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Adulthood in progress: a life course investigation of work-family trajectories and mental health in young adults

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Chapter 1
General introduction

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Young adults face many challenges during the transition to adulthood. Between the ages of 18 and 30 years, young adults make significant life transitions, such as moving out of their parents' home, engaging in diverse training and educational activities, and securing their first jobs. Simultaneously, young adults establish their social networks, start and conclude romantic relationships and, in some cases, become parents. Considering these transitions, young adulthood stands out as a pivotal life stage when decisions in work and family domains can have life-long consequences. While all the transitions are not new, people born after 1990 tackle them in a whole new context of ever-changing job markets and evolving family structures, including an increase in remote work, precarious employment, changes in traditional nuclear family dynamics, evolving gender roles, and changing norms around marriage.

Young adulthood is also a period when many people encounter mental health problems, with a significant portion of those mental health problems already emerging during adolescence. The prevalence of mental health problems among young people has been called a global public health challenge (Castel Pietra et al., 2022; Patel et al., 2007), underscoring the need to focus research on young adulthood as an important life stage. Previous studies have shown that work and family experiences during young adulthood have long-term implications for mental health in later life (e.g. Engels et al., 2019; Virtanen et al., 2011). Given that many transitions in work and family domains occur during young adulthood, it is crucial to examine how these transitions affect mental health. It should also be acknowledged that work and family domains are not isolated but rather interconnected, with decisions made in one domain influencing experiences in the other domain. Recognising the simultaneous influence of work and family lives on the mental health of young adults is therefore essential to better understand the intricate relationship between work, family and mental health.

This thesis focuses on how Dutch young adults born in the early 1990s combined education, work and parenthood in their 20s. More specifically, this thesis aims to describe and examine combined work-family trajectories in young adulthood, and to examine the associations between these work-family trajectories and mental health before and during young adulthood. A better understanding of how young adults combine education, work and parenthood, and how this relates to their earlier and later mental health, can inform policies and interventions. This can be achieved by identifying work-family experiences

associated with a higher risk of experiencing mental health problems and by determining the optimal timing for interventions.

The first chapter of this thesis introduces the life course framework for examining work and family experiences in young adulthood and their association with mental health from adolescence to young adulthood. The chapter describes the transition to adulthood, the interconnected nature of work and family domains, and the complex relationship between work, family and mental health. The chapter concludes by presenting the aims, the study methodology and the outline of this thesis.

Life course perspective

The life course perspective is a widely used framework for studying lives (G. H. Elder, 1998) and serves as the main framework and point of departure for this thesis. It offers an interdisciplinary approach to research on health, human development and ageing (Kuh et al., 2003), including studying work and family experiences over time. While the term “life course” is conceptually broad, the central idea is that human lives are shaped by a series of interconnected events and transitions that occur throughout an individual’s lifetime. In work and family research, the life course approach offers a framework that recognises the interconnected nature of life events in work and family domains.

The central principle of the life course perspective is the interdependence of different life domains, emphasising how events in one domain affect what happens in other domains over time. This interdependence can operate through the allocation of limited resources (Bernardi et al., 2019). In work and family domains, time serves as a common example of a shared resource, as demands in one domain can create strain by limiting available time for the other domain. Apart from resources, interdependence also operates through the outcomes in each life domain (Bernardi et al., 2019). In the work and family context, outcomes such as enjoyment or well-being in one domain can spill over into the other. Additionally, compensation might occur, when shortcomings in one domain are compensated for by gains in the other domain (Greenhaus, J. & Singh, 2003). For example, an individual experiencing high levels of work demands might maintain their overall well-being through positive family interactions, thereby offsetting the negative effects of work demands on their mental health.

Additionally, the life course perspective emphasises that early life events affect outcomes in later life. This thesis focuses specifically on how work-family

experiences are shaped by earlier health, and how experiences in work and family domains during young adulthood can shape later mental health outcomes. For instance, positive mental health in adolescence can contribute to resilience and better social skills may lead people to higher educational attainment and in turn better prospects in the labour market. Furthermore, positive work and family experiences during young adulthood can set people on life trajectories characterised by better working conditions, healthier lifestyles or greater life satisfaction, which in turn can contribute to improved health in later life.

Transition to adulthood

The transition to adulthood is a process that marks the end of adolescence and the beginning of adulthood. The transition to adulthood has been viewed as one of the most heterogeneous periods of life, often referred to as a demographically dense period due to the number of significant changes happening simultaneously (Rindfuss, 1991). A successful transition to adulthood is often conceptualised as completing specific transitions, called markers of adulthood. While the markers can vary across cultures and generations, adulthood is commonly defined by finishing education, starting a job, moving out of the parental home, getting married, and becoming a parent (Settersten et al., 2015). In this thesis, the term *young adulthood* is used to reflect the transitional period between adolescence and adulthood, defined as ages 18 through 29 years.

Over the past decades, researchers recognised a new trend of increasing variability in the pathways to adulthood (e.g. Schoon, 2015; Schulenberg & Schoon, 2012; Shanahan, 2000). Earlier, the typical sequence of the adulthood markers used to be completing school, finding employment, leaving home, marrying, and becoming a parent. The transition to adulthood was gendered, with men primarily working outside the home and women often staying in the domestic sphere as mothers or homemakers (Settersten et al., 2015). In the second half of the 20th century, the transition to adulthood changed from rapid and ordered succession of adulthood markers to more extended pathways without a strict order and fewer differences between women and men (Arnett, 2000). Thus, the entire process became more complex, with more transitions occurring during young adulthood, and more diverse, with individuals following their unique pathways to adulthood rather than a uniform trajectory (Settersten et al., 2015). Gaining insight into the timing, ordering and duration of important events during young adulthood ensures that policies are adapted or newly developed and properly targeted to the current generation and their circumstances.

Interdependencies between work and family domains

For many people, work and family are central domains of their lives, with the main transitions during young adulthood happening within these domains. However, the terms work and family are broad and not precisely defined, leading to varied use, both in research and in daily life. In research on work-family dynamics, 'work' primarily refers to paid employment, while 'family' traditionally encompasses various life aspects outside of work, like leisure, personal time, relationships, caregiving, and household responsibilities. In this thesis, the term 'family' represents parenthood. The term 'work' covers both educational activities and labour market participation.

The domains of work and family are interdependent, as events and experiences in one domain often influence events, transitions, and experiences in the other domain. For instance, a vast literature exists on the 'motherhood penalty', a disadvantage women face in their careers after becoming mothers (Correll et al., 2007). The studies show that the decisions of young adults, in particular women, to become parents may significantly impact their educational and career choices (e.g. Johansen et al., 2020), leading to different work outcomes. In the other direction, postponing the transition to parenthood is often attributed to economic uncertainty in young people (Vignoli et al., 2020). Recently, it was also shown that low income and temporary employment contracts specifically are among the main reasons for postponing parenthood in young people (van Wijk, 2023). While it is relevant to examine the association of work and family during the entire life course, understanding how young people combine work and family roles is especially important due to the formative nature of this life stage. Decisions in work and family domains during young adulthood can establish foundations for young adults' future careers, relationships, family arrangements, overall health and life satisfaction.

In this thesis, the central focus is on work-family trajectories, which are the longitudinal representations of work and family experiences that capture the timing, duration and ordering of the experiences over the life course. Trajectories can also be understood as sequences of changes in states or roles (G. H. Elder et al., 2003). The analysis of trajectories in social sciences gained popularity with the developments in computing and programming during the 1980s and 1990s. These advancements led to the development of sequence analysis—the primary method for examining life trajectories nowadays (Liao et al., 2022). Examining work-family trajectories allowed researchers to move from examining individual events and transitions to a more holistic examination of the

interplay between work and family domains over time, aligning with the life course perspective. Previous studies have shown that the interdependent nature of work and family, operationalised as work-family trajectories, can affect other outcomes, such as mental health (Engels et al., 2019), physical health (McDonough et al., 2015), financial well-being (Madero-Cabib & Fasang, 2016) and life satisfaction (Zimmermann, 2021). Only a few studies have examined these associations in young adults, and even fewer have focused on young adults born in the early 1990s.

Work, family and mental health

During young adulthood, transitions in the work and family domains can impact mental health. For instance, it has been shown that work-family trajectories characterised by postponing important transitions, such as the school-to-work transition or the transition to parenthood, are associated with higher levels of depressive symptoms (Salmela-Aro et al., 2014). While the process of the transition to adulthood has changed, the general perception of successful young adulthood is often still based on the achievement of the traditional markers of adulthood (Settersten et al., 2015). The disconnect between the reality of the transition to adulthood today and societal expectations of what young people are expected to achieve may influence how young adults navigate this life stage.

Investigating the associations between work-family experiences and mental health is particularly important, as mental health disorders are the leading cause of disease burden among young people in Europe (Castelpietra et al., 2022). In the Netherlands, mental disorders accounted for 29% of the years lived with disability in individuals aged 20-24 years in 2019 (Institute for Health Metrics and Evaluation (IHME), 2020). Identifying specific work-family experiences associated with mental health, such as simultaneously pursuing education and work, experiencing longer spells of inactivity or becoming a parent, can allow for the identification of people at risk of mental health problems.

The research focusing on the interface of work and family and the association with health has been dominated by two theories that explore under which circumstances combining multiple work and family roles may be harmful and beneficial: the role strain theory and the work-family enrichment theory. The role strain theory posits that combining work and parenthood can be challenging due to the pressure and conflicting demands of both roles (Greenhaus & Beutell, 1985). For instance, recent findings indicate that dissatisfaction with balancing work and family roles is associated with long-term sickness absence due to

mental health problems among Finnish women (Kaila-Kangas et al., 2023). Experiencing conflict between work and family roles can, in turn, also affect their children's mental health (Dinh et al., 2017). In recent years, researchers started focusing more on the positive aspects of combining work and family roles (Kuschel, 2017; Lapierre et al., 2018). In line, the theory of enrichment postulates that experiences in one role can enhance experiences in another role (Greenhaus & Powell, 2006). For instance, obtaining organisational skills at work can be beneficial for managing a household. The role enrichment theory has been supported by a longitudinal study of more than 40 thousand Europeans which showed that combining employment, parenthood and partnership in early adulthood is associated with fewer depressive symptoms in later age in comparison with people who did not combine work and family roles between ages 25 and 40 (Engels et al., 2021). Both theories inform research by highlighting that the interplay between work and family roles can have both positive and negative consequences for mental health in young adulthood. This perspective allows for an investigation of how different work-family trajectories, characterised by varying combinations of roles, may lead to diverse mental health outcomes, reflecting both role strain and work-family enrichment.

In line with the life course perspective and given that most mental health problems begin before young adulthood, with the average age of onset for mental disorders being 14.5 years (Solmi et al., 2022), it is essential to consider mental health experiences during childhood and adolescence when examining the association between work, family, and mental health. Early mental health problems and their consequences often extend into young adulthood and can impact young people's ability to reach their goals in both the work and family domains. For instance, previous studies have shown that experiencing mental health in adolescence can influence educational attainment and work functioning (e.g. de Groot et al., 2022; Needham, 2009; Veldman et al., 2015). In men, externalising problems during adolescence were associated with earlier parenthood (Evensen & Lyngstad, 2020). However, there is a lack of knowledge on how early life mental health relates to later life combined work-family trajectories.

This thesis adds to the literature by applying a life course perspective to the examination of the associations between mental health, work and family. Specifically, the thesis investigates the *interdependences* of experiences in work and family domains by examining work-family trajectories during young adulthood. The thesis also explores how early life experiences can influence later

life outcomes by examining the associations between mental health and work-family experiences at multiple points in time between ages 11 and 29.

Young Dutch adults

Understanding the context in which people live their lives is crucial when examining the dynamics of work, family, and mental health. The research in this thesis focuses on the life stage of young adulthood in Dutch people born in the early 1990s. The following paragraphs briefly describe the main characteristics of the educational system, work experiences and family formation in the Dutch young adult population.

Education in the Netherlands consists of eight years of primary education, four to six years of secondary education and two to six years of tertiary education. The compulsory education lasts until the age of 18 years, or until the age of 16 years if an individual has achieved a basic qualification (roughly defined as achieving an upper secondary school certification). Dutch young adults demonstrate one of the highest educational attainment levels among EU countries, particularly in tertiary education. Specifically, among people aged 25-34 years in the Netherlands, 33.7% have attained a maximum level of secondary education, and 56.4% have achieved tertiary education in 2022. In comparison, the EU averages were at 43.4% for secondary education and 42.0% for tertiary education in 2022 (Eurostat, 2023a).

The transition from education to work is one of the most important transitions during young adulthood. The median age of leaving school in the Netherlands was 22.5 years in 2009 (Eurostat, 2023c), but it is common to work in part-time jobs already during education. In 2016, 86.4% of people aged 20-24 years reported having some work experience while studying, in comparison with the EU average of 50.3% (Eurostat, 2023d). Another feature of the labour market in the Netherlands is that it is rather common, especially among women, to work part-time. In 2023, Dutch employees aged 15-34 years had the shortest workweek in the EU, averaging 28.5 hours (25.9 for women, 30.9 for men). In comparison, the EU average was 36.0 hours (34.0 for women, 37.6 for men) (Eurostat, 2023c). Inactivity among young Dutch people is less common in comparison with young adults in other EU countries. In 2022, the proportion of young Dutch people aged 15-24 years who were not in employment nor education and training was 2.8%, relatively low in comparison with the EU average of 9.6% (Eurostat, 2023a). In the same year, only 4.8% of young Dutch people aged 20-29 years were unemployed, in contrast to the EU average of

10.2% (Eurostat, 2023c). However, one of the great concerns for young adults within the Dutch labour market is employment security related to flexible contracts that provide a lower degree of protection to the employees. Recently, it was shown that young adults consider insecure employment undesirable, especially those who already left their parental home, entered a romantic relationship or became parents (Rouvroye et al., 2024).

In the family domain, the transition to parenthood, once considered a defining marker of adulthood, is increasingly delayed to a later age in the Netherlands. The age of having a first child was 30.3 years among Dutch women in 2023, slightly above the EU average of 29.8 years (Eurostat, 2023b). For those young adults who do transition to parenthood, there are some specific characteristics of the Dutch context. Parental leave includes 16 weeks of paid maternity leave for mothers, 1 week of paid parental leave for partners, and 26 weeks of partly paid parental leave for both mother and partner. Mothers in the Netherlands tend to return to work relatively soon after childbirth, often opting for part-time employment. This is facilitated by the availability of childcare services, including partially subsidised daycare and flexible work arrangements. Despite the growth of dual-earner families and increased labour participation among mothers, consistent with trends observed in many Western countries (OECD, 2011), the division of caregiving responsibilities in the Netherlands remains unequal, with disparities between women and men becoming more pronounced after the birth of the first child (Solera & Mencarini, 2018).

Aim and main objectives

This thesis addresses several gaps in the existing literature on the relationship between work, family and mental health in young adults. The overall aim of this thesis is to examine work and family lives during young adulthood in Dutch people born in the early 1990s, and to examine the associations with mental health problems from adolescence until the end of young adulthood.

The specific objectives of this thesis are:

- To systematically summarise evidence on work-family trajectories in various populations and to systematically summarise evidence on the association between work-family trajectories and health (Chapter 2)
- To build work-family trajectories in a sample of Dutch young adults and to examine whether people with and without prior experience of

mental health problems follow different work-family trajectories in young adulthood (Chapter 3)

- To investigate the course of mental health from adolescence to young adulthood in people with different work-family trajectories during young adulthood (Chapter 4)
- To examine the association between the timing and duration of work and family events and subsequent mental health problems (Chapter 5)

Study methodology and data

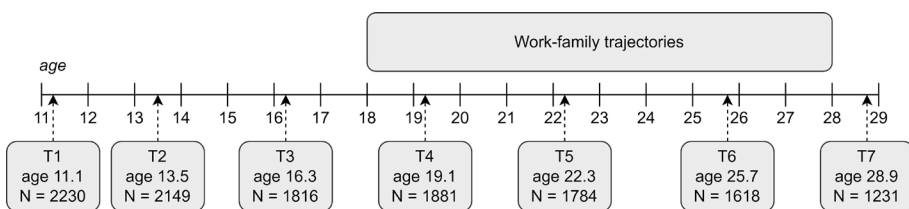
Sample

In Chapters 3, 4 and 5, data from the TRAILS (TRacking Adolescents' Lives Survey) study were analysed. TRAILS is a prospective population-based cohort study with an 18-year follow-up (Huisman et al., 2008; Oldehinkel et al., 2015). Participants of TRAILS were recruited from children in five municipalities in the North of the Netherlands born between October 1, 1989 and September 30, 1991. In total, 2,230 children (mean age = 11.1 years, SD = 0.55) participated in the first wave. The six follow-up measurement waves took place at the average ages of 13.5, 16, 19, 22, 26 and 29 years. Each measurement wave of TRAILS consists of a combination of questionnaires, interviews and physical measurements. Additionally, a life history event calendar was employed during measurement waves conducted at ages 22 and 29 years.

Primary measures

The main concepts used in the empirical chapters of this thesis were work-family trajectories and mental health.

Figure 1 Timeline of the TRAILS measurement waves and the work-family trajectories



Work-family trajectories were constructed by using monthly information on education, work and parenthood states between ages 18 and 27 years (up to the

28th birthday, see Figure 1). Education was assessed as being in education or not at each month between ages 18 and 27 years. The participants reported the start and end years of all their previous educational activities at the age of 29 years. Work was assessed as having a paid job or not at each month between ages 18 and 27 years. The participants reported the start and end dates of all their previous work experiences twice, at ages 22 and 29 years. Family formation was conceptualised as a transition to parenthood and recorded as being a parent or not at each month between ages 18 and 27 years. The analytical approach to constructing work-family trajectories is described in detail in Chapter 3.

Mental health was assessed by the Youth Self-Report (YSR) at ages 11, 13.5 and 16, and by the Adult Self-Report (ASR) at ages 19, 22, 26 and 29 (Achenbach & Rescorla, 2001, 2003). Both the YSR and ASR scales are validated instruments for measuring mental health outcomes. Out of the 126 items of the original ASR, the 112 items that were comparable with the 112 items of the YSR were used. Two scales from both the YSR and ASR were derived: internalising and externalising problems. Internalising problems capture anxious and depressed behaviour, somatic complaints, and withdrawn and depressed behaviour, while externalising problems cover aggressive and delinquent behaviour.

Thesis outline

In a systematic review in **Chapter 2**, the evidence on work-family trajectories and the association between work-family trajectories and health was summarised. In **Chapter 3**, sequence analysis was used to examine typical work-family trajectories during young adulthood in the TRAILS study. The chapter also examines the associations between mental health problems in adolescence and work-family trajectories. In **Chapter 4**, mental health trajectories from adolescence to young adulthood were constructed for each identified work-family trajectory to examine differences in the mental health course over time in people with different work-family experiences. In **Chapter 5**, sequence analysis and feature selection algorithms were used to examine the associations between the typology work-family trajectories and later mental health, as well as the associations between timing and duration features, and subsequent mental health. In **Chapter 6**, the findings were summarised and reflected upon, the strengths and limitations of this thesis were discussed, and implications and recommendations for future policies, practice and future research were provided.

