personality characteristics and worldviews. Caspi and Moffitt (1993) argue that times of crisis accentuate the role of personality in shaping individual responses and thus the long-term sequelae for the life course. Personality characteristics will therefore interact with the pandemic in ways that uniquely shape and increase individual differences in short- and long-term outcomes. For example, those who are highly confident and engaged in pursuing ambitious goals might approach a lockdown with resilience and inventiveness, finding new ways and means to make progress under the changed circumstances. Those who are less confident or engaged with their own prospects may suffer declines in goal expectations and social or cognitive functioning. Again, social inequality will be important in determining whether someone can afford to embrace ambitious and risky goal engagement during a societal crisis.

With respect to planning and control, men may be more shaken than women by the lack of predictability created by the pandemic. Men's



lives have traditionally been more linear in orientation and clockwork, and women's lives have traditionally been more contingent, whether in being more "at the will of the body," to use Arthur Frank's (1991) phrase, with respect to biological clocks and cycles related to reproduction or in having greater interdependencies stemming from family roles and relationships.

#### 4. Social relationships and family

The immediate shock of the pandemic has shaken the relations among people. Mobility restrictions created by physical distancing measures have left people painfully aware of how much their wellbeing is linked to others and how much they take for granted the ability to be with others. Social integration likely makes a difference in people's capacity to cope during the pandemic, but the distancing measures also reveal and alter the quality of relationships. This also poses an interesting dilemma: feelings of loneliness affect the immune system, but interacting in the population could result in an infectious disease. The pandemic has not only severely impaired the ability of people to be in close physical face-to-face interaction with other humans, this has in turn blocked the intense human need for touch, preventing hugging and constraining other physical displays of affection and connection. Despite the explosion of electronically-mediated interaction in recent decades, it is not clear what another major shift from in-person interaction – "being alone together" during the pandemic – means for the maintenance and quality of relationships and deep interpersonal connection.

The regulation of social life under the pandemic has had a profound effect on the experience of life transitions. In the Covid-19 era, people have been unable to share in the social and cultural aspects of life's most important moments: births, birthdays, graduations, engagements, marriages, new jobs, retirements, deaths. There have been many innovative examples of involving others in these passages, especially via video-calling, drive-ins or drive-bys, or the creative redesign of space to meet physical distancing requirements. Research needs to examine the short- and long-term consequences of reducing, denying, or altering the communal experience of key life-course transitions.

The transition to parenthood has been especially affected by pandemic measures. Hospitals and clinics have not allowed others to accompany mothers during labor, delivery, and recovery. The postpartum period of assistance from family and friends has been limited by travel restrictions and the at-risk status of potential family assistants (e. g., older parents). This may create feelings of isolation and despair. Some new parents, on the other hand, might appreciate the fact that the social world is kept at bay to foster their private time and bonding. Parents of young children might similarly appreciate the extra family time. Fathers may be more present and involved in family life, especially in contexts without paternal leave.

We may begin to observe pandemic-era changes in the timing, or anticipated timing, of family transitions, such as the postponement of cohabitations, marriages, or fertility, or accelerated separations and divorces – due to any number of factors related to resources, markets, and uncertainties. It will be important to examine whether such changes, should they emerge, are temporary disruptions to the schedule for family transitions or longer-term trends that alter it in a more permanent fashion. In aggregate, these changes will affect population structure and dynamics, and larger societal consequences might include the intensification of delays in the transition to adulthood and growing rates of singlehood, childlessness, and population aging.

The pandemic and physical distancing have the potential for immediate and long-term effects on young children's attachment. Infants, toddlers, and preschoolers are extremely sensitive to changes in their environments but do not fully understand them. When quarantines began, there was great anxiety about the virus entering and spreading through the household and families struggled with how to safely express physical affection. In a lockdown, families are less worried because they are limiting contact with the outside world – except, of course, for those

working in essential services and those with household members with vulnerable health. With reopenings, parents again worry about the virus coming into the household. Worries are likely greater for those with teenage children, who may feel immune to the virus; and those with young children, who are not as able to manage physical distancing.

When schools are closed, children and teens are unable to interact in person with friends. For teens, especially, peer groups and friendships are central to exploring identities. They also desire to be in large groups, dense settings, and on the move. Of course, digital media permitted continuity in friendships and a lifeline to others. But lockdowns and school closures generate further isolation among young people who are socially marginalized in any number of ways. For some teens and young adults, the expression of their identities is stifled or not permitted at home; for example, there are reports of increased homelessness among LGBTQ youth. For teens and adults seeking intimate relationships, the pandemic has restricted in-person possibilities for dating and sex. There are alternative modes for these pursuits, such as online platforms, but also questions about the emotional quality, need fulfillment, and survival of these relationships.

The pandemic removed many adults from their workplaces and primary daily networks, forcing them to collaborate and sustain connections remotely. Increased work at home can colonize family life. This problem has several dimensions, including the fact that it is employers who benefit most when employees use their private time, space, and other personal and relational resources to accomplish their work. It also reinforces or increases inequality due to differences in employees' personal resources and home situations that make it more or less difficult to work remotely. Remote work can also increase stress through instant availability, high demands, the press of care for children and infirm relatives, and the blurring of work and nonwork boundaries.

Older people are more vulnerable socially because they are not permitted to be or are fearful of being with others, given their greater health risks, and because serious illness and death are more prevalent in their networks, triggering dynamics of loss. Those who live alone experience the greatest risk of isolation. Widowers are especially vulnerable, as older men are not as embedded in family and social networks and longstanding relationships. Older people who are forced to shelter in place may feel a deep loss of independence. Those struggling with illnesses at home or in care environments may not get the support they need – or, especially for older women, give others the support they would like to give, such as grandchildren or sick relatives. Older people are dying alone or saying goodbyes through plastic partitions or glass windows, phones, and computers.

Enforced lockdowns have generated more intensive family interaction and increased the interdependence of family members. Households were more crowded at all hours due to unemployment or work from home, the need for home meals, lack of childcare, and responsibility for children's education when schools are closed, or limited care or health services, placing greater strain on women and mothers in particular. Job loss and economic hardship have led some households to "double up" in an effort to conserve resources or accommodate those who could not pay mortgages or rent or were evicted. These conditions have undermined relationships. Families with children or other members with special needs have suffered from the withdrawal of support services. Partnerships that were vulnerable before the pandemic seem more likely to dissolve thereafter. Family structure also made a difference in the ability of families to cope with economic challenges. Lone parents with young children, who are often economically and psychologically more vulnerable, struggled not only to make ends meet but also to manage the organizational challenges of the pandemic. Because these parents are more likely to be mothers, the burden of the pandemic is again shouldered by women. And yet, some families seem to be closer and more connected, prioritizing their relationships and settling into slower rhythms of family life. Amid the pandemic, the normal use of video-calling in multi-local families diffused to all kinds of families to bring together multiple generations and extended families in ways they did

not before, and to better incorporate both very old and very young members.

In families where someone has contracted the virus, members may be thrust into caregiving roles to meet immediate, recovery, or long-term needs. In later life, a particularly painful role is that of outliving a spouse or an older adult child who has died of Covid-19. A pandemic like Covid-19 dramatically increases the mortality that would normally occur in a particular period. At present, mortality risks remain most concentrated among older people, but these losses nonetheless ripple through family networks as the virus hastens the deaths of parents and grandparents.

## 5. Education and training

A life course perspective on education and training emphasizes the importance of transitions across levels in the process of educational attainment as well as from school to training and from school to work. Whether these are accomplished “on-time” or “off-time” often has major implications for the subsequent life course, inviting a focus on the long-term consequences of transitions that occurred during the pandemic. The immediate disruption to students of all ages was swift and acute, with virtually no time for teachers or students to prepare. It is difficult to know how long these challenges will last and what toll they will take on students’ learning or academic achievement. It is again foreseeable that effects are likely to vary by the ages and social positions of students, and by how educational systems are organized. For elementary and secondary school students, the content and quality of the learning experience shifted from school to home. In the new homeschooling environment, some children are well equipped with computers, fast internet access, and a quiet place to study, whereas others are in cramped quarters, without the resources or wherewithal to accomplish distance learning. Parents who are able to work remotely are at least somewhat more available to monitor their children’s distance learning, although parents’ confidence and ability to help will vary by their resourcefulness and educational levels. Remote learning (and working) has also exposed status differences across students (and employees), as video connections put people’s home lives and living conditions on display.

Educational systems vary in the extent to which they select and track students and allow students to switch tracks. Systems that offer more structured educational pathways and curricula may more easily allow students to follow and complete their education, but if these are accompanied by fewer opportunities to change course, they can lead to unsuccessful transitions. Educational systems that explicitly sort pupils into different tracks at young ages create more inequality in educational outcomes than more comprehensive systems. It is plausible that the pandemic will heighten these inequalities, both because parents with greater resources are better able to support their children’s learning and because increased uncertainty may decrease students’ willingness to pursue higher education – and parents’ willingness to pay for it, or to pay as much for it, in countries where the private costs of college are high. Some youth have had to scale back their educational aspirations, staying close to home or planning a “gap year” when faced with the likelihood of continued remote learning (preventing a “true” college experience) or possible infections in group living and large in-person classes.

Delayed educational transitions may have indirect effects on the life course by increasing the size of later graduating cohorts, resembling something like a baby boom. The life chances of these students would be altered by their position in an unusually large cohort of graduates simultaneously navigating labor, housing, and relationship markets in early adulthood – and competing with those who were already in the labor market but are still trying to recover.

The transition from school to work is becoming more precarious with the now-historic unemployment and underemployment rates, business closings, and organizational downsizing. Those who are completing

degrees amid these conditions seem most likely to be negatively affected; studies of long-term earnings for those entering the workforce in prior recessions demonstrated negative effects throughout their occupational careers.

This juncture is strongly governed by the link between educational and labor market institutions as well as welfare states. Generally, the transition to work has been smoothest in countries such as Germany and Switzerland, which have strong links between education and the labor market due to their extensive vocational training and apprenticeship programs. The Covid-19 crisis can disrupt the transition to work if companies scale back apprenticeships, bringing potential long-term consequences for the cohort entering the labor market during the crisis. The mechanisms disrupting the transition can take different forms in countries like the U.S. and U.K., which offer little institutional support for this transition, and where students have always had to rely on networks of family and friends, prior employers, or college career centers to find jobs. Finally, in Southern European countries with already high youth unemployment, youth are likely to experience an amplification of existing delays in leaving home and entering first jobs as part of an ongoing delay in the transition to adulthood more generally.

The pandemic will also affect transitions back to education or training in adulthood. Millions of displaced workers will require re-training, skill upgrading, and new degrees, enabling movement into growth sectors (e.g., health care, digital technology). The pandemic has brought growing opportunities for the expansion of online learning, potentially from a greater range of providers, creating more flexibility to manage education alongside work and family commitments and the possibility of “lifelong learning” – a principle that many educational systems have been very slow to integrate into their functioning up to now. Even then, the chances of attending and completing further education – whether degrees, certificates, or shorter training – depend on adults’ work and family commitments. In the pandemic, disruption to one’s own or a spouse’s employment, or the onset of illness for a family member, may be just enough to block or require withdrawal from education or training. Furthermore, it has been clear for some time that the rate of knowledge growth and the changing nature and even continued existence of many jobs requires greater educational attainment or ongoing training. There has been some resistance to acknowledging and adapting to this fact. The pandemic has brought a seismic shift in the use of electronics, the internet, and remote learning in ways that could create more openness and responsiveness to the need for ongoing education and training over the life course.

## 6. Work and careers

The pandemic and the policies used to combat it have had immediate labor market consequences. Unemployment has increased exponentially. Apart from analyzing the distribution of unemployment risks across age groups – as well as for different subgroups defined by gender, race, and nativity – life course researchers will be particularly interested in tracing how the short-term consequences of the pandemic’s economic crisis are translated into long-term effects. Prior research on economic recessions and depressions repeatedly demonstrates that earlier unemployment begets later unemployment and leaves a lasting mark on income. For some, unemployment is a short-lived experience, while for others it becomes the starting point of a longer-term process of labor market exclusion. The effects of unemployment on various aspects of individual and family wellbeing are most severe when it is prolonged.

One might expect to find the strongest long-term effects for the cohort of graduates whose immediate transition from school to work is hampered by the pandemic, particularly if it lasts a long time. This could result in a kind of “lost generation” with shrinking opportunities in employment and truncated career and family formation, which would in turn have lifelong consequences. Note, however, that the current evolving economic crisis can add “insult to injury” for those cohorts now in their thirties who were already penalized a decade ago when they

entered the job market during the financial crisis (or “Great Recession”) that began in 2008, most of whom now have the additional economic demands of parenthood.

The effects of the pandemic on work and careers are sure to be moderated by existing national support systems, such as the unemployment and social benefit systems, labor market regulations, and family policies; by individual and community resources; and by existing gender, race and other inequities. Work organizations also play a role: The characteristics of pension systems, and their interactions with labor market institutions, shape pathways to retirement and thus affect older and younger cohorts of workers alike. With respect to individual resources, one wonders about the influence of social networks and especially of “weak ties” and “bridging ties,” which have been shown to be powerful in generating occupation and employment opportunities. For many people, it would seem that during the pandemic strong ties remain strong, as family members and friends stay in touch, if sometimes inconveniently (e.g., with video-call programs). However, it is important to ask whether the pandemic might threaten, or perhaps even strengthen, weak or bridging ties, and what effects this might have not only on work and careers but on access to and exchanges of support to meet other needs as well.

Furthermore, the economic crisis of the pandemic, at least its early phase, has affected economic sectors differently. Given how strongly education and occupational sectors are intertwined with occupational segregation, the sector-specific consequences of the crisis will shape career inequalities. Self-employed and temporary workers are likely to be more affected in their career options than those with permanent contracts. Those in low-wage service sectors have been especially hard hit with the reduction of restaurant meals, catering, travel, or entertainment. Those in office-based service jobs, such as custodians and cafeteria workers, are more likely to permanently lose employment as work at home continues and jobs are replaced by automated technologies and artificial intelligence. These types of workers, who were in low-pay jobs before the pandemic, now face a severe lack of employment, reduction of income, and reliance on sometimes inadequate income support systems. However, the pandemic has highlighted the role of “essential” workers, many of whom are employed in less prestigious and poorly paid jobs, such as caring, transport, cleaning, and check-out staff.

Lockdowns, school closures, and care responsibilities associated with the pandemic can be expected to significantly and negatively impact women’s employment and careers. Women are more often found in lower-paid, less secure, or part-time and nonstandard work, and in more vulnerable sectors of the labor market. Women are more likely to be responsible for providing immediate and lingering care to family members with Covid-19, which will take a toll on their careers. This is unusual, given that in a recession unemployment generally hits men harder than women because more men work in industries that are closely tied to economic cycles, such as construction and manufacturing. Women, conversely, are more dominant in industries not tied to such cycles, such as healthcare and education. However, this time other factors played major roles. Pandemic-based needs may prompt couples to revert to a more gendered division of labor, eroding progress toward gender equality. At the same time, it is possible that the pandemic-based crises in schools, care settings, and at home will raise the visibility and value of women’s work.

It is important to examine the career effects of contracting the virus or of needing to provide care to those who have. A large literature has documented that individuals’ poor health has negative effects on labor market attachment and other career outcomes. Although a minority of those infected develop a serious form of Covid-19, those who do may suffer serious long-term health effects and an infection may be a turning point in workers’ careers. Given the spread and possible courses of the virus, there are significant implications for the health capital of the workforce.

The effects of a Covid-19 infection on careers should be sensitive to the principle of timing and therefore vary by age. Although younger

workers are unlikely to have a serious version of the disease, those who do seem likely to experience cumulative disadvantages due to loss of training, experience, and promotions. At the population level, though, the labor market effects of Covid-19 should be larger among older workers, who are more likely to have a serious response to the virus or to have other aspects of health compromised by the course of their infection.

There are possible interactions to examine between age- and domain-specific effects and work and health outcomes. Young people are at lower risk of being infected than older adults, but they are at greater risk of becoming unemployed than already established workers. Older workers, particularly those in the retirement bracket, are more prone to infection but might be better protected economically, especially in countries with strong labor unions – if their pension funds are not eroded by the evolving economic crisis. Older workers’ greater risk of contracting the virus, and its greater health impacts, might increase discrimination in the (re)hiring of older workers and push them into retirement prematurely.

## 7. Migration and mobility

Many of the immediate effects of the pandemic resulted from the need to control it by restricting mobility and migration – from movement across international borders down to movement within spaces of everyday life. Such constraints interfere in many ways with life course opportunities and outcomes of individuals and families. Early restrictions on day-to-day mobility and travel were severe, with millions of people confined to their homes, institutions, or destinations. The closing of borders or the selective regulation of international travel alters many kinds of migration, including labor migration, family-related migration, refugee migration, student migration, and amenity migration. Not only has initial migration been severely restricted, but many of those who had migrated before the pandemic continue to be stranded and cannot get back to their origin points. This is particularly problematic for those who have been laid off, have limited social protections or are without income, and cannot afford travel.

Short- and long-term consequences of restrictions on migration are also likely to fall on faraway family members of international migrants, including children and elderly “left behind” in the seasonal migration of women and men in care or agricultural sectors, and whose quality of life depends on that work. In addition, when women in the highly feminized migrant care workforce across the globe cannot work and provide a major source of family income, gender equality and the status of women are undermined.

Although seemingly less extreme by comparison, internal migration and residential mobility over shorter distances nonetheless affects life course opportunities and outcomes. It can interfere with the ability to move in order to find better jobs or schools, begin university, more easily manage work and family life, or give or get formal or informal care. It has been difficult to get elders into nursing homes or other care institutions, which have been a hotbed of virus transmission. Moving forward, people may be afraid to seek necessary care in these environments and try to “age in place” as long as possible.

The need for internal migration will increasingly be prompted by economic hardship and an inability to afford rent or mortgage payments, forcing families or individuals to downsize and move into less desirable areas with reduced access to health, education, and transport services. Primary assets stored in homeownership may plummet if housing markets cool down, especially in densely populated cities or tourist destinations that have traditionally had greatest demand and inflated real estate values. The rise in unemployment will undoubtedly lower demand for labor migrants and create a corresponding decline in both internal and international migration.

Easy and affordable access to travel may become even more selective in the wake of Covid-19, especially through the limited supply and regulation of public transport and reluctance to use it. This will affect the

direct costs of moving as a strategy to improve life chances. More fundamentally, new surges in the pandemic will reduce the possibility of back-and-forth travel after a move. People may be especially hesitant to move internationally or over long distances, thus reducing the globalization of labor markets. Worry about travel might inhibit even shorter-distance moves from family and create a tendency to live closer to work, or to work from home altogether. Even after the virus is under control, these changes in perspectives, norms, and practices may remain for many years to come.

Long-term life course consequences are likely to be particularly strong for those who were at a critical turning point in their lives when the pandemic hit, and whose lives took a different turn than envisaged before the crisis. Important examples are entry into post-secondary education and the labor market. These transitions mainly take place at young adult ages – prime ages of migration and mobility. As a consequence of the crisis, options for long-distance career moves or education abroad may not only be postponed, but also foregone. This could create disadvantages that cannot be undone later in life, or that can be overcome only with difficulty. In the very worst case, lives could be lost owing to a lack of options to find refuge from oppression, climate change, or virus outbreaks following from anti-immigration policies. Those in lower socio-economic strata already tend to be less mobile, but their mobility is likely to be even more constrained because of their economic standing and the costs associated with moving.

## 8. Life course policies

It will take several decades to reveal the life course consequences of policies meant to control the pandemic through public health practices and interventions. Such policies have modified people's attachment to and the boundaries between life domains, as well as the interdependencies between people. Lockdown measures, in particular, reduced institutional and organizational boundaries and created significant spillovers as homes became the hub of education, work, and family life. The physical separation of people reduced the potential for typical patterns of social exchange and support. Of special concern are those individuals with few social connections or who live alone, especially older people whose health was already compromised or might be compromised amid Covid-19. For those in unhealthy relationships or resource-deprived networks, dependence rather than isolation is likely to be the major issue through which the pandemic carries some of its negative consequences, as the increase in domestic violence against women and children in some countries has shown. Because care work is relatively inflexible, unlikely to follow predictable rhythms, and heavily gendered, it is women who especially shoulder the burden of the pandemic at home.

Pandemic-related measures have not only modified the organization of life for the initial months of the emergency phase, but also the graduated phases of resumption. These modifications are likely to bring many longer-term consequences for the life course. The pandemic has unveiled socioeconomic, ethnic/racial, and gender inequalities that are magnified by existing income and health inequalities. Distinct policy contexts related to the economy and work, education, and health will be particularly central in fostering or hindering recovery and the redistribution of resources toward the most vulnerable. Public policy systems that emphasize individual responsibility and reliance on private (family) support over public support have deepened the effects of the crisis for the most vulnerable, whether through insecurities related to food, housing, employment conditions, or health insurance.

Even in more progressive welfare states, students, the self-employed, and undocumented immigrants have often been excluded from government schemes to address resources lost during the Covid-19 crisis. These groups have had few options for financial assistance, other than what family members might provide. It is unclear whether policies designed for the general public will be effective in reaching and protecting those who are not embedded in social relationships or networks

that might help offset the serious consequences of the pandemic, whether loss of employment, income or hope. Policies must be designed to protect children, including dependent young adults, from the risks of poverty and other family hardships.

The pandemic has significant implications for educational policy and inequalities among children, youth, and young adults. The revenues for schools are falling as municipalities and regional governments cope with the immediate health and economic effects of the pandemic. Increasing aid for public education is a tough sell when there are other competing critical needs (e.g., hospitals, homeless shelters). During the pandemic, schools are facing even greater costs related to supplies, equipment, space, and personnel. To reduce inequalities, schools have to provide computers or tablets and subsidies for internet access. If nothing is done to augment educational budgets, the digital divide among parents will have long-term implications for the life courses of children and adolescents. Moreover, if governments pull back on funding higher education, institutions will be forced to raise tuition, which occurred during the Great Recession. Programs are needed to enable youth with limited resources to attend college and to open up higher education for a possible wave of school-returns after an unhappy period of job search, unemployment, or underemployment. An alternative is to make online courses a more viable alternative to traditional forms of education provision.

Moreover, policies are needed to smooth the transition between school and work. When students can realistically foresee a future job, they will have greater motivation to complete their educational programs, persist when challenges threaten their progress, and attain sought-after educational credentials. There is also a need to reintegrate and support the economic production sector through active labor market policies promoting employment, such as those investing in retaining, and policies contrasting labor shortages due to restricted seasonal mobilities and longer-term migration flows. Environmental, cultural, and behavioral changes triggered by the pandemic may also have positive outcomes for population health and wellbeing in the longer-term, for example by improving individual health behaviors; decreasing tolerance for rising social inequalities; heightening informal social support and collective solidarity; making clear how government and programs that work well are necessary for everyone's wellbeing; and increasing support for a "one health" approach that views the health of people, animals, and the environment as interconnected.

Thus, the pandemic might increase support for social protections throughout the life course. But the economic burden created by the policies to control the pandemic might also produce a backlash less supportive of social programs and major redistributive policies. In addition, concerns with people's mobility and the diffusion of the virus may nourish nationalism and xenophobic attitudes, an upsurge in anti-immigration policies, or resistance to reopening borders to certain populations.

These early months of the pandemic have served as a reminder that wellbeing and quality of life are not only about economic resources, and that a purely medical or epidemiological perspective in policy development is insufficient. Well being and quality of life are to a great degree dependent on the boundaries and balance between work and private life, caring social relationships, good mental health, comfortable living arrangements, trust in politics and one another, and well-functioning social institutions and governments. The pandemic has also served as a reminder that health and wellbeing are not only individual characteristics but public goods that matter for the welfare and functioning of whole communities and populations.

Because most welfare-state schemes are designed to repair or normalize disrupted life courses, the degree to which welfare states are strengthened or weakened in the wake of the pandemic and its economic consequences will be a major source of life course stability, change, and precariousness. The same applies to new forms of social investment in welfare programs, including health insurance. In countries with loose-knit welfare systems, the prospect of large-scale social decline should



favor the reinforcement of the social safety net, especially with a view to older unemployed or economically-dependent persons who are threatened by the loss of support.

Covid-19 has opened a window to rethink current institutions and policies with the life course in mind. Many institutions have responded to the pandemic with greater flexibility in normal practices and policies, openness to innovation, and more permissiveness and compassion toward the people learning, working, and living in those institutions. The pandemic has brought lessons in how systems might be reworked holistically to foster continuity. For example, greater awareness of the interdependencies across life domains creates an opportunity to find alternative and possibly long-term solutions to curbing work-family conflicts; greater awareness of the interdependencies across individuals creates an opportunity to develop more flexible and sustainable forms of interaction and cooperation. The pandemic has also raised awareness that social institutions and policies reproduce and even deepen inequalities, bringing lessons in how systems can be redesigned to address persistent disadvantages associated with gender, race, age, social class, and other social categories.

## 9. Life course data

The research community was quick to react to the spread of Covid-19 and the unprecedented measures used to curtail it by launching numerous data collection efforts, not only in the health sciences but also in the behavioral and social sciences. As we have emphasized, the life course approach can fertilize research on the health, psychological, and social risks of Covid-19 and the broader crisis, as well as investigations of their long-term consequences. It is important that data collection efforts do not become compartmentalized by discipline but remain broad and recognize the multiple facets of the pandemic. Data will need to be gathered years after the pandemic to examine its various long-term consequences. Life course researchers should remain active in guaranteeing expansive long-term data collection efforts of a variety of issues beyond, but also including, health.

Due to the centrality of time and time-related phenomena in life course research, longitudinal data will naturally be the most important data resource on the Covid-19 pandemic. Several established longitudinal studies that rely on national panel and cohort data are already collecting or planning to collect modules or items specific to and during the Covid-19 pandemic. Life course researchers emphasize how earlier life experiences – such as prenatal and early childhood health, childhood conditions, unemployment experiences, cumulative exposure to adverse health or other conditions, as well as exposure to previous historical events – create risk and shape the effects of subsequent experiences on individuals and entire cohorts. Therefore, the greatest data gains will be made by building on ongoing longitudinal projects that link information on life before Covid-19 to experiences during and specific to the pandemic. These projects have the additional advantage of building upon existing sampling frames and research organizations, which can add to their flexibility in collecting new data during the pandemic. Inserting a supplementary module or items on Covid-19 experiences at regular intervals will help adapt existing longitudinal studies to this new topic. *Ad hoc* point-in-time studies that generate data using any variety of methods might provide relevant data even more rapidly, but these will often lack longitudinal depth (except for information that can reliably be gathered retrospectively) and the means to follow their pandemic samples over time.

Next to time and time-related phenomena, we have emphasized the distinction between being infected and affected by the new coronavirus, as well as the importance of social structure and context, and agency and subjectivity. Understanding how exposure to risk factors over the life course affect health during the pandemic requires reliable information on whether one has been infected as well as the severity of the disease that followed. Such data also are needed to analyze the effects of having been ill from Covid-19. Ideally, infections would be measured using

reliable biomarkers. Similarly, longitudinal data projects would preferably collect other biological data relevant to understanding Covid-19 infections and their consequences, including data on predisposing health conditions and genetic data.

As we have emphasized, Covid-19 infections affect not only those who are infected but also family members and others in close vicinity. Likewise, because the coronavirus spreads through social networks, becoming infected depends on who one lives and interacts with. Both call for data on the “linked lives” of Covid-19. These data, as well as data on other ways in which the pandemic has affected family lives and social relationships, will enrich many existing projects which have traditionally acknowledged the importance of households and family lives in their longitudinal data collection efforts.

Social context and structure will feature in many life course analyses of the Covid-19 pandemic. Life course researchers have for a long time underscored the significance of institutions and policies in shaping life transitions and trajectories, and the pandemic has made their roles ever more visible. Country comparisons have been the main analytical tool for analyses on the importance of macro-level factors and the quick emergence of internationally coordinated longitudinal data collection efforts is particularly welcome. However, a feature of the Covid-19 pandemic has been the clustering of infections in regions, cities, or smaller contexts such as workplaces, places of worship, or neighborhoods. Although many policies until now have been implemented regionally or nationally, policies are becoming more targeted with further outbreaks.

This clustering means that people are differently exposed and affected depending on where they live, work, and socialize. This variation gives rise to natural experiments that should be exploited to design studies for analyzing the effects of exposure to the virus on the one hand, and physical distancing, school and workplace closures, and other measures that emerged in response to Covid-19 on the other. This will require geographically and contextually granular data. This granularity creates data size demands that may not always be met with surveys or other common types of data. Administrative data and national registries will be valuable due to their sheer size for many research questions regarding family dynamics, work and careers, and health outcomes, but not for questions regarding psychological wellbeing and life plans and perceptions, which are not solicited in such data.

One of the major consequences of the pandemic is that it shattered the sense of predictability in life. Similarly, being infected and affected by the pandemic can shape how people perceive their life histories and identities. An understanding of these and other subjective-temporal features of the pandemic requires their measurement in the context of broader data collection efforts. Data should similarly be collected on individuals' agency during the pandemic, for instance on compliance with norms of physical distancing and other measures for health protection or on the predictors of individual resilience.

Finally, qualitative data, possibly longitudinal as well, are necessary for revealing the processes and mechanisms that link the pandemic to life course outcomes. These data are best suited for uncovering the breadth and diversity of individual situations and subjective responses to the threat of illness and public health restrictions meant to contain it. For example, individual interpretations of their experiences of quarantine, alterations in their sense of control, and efforts to exercise agency and maintain a sense of wellbeing in the face of the pandemic are varied and nuanced and not well assessed by fixed-choice survey questions. Qualitative approaches are also necessary to make visible the pandemic experiences of young children and members of hard-to-reach and vulnerable populations, such as women who are victims of abuse and violence.

## 10. Concluding thoughts

Covid-19 represents a massive global crisis that behavioral and social scientists must study from a life course perspective. The pandemic

creates a pressing need and unique laboratory to analyze how institutional structures, sociodemographic composition, types of stratification, and other dimensions of societal differentiation and regulation generate different responses to a common threatening external shock – and, in turn, how those responses alter the organization and experience of the life course in a given society. As the pandemic unfolds, we must continue to monitor which societal changes will be temporary and which will be longer-lasting and even lead to permanent systemic change. A life course perspective provides a powerful lens for understanding these complex interdependencies over time.

In emphasizing time, a life course perspective invites diachronic (time-based) rather than synchronic (point-in-time) comparisons. The effects of the pandemic will likely depend on timing – that is, on ages or life stages that are more or less vulnerable or sensitive to certain types of effects. The most severe health risks of the pandemic are strongly related to old age, whereas the pandemic experience shows more as a disruption to daily activities and social roles and as heightened social and economic insecurity for the young.

A life course frame also invites us to look beyond chronological age and to account for biographical and historical time. Looking backward, the pandemic brings to the fore how individuals have different susceptibility to the virus itself and to the social and economic consequences of the pandemic, depending on their previous experiences – experiences that can also determine the short-term and long-term consequences of the pandemic. We are reminded to read the life course through personal history as well as through its intersection with social history. The ages of people today are a window into their historical location, which affects the response to and effects of the pandemic – as in the example of people now navigating the pandemic in their thirties, who were just a decade ago navigating the Great Recession during their transition to adulthood.

Looking forward, a life course perspective also asks us to identify which pandemic experiences will turn into permanent scars or reorientations for individuals and their families, and which will be open to resilience and be compensated for or even forgotten with time. Even more, it encourages researchers to account for heterogeneity by specifying *for whom* there will be scarring or resilience, and to account for environment and policy considerations by specifying the *conditions under which* there will be scarring or resilience.

Whether we are looking backward or forward in understanding the pandemic's effects, it is important to not only probe these dynamics at an individual level of analyses, but also to examine them for groups, especially birth cohorts or social generations. In historical moments like this, people of different ages are branded differently, not just because they are in distinct developmental periods but because their lives carry the imprint of prior historical experiences.

The pandemic is reshaping transitions and trajectories in every domain of life, and instigating turning points that redirect life. Many of these are negative, or at least challenging. The transition to adulthood, for example, has become longer, more variable, and risk-laden in many countries in recent decades. The pandemic is likely to heighten these trends through its effects on educational transitions, youth labor markets, chances for regional mobility, family formation, and general trust in the future. Likewise, at the other end of working life, the transition to retirement may become more difficult due to insecure pensions or insufficient savings or assets, just as leisure and volunteering activities or the grandparent role may become more difficult due to limited mobility or concerns about exposure to Covid-19. Indeed, throughout the life course, the age-based rhythm of many transitions may loosen in the face of uncertainty and de-standardize life trajectories.

Some changes associated with the pandemic are positive and have direct relevance for life course analysis, interventions, and policies. The pandemic is raising awareness that experiences across life domains such as health, family, work, and education are highly interrelated, and that these spheres are overlaid with institutions that have different time-based expectations and rhythms. It is bringing newfound recognition that people and places both near to and far from us are linked in

fundamental ways that must be made more visible. Ironically, just as the pandemic has isolated people from one another, it also seems to be fostering a sense of collective solidarity, community action and cooperation, and the inherent need for mutual support. It is exposing inequalities in life course processes and outcomes, differentially affecting groups based on age, gender, race and ethnicity, social class, and other social categories. It is increasing consciousness that stability in human life is fragile and dependent on social institutions – and on governments and policies – that are nimble, work well together, and address vulnerabilities and systemic inequalities in the life course. In many societies, these conditions are not met. It is challenging assumptions about the organization of the life course and opening opportunities for innovation and flexibility.

Broadly, the pandemic is triggering deep tensions in human experience that frame how the life course is understood by the individual members of any society – tensions related to individualism and collectivism, autonomy and interdependence, freedom and control, rights and responsibilities, among others. Perhaps the most profound axiom of modernity that is being undermined by the pandemic is that of predictability. The uncertainty and disruption it has created mimics a much earlier age, when time and life itself could not be counted on and when aspirations were more limited and planning less possible.

One thing is sure: There is a time before Covid-19 and a time after it. This watershed moment is marking the psyches and lives of individuals, families, and cohorts in ways both known and unknown. A life course perspective is necessary to bring these effects, and the mechanisms that create them, into focus for investigation and intervention.

#### Authorship order

The project was conceived by the first author and the journal's editors-in-chief (2–3), who incorporated contributions from a first (4–13) and second (14–18) group of authors and led iterative rounds of revision with the entire team. Authors are listed alphabetically in each group.

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