



EIJA RÄIKKÖNEN

# IS TIMING EVERYTHING?



**A Longitudinal Perspective on Adult  
Transitions, Their Antecedents, and  
Psychological Implications**



UNIVERSITY OF JYVÄSKYLÄ

Eija Räikkönen

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Their Antecedents, and Psychological Implications

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UNIVERSITY OF JYVÄSKYLÄ

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## ABSTRACT

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Yhteenvedo: Riippuuko kaikki ajoittumisesta? Aikuisuuden siirtymät, niiden ennakoijat ja yhteydet psykologiseen toimintakykyyn pitkäaikaisuuden näkökulmasta

Diss.

The present research examined (non-)occurrence, patterning, and timing of adult role transitions (i.e., moving from the parental home to independent living, obtaining a degree from a post-comprehensive educational institution, entering full-time work, establishing an intimate partnership, and becoming a parent), their childhood antecedents and psychological implications up to mid-adulthood. The particular focus was on the first occurrence of these transitions. The research was part of the ongoing Finnish Jyväskylä Longitudinal Study of Personality and Social Development (JYLS), in which a random sample of children ( $N = 369$ ), born mainly in 1959, has been followed from age 8 to 50 (in 2009). Information about adult transitions was gathered with Life History Calendar presented to the JYLS participants during the age-42 interview in 2001. The results of the research suggest that, in general, the transition to adulthood had occurred for the majority of individuals over a long period of time. Consequently, on-time completion of adult transitions was not the most typical transitional pattern. Furthermore, the transitions related to education and parenthood seemed to differentiate transitional patterns the most. These two transitions were also the most common missing transitions in mid-adulthood. Both individual (i.e., social activity, school success, educational aspirations) and family characteristics (i.e., socioeconomic status) were related to variability in the adult role assumption, but not to their timing. Only gender predicted the timing of adult role transitions: women underwent adult transitions earlier than men, particularly family transitions. These findings suggest that the timing of transitions may be highly determined by individuals' own interests and decisions, particularly in Finland. Concerning the implications of the transitions, this research suggests that the completion of adult transitions contributes directly and indirectly to good psychological functioning via good social functioning, whereas missing transitions are associated with reduced psychological functioning. Furthermore, the postponement of adult transitions, particularly parenthood did not seem to be beneficial in terms of subsequent psychological functioning, unless it was done in order to obtain a high level of post-comprehensive education.

Keywords: adult transitions, agency, context, family characteristics, individual characteristics, life history calendar, longitudinal study, psychological functioning

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## LIST OF PUBLICATIONS

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# 1 INTRODUCTION

The transition to adulthood is considered to be one of the most important transitions along individuals' life course. During this period, dependent adolescents become independent adults by gradually taking more responsibility for decisions concerning themselves and by growing toward becoming productive citizens (Nurmi, 2004). At the end of this period, most people have made their life choices in terms of work, an intimate relationship and family (e.g., Erikson, 1963; Havighurst, 1982; Levinson, 1986; Levinson, Darrow, Klein, Levinson, & McKee, 1978).

The time from adolescence to adulthood has been suggested to be a period during which individuals face more life transitions than at any other period in life (Caspi, 2002). The passage through this period has been traditionally understood as comprising five key transitions: 1) moving from parental home to independent living, 2) completing one's education, 3) entering full-time work, 4) establishing an intimate partnership, and 5) becoming a parent (e.g., Arnett, 2000; Caspi, 2002; Furstenberg, Rumbaut, & Settersten, 2005; Hogan & Astone, 1986; Shanahan, 2000). Completing all of these transitions is often considered to act as conduits to adulthood and provide structure for the internal changes associated with the transition (Andrew, Eggerling-Boeck, Sandefur, & Smith, 2006).

In recent years, the transitional pathway to adulthood has received increasing attention among scientists and politicians. Especially the postponement of these adult transitions has been under public debate. Two major trends are considered to be primarily responsible for the later transition to adulthood and a greater variety of role status combinations held during that time (Fussell & Furstenberg, 2005). The first trend is related to education. In many Western countries, as in Finland, one of the major concerns has been the extended years spent in education: A recent study of the Organisation for Economic Cooperation and Development (OECD) revealed that the median age at graduation from post-secondary education (i.e., vocational school, polytechnics, or university) among young Finns is among the highest of all OECD countries; only Swedes and Icelanders graduate at an older age (OECD, 2010). The second trend is re-

lated to the first trend: the delay in the age by which young people engage in a stable partnership and establish a family (Fussell & Furstenberg, 2005). After graduation, many people want to delay family formation until they feel that they are economically sufficiently established (Settersten & Ray, 2010). This usually requires several years of continuous commitment to a job.

Although adult transitions have attracted much interest, there are three poorly understood domains in regard to this topic. The first gap in the literature pertains to the fact that most previous studies have generally investigated the transitions singly, more or less independent of one another (Furstenberg et al., 2005). However, the life course of individuals consists of several interlinked age-graded trajectories and life transitions, involving for instance, work and family (e.g., Elder, 1995, 1998; Elder, Kirkpatrick Johnson, & Crosnoe, 2003; Elder & Shanahan, 2006). By investigating transitions singly, this diversity cannot be understood or taken into account. Second, there is also sparse evidence of the childhood developmental and socio-demographic antecedents of the adult transitions, particularly of the transitions occurring later in adulthood and missing transitions (i.e., transitions that do not occur). Third, it has been suggested that life transitions in general, and adult transitions in particular, may have far-reaching implications on various aspects of life (e.g., Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006). However, few empirical studies have been conducted about the implications of adult transitions for psychological functioning. More specifically, the relation of adult transitions and their psychological consequences spanning into mid-adulthood has remained largely unexplored, with few exceptions (e.g., Fadjukoff, Kokko, & Pulkkinen, 2007; Helson & Picano, 1990; Kokko, Pulkkinen, & Mesiäinen, 2009; Kokko, Pulkkinen, Mesiäinen, & Lyyra, 2008; Williams, McGee, Olaman, & Knight, 1997). This is possibly due to the fact that not many longitudinal studies extend to this length of time. Furthermore, the mechanisms (i.e., mediators and moderators) through which adult transitions contribute to subsequent psychological functioning are not well known. Consequently, the present research aimed to shed light on these gaps in previous research through a long-term Finnish longitudinal study covering the life course from childhood to middle-age.

## 1.1 Theoretical background

### 1.1.1 Concepts

Many different concepts have been used to describe the social structures, expectations, and norms that arise during the transition to adulthood. These concepts include life event, turning point, social role, developmental task, and transition. Although these concepts overlap to some extent, they also have slight differences in their connotations and, therefore, they should not be used as synonyms.

*Life event* has been defined as a major change in an individual's developmental ecology that presents a substantial stress to the individual's well-being

and therefore involves major readjustment (Brim & Ryff, 1980; Pulkkinen, Nurmi, & Kokko, 2002; Vinokur & Selzer, 1975). Life events can be desirable or undesirable in nature.

*Turning points* are certain kinds of life events which cause a lasting alteration in one's life course or at least some reorientation of priority of activities (Clausen, 1995; Rutter, 1996). Turning points can open up or close opportunities, lead to changes in people's lifestyles, self-concepts, and roles (Pickles & Rutter, 1991) and change their views of other people and the world (Clausen, 1995; Rutter, 1996). Turning points are heterogeneous experiences, and include those over which the individual has no control and those subject to individual choice (Rutter, 1996).

The concept *social role* is employed mostly in sociological research. Social role refers to both status in a social structure and the expected behaviours associated with it (George, 1993; Macmillan & Copher, 2005). Transition to adulthood may inaugurate several new roles (adult roles hereafter), such as an employee, a spouse, and a parent.

*Developmental tasks* refer to a set of skills and competencies that are acquired as the person gains increased mastery over the environment (Havighurst, 1982). These tasks reflect biological changes, social roles, norms and expectations, as well as personal values and goals. Developmental tasks consist of normative expectations and requirements to do or achieve something by a certain age.

The concept *transition* has been defined slightly differently among psychologist and sociologists. In psychology, "transition" has been defined as age-graded, long-term changes in individuals' life structure (Levinson, 1986; Levinson et al., 1978). Transitions are comprised of deliberation of one's life and choices which shape subsequent life course (Clausen, 1995; Levinson, 1986; Oravala & Rönkä, 1999). In other words, the psychological view describes transitions from the point of view of the individual. In turn, sociologists see "transition" as a change in a state or social role (Elder, 1998; Elder et al., 2003; George, 1993), thus emphasising more the objective transfer between states and paying less attention to the individual's own contribution. For example, getting married is a transition from being a single to being married. Transitions are bounded in duration but their consequences may be long-term. Although the conceptual definition for "transition" is similar to that for "life event", not every life event per se should be understood as a transition per se (Perren, Keller, Passardi, & Scholz, 2010; Rutter, 1996). Only those life events that initiate certain long-term changes should be considered as transitions. Furthermore, in some cases the term "turning point" has been used as a synonym for transition (Rönkä, Oravala, & Pulkkinen, 2003). However, a transition does not always constitute a turning point (Clausen, 1995; Rutter, 1996). To be perceived as a turning point the transition should be personally significant, and promote change in the individual's life course (Rönkä et al., 2003). At the very least, an individual must have the feeling that new meanings have been acquired (Clausen, 1995; Rutter, 1996).

There are three types of transitions. Normative (Baltes, Reese, & Lipsitt, 1980) or anticipated (Goodman, Schlossberg, & Anderson, 2006) transitions are those transitions that are highly predictable (Brim & Ryff, 1980) and common to the experience of many people. Conversely, non-normative (Baltes et al., 1980) or unanticipated transitions (Goodman et al., 2006) are relatively unpredictable life events (Baltes et al., 1980; Brim & Ryff, 1980) that occur unexpectedly. Retrospectively, transitions are mostly experienced as positive (Perrig-Chiello & Perren, 2005). However, Goodman and her colleagues (2006) distinguish also a third category of transitions, that is, non-event transitions, which are the ones an individual had expected but that did not occur, thereby altering one's life course.

In the present research, I have chosen the term "adult transition" in accordance with Furstenberg and his associates (Furstenberg et al., 2005). I consider the term "transition" to be a general concept that can refer to any transition that occurs in any point in one's life course, whereas "adult transition" is a more specific term referring to the five transitions (i.e., moving from parental home independent living, completing education, starting to work full-time, establishing an intimate relationship, becoming a parent) that are typically expected to occur in early adulthood and signify adult status. In my research, both psychological and sociological definitions for the term "transition" are combined: adult transitions are considered to reflect both individual's inner life (e.g., personal goals that one is striving for) and external behaviour. Furthermore, I use the concept "adult roles" when I refer to the social roles (e.g., student, worker, partner/spouse, and parent) related to the five adult transitions.

### **1.1.2 Research perspectives on adult transitions**

Two major research approaches can be identified in the research field of adult transitions: stage theories of developmental psychology and contextualistic views. Classic developmental stage theories (e.g., Erikson, 1963; Havighurst, 1982; Levinson, 1986; Levinson et al., 1978) have considered the completion of various age-graded life transitions as an indication of adulthood. In these theories, human development has been characterised as a passage from one developmental stage to another. Each of these stages involves age-specific psychosocial challenges, which reflect biological changes, social roles, norms and expectations, as well as personal goals. The resolution of these challenges forms a basis for the mastery of subsequent challenges and is essential for subsequent well-being. In his psychosocial stage theory, Erikson divided the human life span into eight stages (Erikson, 1963). In adolescence, a central challenge is identity formation. It provides the individual a sense of sameness and continuity across time and place. Identity resolution (i.e., achieved identity) would enable and impact personal progress in the subsequent stages of intimacy during early adulthood, and generativity and integrity in middle-age. Levinson focused on life structures, that is, things that a person considers important in life and the values and emotions that make these things important (Levinson, 1986; Levinson et al., 1978). According to Levinson, the human life span consists of



stable and transitional periods. The development from adolescence to adulthood includes a stable period and two transitional periods. The stable period is early adulthood, which lasts from circa age 17 to 45 years of age and begins with the early adult transition (roughly between ages 17 and 22). The stable period of early adulthood is the season for forming and pursuing youthful aspirations, establishing a niche in society, raising a family and as the era ends, for reaching a more "senior" position in the adult world. At the end of early adulthood occurs the midlife transition (from age 40 to 45), which brings about the termination of early adulthood and the start of middle adulthood. Havighurst's theory is based on age-graded developmental tasks, which reflect biological changes, social roles, norms and expectations, as well as personal goals (Havighurst, 1982). The developmental tasks in adulthood include, for example, moving from the parental home for independent living, finding an occupation, entering working life, and establishing a family.

In recent decades, more dynamic, contextualistic views on adult development have emerged (Pulkkinen & Caspi, 2002). These include *life course theory* (e.g., Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006) and *life-span theory* (e.g., Baltes, 1987; Baltes, Lindenberger, & Staudinger, 1998). As in the stage theories, the importance of developmental tasks and life transitions are acknowledged in the contextual views (e.g., Baltes, 1987; Baltes et al., 1998; Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006). However, the main difference between developmental stage theories and contextualistic views is that the latter considers development as an ongoing process to which many interacting factors contribute. Any point in the life course is understood as a consequence of past experience and as a starting point for subsequent experiences and conditions (Schoon, 2006). Moreover, contextualistic views take into account that lifelong development may also be influenced by contemporary conditions, rather than solely by processes that have their origins in the individual's earlier periods in life or birth. As follows, I will introduce both of these contextualistic views and discuss their similarities and differences.

An approach favoured among sociologists is the *life course theory* (e.g., Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006). The life course theory conceptualises the life course of an individual as "a sequence of socially defined, age-graded events and roles that the individual enacts over time" (Elder, 1998, p. 941), suggesting that transitions in different life domains are interdependent, and that understanding the structuring of the life course requires simultaneous consideration of these various dimensions (Macmillan & Copher, 2005). In the transition to adulthood, these key transitions include moving from parental home into independent living, completion of education, starting a full-time job, establishment of an intimate relationship, and becoming a parent (e.g., Arnett, 2000; Furstenberg et al., 2005; Hogan & Astone, 1986; Shanahan, 2000). The life course theory is based on five general principles which are postulated to have implications for human development (e.g., Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006). First, according to the *Principle of Life-Span Development*, human development and ageing are lifelong processes and therefore,

understanding developmental processes is advanced by taking a long-term perspective. Each point in the life course is both a consequence of past experiences and a starting point for subsequent experiences and conditions. Second, *the Principle of Human Agency* postulates that human development is affected by the choices and actions individuals take within the opportunities and constraints of history and social circumstances. Third, the *Principle of Timing* stipulates that human development is also influenced by timing of life events, that is, the age at which a life event or a transition occurs (Marini, 1985). Fourth, the *Principle of Linked Lives* indicates that significant others influence human development, because lives are lived interdependently, and sociohistorical influences are expressed through this network of shared relationships (e.g., Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006). Finally, the *Principle of Time and Place* suggests that the life course of individuals is embedded and shaped by historical time and places they experience over the course of their life.

A more psychological orientation to human development is *life-span theory* (e.g., Baltes, 1987; Baltes et al., 1998). Life-span theory defines human development as selective age-related change in adaptive capacity (Baltes et al., 1998). In this approach, both individual action and social-contextual factors are considered to have an influence on human development. The social-contextual factors include age-graded influences, history-graded influences, and non-normative influences. *Age-graded influences* are those biological and environmental influences that shape individual development in relatively normative ways for all individuals. These include for example developmental tasks (e.g., becoming a parent). *History-graded influences*, such as war, recession, or prevailing education system, are influences that may affect development differently across historical cohorts and periods. In turn, *non-normative influences* such as winning in a major lottery or having an accident are sudden events which may have a powerful effect on individual's development. The impact of non-normative events on the life course and well-being of an individual depends on duration of the event as well as his/her life situation and available resources. These intertwined sources create contexts within which individuals contribute to their own development. However, special attention is given to the person's own contribution to his or her development (e.g., Baltes et al., 1998; Brandstädter, 2009; Heckhausen & Schulz, 1995; Heckhausen, Wrosch, & Schulz, 2010).

Although life course and life-span theories originally emerged as own theoretical orientations, the two approaches have converged in their ideas during the last years (Diewald & Mayer, 2009; Settersten, 2009; Shanahan & Porfelli, 2002; Vondracek & Hartung, 2002). The approaches overlap particularly in regard to three suggestions, as follows. First, both views consider human development and ageing as lifelong processes (e.g., Baltes, 1987; Baltes et al., 1998; Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006). Second, both approaches are contextualistic interpretations of human development, that is, both individual action and social-contextual factors are considered to have an influence on individuals' development. This influence is bi-directional: human development is seen as a dynamic interaction between changing individual and

changing contexts (e.g., Baltes, 1987; Baltes et al., 1998; Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006; Schoon, 2006; Schoon & Silbereisen, 2009). Third, both perspectives consider that there is an optimal time frame in life during which life transitions are more attainable than in other times (Baltes et al., 1998; Elder, 1998; Heckhausen et al., 2010). These timetables of developmental opportunities are determined by biological maturation and ageing, societal age-grading, and social norms.

However, life course and life-span approaches also diverge in two important ways. The first difference concerns the phenomena that these approaches attempt to explain (Diewald & Mayer, 2009; Oris, Ludwig, de Ribaupierre, Joye, & Spini, 2009; Shanahan & Porfelli, 2002). The life course approach has focused on the description of constraints and opportunities imposed on human development by the social structure (Oris et al., 2009). At the centre of interest stands the question of how individuals' different social locations give rise to different level of adaptation (Shanahan & Porfelli, 2002). In contrast, life-span research attempts to explain and describe internal development of individuals. In other words, life-span research focuses on the role of human agency. Research has focused for instance on motivational aspects like personal goals (e.g., Nurmi, 1992, 1993; Salmela-Aro, 2009; Salmela-Aro, Nurmi, Saisto, & Halmesmäki, 2001, 2010; Shulman & Nurmi, 2010a, 2010b), and on self-regulatory processes like the models of selective optimisation with compensation (the SOC model) for managing goals and adaptation throughout the life (e.g., Baltes & Baltes, 1990; Baltes et al., 1998; Wiese, Freund, & Baltes, 2000), primary and secondary control used in striving to optimise one's personal development (e.g., Heckhausen & Schulz, 1995; Heckhausen, Wrosch, & Fleeson, 2001; Heckhausen et al., 2010), and assimilative and accommodative coping for adjusting developmental goals (e.g., Brandtstädter, 2009; Brandtstädter & Rothermund, 2002).

The second difference between life course and life-span paradigms concerns some of the factors that are considered to influence human development. Both perspectives take into account the influence of social contexts on human development (e.g., Baltes, 1987; Baltes et al., 1998; Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006). However, life course research has typically focused on social structures (Diewald & Mayer, 2009; Shanahan & Porfelli, 2002) whereas life-span research typically deals more with proximal social contexts, such as families (e.g., Salmela-Aro, Aunola, Saisto, Halmesmäki, & Nurmi, 2006; Salmela-Aro et al., 2010) or social networks (e.g., Kiuru, Aunola, Nurmi, Leskinen, & Salmela-Aro, 2008; Kiuru, Aunola, Vuori, & Nurmi, 2007). Furthermore, life course research has taken into consideration the impact of timing of life events and transitions on individual life course (e.g., Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006), but has begun to focus also on biological and genetic factors not until recently (Elder & Shanahan, 2006). In contrast, life-span research has placed more emphasis on biological and genetic factors (e.g., Baltes et al., 1998; Heckhausen et al., 2010), but timing of life events has not received much attention.

In the present research, one of the most important concepts is timing of adult role transitions. Therefore, I mainly use the concepts and ideas formulated within the life course theory of human development (e.g., Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006; Schoon, 2006). However, as the life course theory is lacking theoretical knowledge on how the individual influences his or her own development, I complement the ideas of the life course theory with the ones developed in the field of life-span theory (e.g., Baltes et al., 1998; Brandstädter, 2009; Heckhausen et al., 2010). In particular, the ideas developed in the field of life-span theory are utilised when interpreting the findings in the present dissertation. By combining these two contextualistic approaches, I believe that it is possible to obtain deeper understanding of how assumption of adult roles, their patterning, and timing influence psychological functioning. Furthermore, previous research concerning adult transitions has mainly failed to view these transitions from a longer-term perspective (Bynner, 2005). By adopting contextual views as the theoretical basis of my research, I am able to theorise adult transitions from a long-term developmental perspective.

## 1.2 Adult role transitions as a product of bounded agency

On the basis of assumptions formulated within the contextualistic views on human development (e.g., Baltes, 1987; Baltes et al., 1998; Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006; Schoon, 2006; Schoon & Silbereisen, 2009), I consider adult transitions to result from the interplay of two factors: the individual and the changing contexts in which the individual is embedded. This interaction between the person and the context has been described using the term *bounded agency* (Heinz, 2009; Shanahan, 2000; Shanahan & Hood, 2000). Bounded agency suggests that individuals contribute to their own development by setting goals, planning, making choices and decisions regarding their own lives, which emphasise the individual as an active agent of one's life (e.g., Baltes, 1987; Brandstädter, 2009; Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006; Heckhausen et al., 2010; Nurmi, 2004; Schoon, 2006; Schoon & Silbereisen, 2009). Agency can be defined as the individual's capacity to formulate and pursue life plans, and carry them through in a meaningful way that extends across the entire life course (Shanahan & Hood, 2000). During the transition to adulthood, goals are set and decisions are made regarding if, when, and in which order to undergo the adult transitions of moving from parental home into independent living, completing one's education, entering full-time work, establishing an intimate relationship, and becoming a parent. However, it is likely that adult transitions vary in regard to how much the individual can affect them: For example, the individual has much more influence whether and when to move out from parental home whereas the establishment of an intimate relationship always depends on other people, too.

Yet, as the concept "bounded agency" further suggests, individuals' actions are always bounded by different contextual factors (Shanahan, 2000; Sha-

nahan & Hood, 2000). In my research, the influence of the individual, the family, institutions, and wider sociohistorical and cultural context on adult role assumption and their timing are focused on. In the following sub-sections, I elaborate each of these influences and previous research on them.

### 1.2.1 Individual characteristics

The individual serves as a context for his or her own actions. Meaning, characteristics associated with the person him- or herself, such as gender, as well as individual's development before the transition may play a role in the transitional behaviours. Women and men seem to differ in their timing of assuming adult roles, as well as in how they sequence and combine such roles. Empirical studies based on older and more recent age cohorts have demonstrated that, in general, women undergo adult role transitions at a younger age than men (e.g., Cohen, Kasen, Chen, Hartmark, & Gordon, 2003; Elder, 1998; Kokko et al., 2009; Perho & Korhonen, 1994a, 1994b; Oesterle, Hawkins, Hill, & Bailey, 2010; Ross, Schoon, Martin, & Sacker, 2009), particularly family-related transitions (Kokko et al., 2009; Oesterle et al., 2010; Perho & Korhonen, 1994a, 1994b; Ross et al., 2009). Furthermore, the timing of different transitions may also be more closely interlinked among women than among men (Kokko et al., 2009).

Young persons' temperamental and personal characteristics also determine what kinds of situations they may like, feel comfortable in, and are likely to impact their choices (Shulman & Nurmi, 2010a). For instance, studies have demonstrated that shyness in boys (Caspi, Elder, & Bem, 1988; Dennissen, Asendorpf, & van Aken, 2008) leads to a later timing of transitions whereas behavioural problems are linked to early timing of transitions (Jaffee, 2002; Jaffee, Caspi, Moffitt, Taylor, & Dickson, 2001; Kokko et al., 2009; Kokko et al., 2008; Rönkä & Pulkkinen, 1998; Rönkä, Kinnunen, & Pulkkinen, 2000; Woodward, Fergusson, & Horwood, 2006) and lack of transitions – directly (Caspi, Wright, Moffitt, & Silva, 1998; Kokko, 2006; Kokko, Pulkkinen, & Puustinen, 2000; Kokko et al., 2008) and indirectly via poor educational attainment (Kokko et al., 2000) – in both genders. In addition, the individual's own educational aspirations and expectations (Schoon, 2006; Schoon, Martin, & Ross, 2007; Schoon & Parsons, 2002; Schoon & Polek, 2011), and performance in school (e.g., Kokko et al., 2000; Rönkä & Pulkkinen, 1998; Rönkä et al., 2000; Schoon, 2006; Schoon et al., 2007; Schoon & Parsons, 2002) are likely to shape his or her transitional behaviours and consequently, his or her subsequent life course. Aspirations and goals constructed early in life direct individuals' choices regarding the possible educational tracks (Nurmi, 1993) and are associated with educational attainment (Schoon, 2006; Schoon et al., 2007; Schoon & Parsons, 2002; Schoon & Polek, 2011), which, in turn, is positively associated with the timing of adult transitions (Kokko et al., 2008; Schoon et al., 2007) and subsequent career success (Rönkä & Pulkkinen, 1998; Rönkä et al., 2000; Schoon, 2006; Schoon et al., 2007; Schoon & Parsons, 2002; Schoon & Polek, 2011). These links have also been shown to vary by gender: girls have higher career aspirations (Schoon, 2006; Schoon et al., 2007; Schoon & Polek, 2011) and school motivation (Schoon,

2006; Schoon et al., 2007) as well as better school success, than boys do (Kokko et al., 2000; Schoon, 2006; Schoon et al., 2007).

### 1.2.2 Family characteristics

Proximal social environment, such as family of origin, has been suggested to be the most influential context for young persons' immediate development (Magnusson & Stattin, 1998). Accordingly, numerous studies have shown that individuals who come from less advantaged family in terms of low socioeconomic status (SES) tend to undergo adult transitions earlier than individuals from high socioeconomic background, for whom the later timing of transitions is more typical (e.g., Cohen et al., 2003; Jaffee, 2002; Jaffee et al., 2001; Kokko et al., 2008; Osgood, Ruth, Eccles, Jacobs, & Barber, 2005; Rönkä & Pulkkinen, 1998; Rönkä et al., 2000; Ross et al., 2009; Sandefur, Eggerling-Boeck, & Park, 2005; Woodward et al., 2006). Furthermore, family characteristics also contribute to educational planning, educational attainment, and career development of an individual. Accordingly, empirical research has shown, for instance, that adolescents who come from less advantaged family in regard to family SES and/or parental involvement tend to have lower school success and lower educational (Schoon, 2006; Schoon et al., 2007; Schoon & Parsons, 2002) and occupational aspirations in adolescence (Schoon, 2006; Schoon et al., 2007; Schoon & Parsons, 2002; Schoon & Polek, 2011), as well as lower educational (Schoon & Polek, 2011) and occupational attainment in early adulthood (Schoon, 2006; Schoon et al., 2007; Schoon & Parsons, 2002; Schoon & Polek, 2011).

There is also evidence suggesting that family of origin may affect transition behaviours indirectly through various mechanisms. For example, it has been suggested that parents from a more privileged social background can provide better financial resources to support their children and encourage their children more to succeed academically (Schoon et al., 2007; Schoon & Parsons, 2002; Vondracek & Schulenberg, 1986). Furthermore, families from different social backgrounds differ in values and attitudes, and these have been shown to affect their children's values, attitudes, and interests regarding, for example, education (Ek, Sovio, Remes, & Järvelin, 2005; Furstenberg, 2000). Also individuals who grew up in divorced families were less likely to pursue their educational career in postsecondary education (Ross et al., 2009), and more likely to establish their own families at an earlier age (Ross et al., 2009; Woodward et al., 2006).

### 1.2.3 Institutions and the wider sociohistorical context

Sociohistorical context and the institutions within such a context promote variability in the timing and patterning of adult transitions (e.g., Baltes et al., 1998; Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006; Heckhausen et al., 2010; Nurmi, 2004; Schoon, 2006; Schoon & Silbereisen, 2009). The birth year locates the individual in historical time and related social changes (Elder, 1998; Schoon, 2006). The cohort members are exposed to same historical events at the

same age and stage of their life course. When historical change differentiates the lives of birth cohorts, it is considered as a *cohort effect* (e.g., Baltes et al., 1998; Elder, 1998; Elder et al., 2003; Schoon, 2006). Although the cohort effect cannot be determined if only one cohort is studied (Schoon, 2006), it is still important to take historical time into consideration when interpreting research findings.

The present research was based on longitudinal data collected for a representative sample of age cohort born in 1959 in Central Finland (Pulkkinen, 2006, 2009; Pulkkinen et al., 2003; Pulkkinen & Kokko, 2010). In Finland, it was typical that most youngsters move out from parental home early on; women were approximately 20 and men 21 years old (Nikander, 1998). These ages have remained similar for more recent age cohorts, too. The main reason for the one year gap between women and men is that men are obliged to participate in either military service (6 months minimum) or civil service (13 months before 2008, 12 months from 2008 onward). Most men move into independent living after their service. A reason for the young age at which Finns move out of parental home is that the Finnish social security system provides a housing allowance to students who live in a rented apartment, subsidising the residential costs (Raivola, Zechner, & Vehviläinen, 2000). The Finnish social security system also pays a housing allowance to individuals who have low income but are not students (Saarikallio & Ylöstalo, 2007).

The educational system is one of the most powerful shaper of individual development (Hogan & Astone, 1986; Pulkkinen, 1989; Schoon, 2006). The amount and quality of education that a person obtains can affect his or her occupation, career, life time earnings, income, even whom one marries as well as many other areas of early, mid-, and late life (Hogan & Astone, 1986; Sandefur et al., 2005). The educational system of a country also sets boundaries for the expected timing of education (Feinstein & Peck, 2008). In Finland, education was and still is state-provided and free of charge up to university level. The basic idea of the Finnish educational system has remained similar since 1970s (Sahlberg, 2011). Compulsory comprehensive school lasts for nine years, from age 7 to age 16 upon completion. After that, youngsters typically enter either general upper secondary school for post-comprehensive education (3 years), vocational upper secondary school (2 to 3 years depending on the study program), or the labour market (Kokko et al., 2008; Sahlberg, 2011; Statistics Finland, 2003). Selection to general and vocational upper secondary schools is based on interests and grades of students. Vocational school qualifies only for vocational college (nowadays polytechnics) whereas upper secondary school qualifies for tertiary education (i.e., either vocational college or university; Sahlberg, 2011). When the cohort born in 1959 was facing the decision (in 1975) what to do after post-comprehensive education, it was easier to move directly from school to full-time work than today; the unemployment rate then was 2.6% (Statistics Finland, 2003) while in February 2012, it was 7.7% (Statistics Finland, 2012). The unemployment rate among young people aged 15 to 24 was much higher: 20.5%. Despite this, most people still continued in mid-1980s in full-time education; nearly 3 in 4 Finnish adults aged 25–64 have completed some post-

comprehensive education ranging from upper secondary school to tertiary education (Kokko et al., 2008; Statistics Finland, 2003). In Finland, university graduates are on average older (around 25–29 years of age) than, for instance, their counterparts in the United States. Due to this, entry into their first full-time job is likely to take place at a proportionately older age. At least two reasons explain this high age at graduation. First, as mentioned earlier, young Finnish men are obliged to participate in either military or civil service before their 29<sup>th</sup> birthday. Second, Finnish universities have strict entrance exams and failing the exam may cause a gap of many years for some of the young adults. The Finnish educational system also enables individuals to begin and/or to continue their post-comprehensive education at a later age in adulthood, after having spent time in the labour market.

A typical feature in the Finnish society is that women and men engage in full-time employment equally (Lehto & Sutela, 2008). Part-time work with reduced working hours for mothers is common in other Nordic countries (Lehto & Sutela, 2008; Rose, 2006). However in Finland, it is relatively rare, even among mothers with young children: For example in 1984, only 7% of Finns worked part-time (Lehto & Sutela, 2008). An important reason for this is that communities are obliged to provide child care services which enable also mothers to work full-time outside the home (Julkunen, 1999; Pulkkinen, 2004).

Regarding family-related transitions, the mean age for getting married the first time was 25.9 years in women and 28.1 years in men in 1986–1990 (Statistics Finland, 2003, 2007). In Finland, cohabitation before marriage or as an alternative to marriage was very popular then as it is now (Statistics Finland, 1994). Among women born in 1938–42, 13% had lived in cohabitation, but among women born in 1958–62, 51% had lived in cohabitation before marriage and 33% as an alternative to marriage. The mean age of mothers at the first childbirth was 26.5 years (Statistics Finland, 2003). Finnish men are about two years older than women when they become a parent for the first time (Statistics Finland, 1994). Highly educated women become parents at the oldest age: They are about two years older at the first childbirth than women who have not obtained a master's degree. Most women (80.0%) giving birth were married and 12.0% were living in cohabitation (National Institute for Health and Welfare, 2010). Since the mid-1980s, the mean age for getting married for the first time has risen: for instance in 2006, the mean age was 29.7 years for women and 32.1 years for men (Statistics Finland, 2007). Similar trend has occurred regarding the first childbirth: in 2006, the mean age was 28.0 years (National Institute for Health and Welfare, 2010; Statistics Finland, 2007). Teenage childbirths have been and still are rare in Finland: in 1987, 3.2% of all childbirths occurred for women under 20 years of age (National Institute for Health and Welfare, 2010). In 2006, the figure was 2.6%. In 2006, 59.9% of women giving birth were married, and 30.3% were living in cohabitation.

The sociohistorical and cultural context may also shape the life course of individuals through the suggestion of *normative timetables* (Elder, 1998; Elder et al., 2003; Settersten & Hagestad, 1996a, 1996b). The concept of normative time-



tables was introduced by Bernice Neugarten (Neugarten, Moore, & Lowe, 1965), and it refers to people's expectations for the appropriate timing of important life transitions (Elder, 1998). A transition occurs normatively or on-time if it follows social expectations of the given culture and is appropriate to that particular individual. Conversely, if one undergoes a transition earlier or later compared to either peers or to one's own plans, then the transition is considered to be non-normative or off-time (Elder, 1998). Deviations from the normative timetable are thought to cause social sanctions and personal difficulties (Elder, 1998) that may be seen as lowering the level of psychosocial functioning.

However, in recent decades the age range in which the transitions take place has become broader in all industrialised countries (e.g., Arnett, 2000, 2004; Fussell & Furstenberg, 2005; Shanahan, 2000), including Finland. The prolonged time for adult transitions has been recently referred to as *emerging adulthood* (e.g., Arnett, 2000, 2004). This lengthened time between adolescence and adulthood, roughly between ages 18 and late 20s has been argued to be a time when identity issues have prominent role: Youth explore various lifestyle options, especially in work and intimate relationships without the obligation to take full adult responsibilities in life.

Nevertheless, some empirical studies have shown that many people still perceive there to be age norms regarding adult transitions, as well as believing there to be negative consequences if these norms are not fulfilled (Settersten & Hagestad, 1996a, 1996b). The most frequently mentioned consequences were of a developmental nature, such as concern about one's personal development. The consequences of not fulfilling the age norms may be particularly harmful if the transition never occurs. Results from earlier studies indicate that individuals who were lacking transitions experienced reductions in their psychological functioning in early adulthood (e.g., Caspi et al., 1998; Schulenberg, O'Malley, Bachman, & Johnston, 2005), as well as in mid-adulthood (e.g., Helson & Picano, 1990; Williams et al., 1997).

### 1.3 Adult role transitions and psychological functioning

The life course theory postulates that life transitions may have long term implications for various aspects of one's life (Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006). In all likelihood, this is also the case in the transition to adulthood, as the transition to adulthood features many new roles and social contexts for young people to cope with (Caspi, 2002). The successes and difficulties one experiences with the many challenges during this period may strengthen or alter ongoing trajectory of well-being (Schulenberg, Bryant, & O'Malley, 2004; Schulenberg & Maggs, 2002; Schulenberg, Maggs, & O'Malley, 2003; Schulenberg et al., 2005; Schulenberg & Zarrett, 2006).

Adaptation in life can be defined by different norms and criteria of assessment (Baltes & Baltes, 1990). Therefore, it should be studied using multiple indicators (Baltes & Baltes, 1990; Elder & Crosnoe, 2002; Wiese et al., 2000). A

wide range of measures for the psychological side of individual adaptation along the life course has been used in previous research. These include measures relating to psychological (e.g., Horwitz, White, & Howell-White, 1996; Pulkkinen, Feldt, & Kokko, 2006; Pulkkinen, Nygren, & Kokko, 2002) and subjective well-being (e.g., Daukantaite & Zukauskienė, 2006; Lee & Gramotnev, 2007; Maggs, Jager, Patrick, & Schulenberg, 2012; Marks & Fleming, 1999; Pulkkinen et al., 2002; Salmela-Aro, Ek, Taanila, & Chen, 2012; Schoon, Chen, Kneale, & Jager, 2012), depressive symptoms (e.g., Bures, Koropeckyj-Cox, & Loree, 2009; Evenson & Simon, 2005; Falci, Mortimer, & Noel, 2010; Jaffee, 2002; Lee & Gramotnev, 2007; Maggs et al., 2012; Mirowsky & Ross, 2002; Ross & Mirowsky, 2006; Sacker & Cable, 2010; Salmela-Aro et al., 2012; Schoon et al., 2012; Spence, 2008; Williams et al., 1997), and personality (e.g., Fadjukoff et al., 2007; Kokko et al., 2008; Pulkkinen et al., 2006; Schulenberg et al., 2004; Schulenberg et al., 2005; Williams et al., 1997).

In the present research, I describe individual adaptation in life using the term *psychological functioning*. I define “psychological functioning” in terms of five indicators used in previous research: psychological well-being, life satisfaction, depressive symptoms, self-esteem, and identity achievement. Of these measures, psychological well-being, life satisfaction, and depressive symptoms indexed different aspects of well-being, such as psychological and subjective well-being and ill-being (e.g., Keyes, 2005; Kokko, Korkalainen, Lyyra, & Feldt, in press). However, I approach psychological functioning as a broader construct rather than just well-being. Consequently, I have included two personality-related measures in my present approach: self-esteem and identity development. I used self-esteem because the acquisition and maintenance of a coherent sense of self has been suggested to be an important developmental domain continuing over the life course (van Lieshout, 2000). Finally, I have included identity development in the research because, theoretically, identity formation is a central developmental task in adolescence (Erikson, 1963). In recent years, identity development has also been postulated as being a key factor during emerging adulthood (Arnett, 2000, 2004). It has been stated that identity develops through four qualitatively distinct stages: diffusion, foreclosure, moratorium, and achievement (Marcia, 1966). Each stage represents a combination of two dichotomic dimensions (presence vs. absence) of exploration and commitment. Achieved and foreclosed identity statuses are characterised by the presence of commitments. However, achievement is characterised by firm commitments following a period of exploration, whereas foreclosure is characterised by commitments enacted without much prior exploration. Moratorium and diffusion are characterised by the relative absence of commitment; whereas individuals in moratorium are currently exploring potential choices, diffused individuals have engaged in little systematic exploration. The identity achievement status has been shown to be the most developmentally sophisticated and mature status, while diffusion is the least sophisticated, as postulated in Erikson’s stage theory (Berzonsky & Adams, 1999; Waterman, 1999). Identity develop-

ment has also been shown to be associated with the timing of adult transitions, particularly in the JYLS (Fadjukoff et al., 2007; Kokko et al., 2008).

In the following sub-sections, previous research findings concerning associations between adult transitions and psychological functioning will be described and discussed.

### **1.3.1 Direct links between adult transitions and psychological functioning**

In general, achievement of adult transitions has been linked directly to enhanced psychological functioning whereas missing transitions have been linked to reduced psychological functioning (e.g., Caspi et al., 1998; Helson & Picano, 1990; Horwitz et al., 1996; Schulenberg et al., 2005; Williams et al., 1997). It is possible that the achievement of adult transitions contributes positively to one's psychological functioning because adult transitions provide a progressive increase in developmentally appropriate challenges through which young people can experience competence (Eccles, Lord, Roeser, Barber, & Hernandez-Jozefowicz, 1997; Schulenberg et al., 2004; Schulenberg & Maggs, 2002; Schulenberg et al., 2003; Schulenberg & Zarrett, 2006), autonomy, and relatedness (Deci & Ryan, 2000), all of which are beneficial to psychological functioning. As regards becoming a parent and its psychological consequences, however, research has produced contradictory findings. Studies have indicated that becoming a parent either reduces psychological functioning (e.g., Bures et al., 2009; Evenson & Simon, 2005; Lee & Gramotnev, 2007; Marks & Fleming, 1999), enhances psychological functioning (Daukantaite & Zukauskiene, 2006), or has no effect on psychological functioning (e.g., Falci et al., 2010; Jeffries & Konnert, 2002; Koropecj-Cox, Pienta, & Brown, 2007).

Yet, it has been argued that the (non-)occurrence of transitions may actually be less consequential for the subsequent life course of individuals than their timing (Elder, 1995), that is, the age at which the transitions take place in life. Accordingly, some recent studies have found a direct association between the timing of adult transitions and subsequent psychological functioning (e.g., Fadjukoff et al., 2007; Falci et al., 2010; Kokko et al., 2008; Koropecj-Cox et al., 2007; Mirowsky & Ross, 2002; Ross & Mirowsky, 2006; Sacker & Cable, 2010; Spence, 2008; Williams et al., 1997). These studies consistently suggest that the early timing of adult transitions is associated with poorer psychological functioning, whereas the later timing of adult transitions has been linked to advantageous implications for psychological functioning. The essential gap in the literature is, however, that almost all of these studies (for an exception, see Fadjukoff et al., 2007, which is based on the JYLS data) have examined timing of a single transition in relation to aspects of psychological functioning.

### **1.3.2 Social functioning as a mediator in the indirect link between adult transitions and psychological functioning**

Although direct links from the (non-)occurrence (e.g., Caspi et al., 1998; Helson & Picano, 1990; Horwitz et al., 1996; Schulenberg et al., 2005; Williams et al.,

1997) and timing of adult transitions (e.g., Fadjukoff et al., 2007; Falci et al., 2010; Kokko et al., 2008; Koropecj-Cox et al., 2007; Mirowsky & Ross, 2002; Ross & Mirowsky, 2006; Sacker & Cable, 2010; Spence, 2008; Williams et al., 1997) to psychological functioning have been established in previous research, it is reasonable to assume, particularly in regard to timing, that transitions on their own right are not solely accountable for psychological functioning. Instead, it is likely that some mediating factors explain how and why the linkage exists (Baron & Kenny, 1986). This indirect association has been conceptualised as an accumulation process resulting from individuals' own actions (Elder, 1998; Elder et al., 2003). Individuals make active decisions regarding their life. These decisions, in turn, may affect subsequent transitions by opening or closing opportunities, thus setting a chain of cumulative advantages or disadvantages in motion (Elder, 1998; Elder et al., 2003; Elder & Shanahan, 2006) and magnifying inter-individual heterogeneity in ongoing trajectories of psychological functioning (Schulenberg et al., 2004; Schulenberg & Maggs, 2002; Schulenberg et al., 2003; Schulenberg & Zarrett, 2006).

In the present research, early middle-age social functioning was examined as a possible mediating factor in the linkage between transitions and psychological functioning. I have defined *social functioning* in terms of career success and social well-being. I conceptualised social functioning with two components because I expected that different transitions, or lack of thereof, would contribute to different aspects of social functioning. Career success was divided into two components: employment (i.e., stability of career line and employment situation) and career achievement (i.e., occupational status and income). These components, except for income, have previously been established in a study by Pulkkinen and her colleagues (2006). Income has been shown to be positively associated with occupational status (Viinikainen, Kokko, Pulkkinen, & Pehkonen, 2010). In contrast, social well-being was used as a more subjective measure of social functioning. I acknowledge that social well-being has been used in previous research as one of the components of mental health (Keyes, Shmotkin, & Ryff, 2002; Keyes & Waterman, 2003) and well-being (Kokko et al., in press). However, I have used it as a component of social functioning because, by definition, social well-being refers to individuals' appraisal of their social relationships, how others react to them, and how they interact with social institutions and the community. Thus, social well-being focuses on the social challenges and tasks that people face in their social structures and communities (Keyes, 1998; Keyes et al., 2002). Social well-being, employment and economic situation have been shown to be positively associated with each other (Keyes & Waterman, 2003).

Tentative support for the indirect links between transitions and psychological functioning via career success can be drawn from studies concerning different parts of this chain. For example, studies have shown that obtaining a degree from a post-comprehensive educational institution is associated with stable employment (Ek et al., 2005), whereas no or low levels of education increases the risk of long-term unemployment and is also linked to lower income

(Ek et al., 2005; Williams et al., 1997). As regards timing, prior research suggests that the early timing of transitions, particularly early motherhood, is a risk factor that sets a chain of cumulative disadvantages in motion by hindering career consolidation (e.g., Falci et al., 2010; Jaffee, 2002; Kokko, 2006; Kokko et al., 2009; Rönkä & Pulkkinen, 1998; Rönkä et al., 2000; Schoon et al., 2007; Spence, 2008; Williams et al., 1997). For men, parenthood, even if occurring early, is not necessarily a constraint for career development (Rönkä et al., 2000). A possible reason for this is the different commitment to the parental role among the two genders. Young mothers may be more involved in parenting and raising children (Rönkä et al., 2000), whereas men typically take on the breadwinner role in the family (Abele & Spurk, 2011). Therefore, young fatherhood may even motivate men to find a place in working life and to become more conventional in other ways as well (Rönkä et al., 2000). In contrast to early timing, a relatively late timing of adult transitions indicates an advantageous chain via career factors in both genders (Falci et al., 2010; Kokko et al., 2008; Koropecj-Cox et al., 2007; Ross & Mirowsky, 2006; Valcour & Ladge, 2008). Factors associated with career consolidation, such as employment (Dolan, Peasgood, & White, 2008), economic situation (Daukantaite & Zukauskienė, 2006; Dolan et al., 2008), and individuals' amount of work (i.e., part-time vs. full-time; Dolan et al., 2008) have been linked positively to aspects of psychological functioning in both genders. Yet, there is also some evidence suggesting that women and men may differ with regard to which aspects of career success contribute to their psychological functioning; for example, a study by Pulkkinen and her colleagues (Pulkkinen et al., 2006) found that in men, both employment and the career-related achievement level contributed to psychological functioning, whereas in women only the achievement level was associated with psychological functioning.

To the best of my knowledge, no previous research has been conducted about the linkage between adult transitions and social well-being. However, it can be assumed that a satisfactory performance in one's academic and occupational career (e.g., obtaining a degree, consolidation of a career) and the establishing of a family create social well-being. For example, parenthood (Eggebeen & Knoester, 2001; Nomaguchi & Milkie, 2003) and education may increase social integration by broadening social networks, and social contribution by increasing the sense that one is a vital member of society. Furthermore, becoming a parent may increase one's sense of mattering, that is, the perception that one is recognised and important to others (Nomaguchi & Milkie, 2003). The timing of transitions may also have implications for social well-being because of normative timetables and possible sanctions associated with them (Elder, 1998a; Neugarten et al., 1965; Settersten & Hagestad, 1996a, 1996b) as well as its association with level of education (Fadjukoff et al., 2007; Kokko et al., 2008). Accordingly, it has been shown that a higher level of education is associated with higher social well-being (Keyes & Waterman, 2003). In turn, social well-being has been shown to be positively associated with some aspects of psychological functioning (Dolan et al., 2008; Keyes, 2005; Kokko et al., in press).

### 1.3.3 Level of education as a moderator

Empirical results regarding the cumulative implications of the later timing of transitions seem to contradict the idea of normative timetables stating that off-time (i.e., late) transitions entail adverse consequences (Elder, 1998; Neugarten et al., 1965). This contradiction between theory and research findings gives reason to speculate that the association between adult transitions and subsequent psychological functioning may not be as straightforward as the accumulation perspective suggests. Instead, there may be one or more moderators that modify either the strength or the direction of the association between the timing of adult transitions and psychological functioning (Baron & Kenny, 1986; Preacher, Rucker, & Hayes, 2007).

One reason for the contradiction between theory and research findings may be that the later timing of transitions can result from different situations. And, because of the various routes leading to the later timing of transitions, the paths leading from these different cases of later timing to the individual's subsequent psychological functioning may also be different. The most apparent reason for the later timing of adult transitions is the pursuit to gain a higher level of education, which takes longer the higher the pursued level of education, is. Individuals who pursue a high level of education tend to postpone other adult transitions, such as becoming a parent. In this case, the later timing of transitions may eventually be positive for such individuals: by postponing one or more transitions, these individuals are able to avoid the possible strain caused by the occurrence of multiple transitions (e.g., education and parenthood) at the same time (Schulenberg & Maggs, 2002; Schulenberg et al., 2003; Schulenberg & Zarrett, 2006; Settersten, 2007).

However, the later timing of adult transitions may also result from reasons other than the pursuit of a high level of education. An example of this is early motherhood. Combining full-time education and the rearing of a young child may be overwhelming for one's capacities (Schulenberg & Maggs, 2002; Schulenberg et al., 2003; Schulenberg & Zarrett, 2006; Settersten, 2007), particularly if the transition to motherhood has occurred very early (i.e., teenage motherhood). As a result, women may give up on pursuing their educational goals, which has been shown to be disadvantageous for their subsequent life course (e.g., Falci et al., 2010; Jaffee, 2002; Kokko et al., 2009; Rönkä & Pulkkinen, 1998; Rönkä et al., 2000; Schoon et al., 2007; Spence, 2008; Williams et al., 1997). However, some individuals may return to education and obtain a degree at a later age (Kokko, 2006) when their children are older and no longer need full-time care. Yet, research indicates that those who begin to pursue a post-comprehensive educational degree at a later age and, consequently graduate at a later age, have an unstable career and low occupational status in early middle-age (Kokko et al., 2008), and hence their psychological functioning is likely to be lower than that of the highly educated individuals who begun their studies right or shortly after upper-secondary school.

The aforementioned results imply that it may not be the timing of transitions as such which has implications for an individual's subsequent life course. Rather, it seems that the timing of transitions has implications for social and psychological functioning because one's level of education strengthens or attenuates these associations. Consequently, in the present research, I examined the level of education as a possible moderator in the indirect linkage between the timing of adult transitions and psychological functioning.

## 1.4 Methods for studying life transitions

### 1.4.1 The Life History Calendar

The dynamic view of the life course requires a data collection strategy with which to collect continuous rather than static information about life events (Caspi et al., 1996). One such method is the use of the *life history calendar* (LHC). The LHC is a tool for collecting continuous, retrospective information about the life course of individuals (Axinn, Pearce, & Ghimire, 1999; Caspi et al., 1996; Freedman, Thornton, Camburn, Alwin, & Young-DeMarco, 1988). Using the LHC, information about the occurrence, timing, sequencing, duration, and interrelatedness of various life events can be documented. The term "life history calendar" has been used interchangeably with variety of names such as "event history calendar" (Martyn & Belli, 2002) and "life events calendar" (Hoppin, Tolbert, Flagg, Blair, & Zahm, 1998). Martyn and Belli (2002) recommend using the "life history calendar" label when long-term life course data are collected, whereas the "event history calendar" label should be used when specific event data are collected over shorter periods of time.

The LHC has been used as a documentary guide and tool in personal interviews, telephone interviews, and mailed questionnaires (for a review, see Glasner & van der Vaart, 2009). The traditional version of LHC is an interviewer-administered paper-and-pencil questionnaire, but a computerised version of the calendar also exists. In the case of mailed questionnaires, the calendar is completed by the respondent. Thus far, a computerised version of the LHC which for the completion by the respondent him- or herself has not been used. However, the utility of using the LHC in a telephone interview has been questioned because the respondent cannot use the LHC form as a visual recall aid.

Particularly in the past 10 years, the use of calendar method has grown rapidly (for a review, see Glasner & van der Vaart, 2009). One reason for this is that LHC can be adapted for different purposes by assigning different types of domains to the rows of the LHC (e.g., periods of drug use, partnership trajectories) and different time units (e.g., a week, a year) to the columns of the LHC (Caspi et al., 1996). The LHC has been used in variety of research fields and with very diverse populations (for a review, see Glasner & van der Vaart, 2009). Most applications can be found in life course research (e.g., Axinn et al., 1999; Caspi et al., 1996; Freedman et al., 1988; Pulkkinen, 2006). Although the LHC

can be used to collect both quantitative and qualitative information, most studies using the LHC have been quantitative in research design (Nelson, 2010).

The LHC has several advantages. First, compared to collecting life history data from registers or with a series of panel studies, the LHC method is less expensive to use because it can be utilised during a single cross-sectional survey to collect retrospective information for substantial periods of the life course (Freedman et al., 1988). Second, free recall of life events ranging back over a long period of time is a cognitively challenging task for the respondent (Belli, Shay, & Stafford, 2001). Therefore, information collected retrospectively with a conventional questionnaire may be inaccurate. The LHC is designed to make the recall task easier by providing a matrix of visual aids and cues which respondents can use to remember different life events (Axinn et al., 1999; Caspi et al., 1996; Freedman et al., 1988). Third, the interviewer can assist in the recall task by first asking questions about important, more easily remembered events, such as child births. The interviewer can then proceed with questions concerning less salient events, such as moving from one place to another, by connecting the occurrence of these less salient events to the more easily remembered events. Fourth, the calendar format also facilitates interviewers in collecting complex life history data (Caspi et al., 1996; Freedman et al., 1988). The same visual cues that helped the respondent recall also help the interviewer to structure his or her questions, which in turn helps to ensure that the interviewer gathers the data with the required precision and that he or she has collected the complete data.

The main shortcomings of the LHC are related to the data coding process. First, data gathered with the LHC is more difficult and expensive to code than data gathered with a conventional questionnaire because it usually involves fairly detailed entries (Freedman et al., 1988). Second, because many of the life course domains presented in the LHC are interrelated, coding errors in one domain can create a discrepancy within a related domain. Finally, because the LHC provides a rich set of variables, the data includes several data points which are needed to be coded. Therefore, the management of the data can be costly.

#### **1.4.2 Methods for analysing life history data**

Most studies have analysed data gathered with the LHC using quantitative statistical methods (Nelson, 2010). The association between quantitative variables can be analysed using either variable- or person-centred analysis techniques, both of which are at their best in different situations (e.g., Bergman & Trost, 2006; von Eye & Bogat, 2006). The variable-centred methods focus on the description of associations between variables (e.g., Bergman & Trost, 2006; Magnusson, 1998; von Eye & Bogat, 2006). In other words, the main units of statistical analysis are variables. Typical variable-centred methods used to analyse life history data include event-history analysis (e.g., Asendorpf, Denissen, & van Aken, 2008; Martyn & Belli, 2002), regression analysis with dependent variables of different measurement level (e.g., Fadjukoff et al., 2007; Jaffee, 2002; Martyn



& Belli, 2002; Mirowsky & Ross, 2002; Ross & Mirowsky, 2006; Sacker & Cable, 2010; Schoon et al., 2007; Spence, 2008), and analysis of variance (Kokko et al., 2009). However, a major shortcoming of the variable-centred methods is that they assume that the relationships of variables are same for all individuals (Magnusson, 1998; Magnusson & Stattin, 1998).

The person- or individual-centred approach describes differences between individuals in the measured variables and their associations (e.g., Bergman & Trost, 2006; Magnusson, 1998; von Eye & Bogat, 2006); that is, the unit of the analysis is the individual. In contrast to variable-centred approach, the person-centred approach assumes that individuals are heterogeneous in how predictors operate among each other and on the outcome. The basic idea of the person-centred approach is that, based on selected criteria, groups or types of individuals are identified. Categories of individuals can be formed in various ways: based on empirical grouping, classificatory analysis, the identification of extreme cases, or theoretical or problem-related criteria (Hinde, 1998). Empirical grouping techniques encompass statistical analysis methods such as cluster analysis, latent profile analysis, log-linear modelling (Magnusson, 1995), or latent class analysis (Lazarsfeld & Henry, 1968; McCutcheon, 1987). The advantage of person-centred approach is that, as a holistic view on individual development, it can bring valuable insights into the dynamic interdependency of individuals and their context (Magnusson, 1995, 1998). Yet, person-centred approach have been criticised for being too general, leading to suggestions that everything is connected to everything, and leaving no space for testing of hypotheses about relationships of specific phenomena or variables.

However, not until recently, studies investigating adult transitions using person-centred statistical methods have begun to appear in research literature dealing with the topic of adult transitions. The methods used in these studies include sequence analysis (e.g., Martin, Schoon, & Ross, 2008; Mouw, 2005; Robette, 2010; Salmela-Aro, Kiuru, Nurmi, & Eerola, 2011), trajectory analysis (Kokko et al., 2008), and latent class analysis (Amato et al., 2008; Macmillan & Eliason, 2003; Macmillan & Copher, 2005; Oesterle et al., 2010; Osgood et al., 2005; Ross et al., 2009; Sandefur et al., 2005). The primary reason for this could be that life history data are very complex: Transitions are often measured with categorical variables, transitions within and between different domains of life (e.g., education, work, partnership, and family) are highly interdependent, and life histories of individuals are very diverse and heterogeneous. Naturally, the examination of this kind of data requires advanced research methods. However, appropriate analytical tools have not been available until recently. Advanced software programmes of relevance include, for example, Mplus statistical package (Muthén & Muthén, 1998–2010) and program *R*. In addition that studies using person-centred methods to analyse adult transitions are still rare, they are mostly based either on American or British data sets; only studies by Kokko and her colleagues (2008) and Salmela-Aro and her colleagues (2011) are based on Finnish data.

Another methodological advancement is *mixed method research*. Mixed method research is an approach in which elements of qualitative and quantitative research approaches are combined (Johnson, Onwuegbuzie, & Turner, 2007). Mixed method studies may involve collecting and analysing qualitative and quantitative data within a single study or within a set of studies (Creswell & Plano Clark, 2007). The central premise of mixed method research is that combining quantitative and qualitative approaches provides a better understanding of research problems than either approach alone.

The life history calendar is an example of a mixed method data collection tool because both qualitative (e.g., individual life stories) and quantitative data (e.g., number of unemployment periods) can be gathered with it. Nevertheless, few studies about adult role transitions have been conducted using a mixed method approach (Falci et al., 2010; Kokko, 2006; Kokko et al., 2009). In the study by Falci and her colleagues (2010), information on the timing of motherhood was gathered using mailed questionnaires. In turn, in the studies by Kokko (2006; Kokko et al., 2009), data about the timing of transitions were gathered using the LHC. Her studies were based on the same JYLS data as the present research. In all of these studies (Falci et al., 2010; Kokko, 2006; Kokko et al., 2009), the timing of a single transition was categorised according to a certain number of predefined classes in regard to which statistical analysis methods were utilised. To the best of my knowledge, no previous studies have employed a mixed method design to examine adult role transitions simultaneously.

In the present research, data on individuals' life histories were mainly gathered using the life history calendar. Both variable- and person-centred approaches were employed to study the participants' life histories, as well as the antecedents and psychological implications of these life histories. Two different person-centred approaches (latent class analysis and theory-based grouping) were used to analyse individual life histories in order to get a deeper understanding of 1) variation regarding the different patterns of adult roles when the participants were in their late twenties, that is, at age by which transition to adulthood can be assumed to have been completed (e.g., Arnett, 2000; Furstenberg et al., 2005; Hogan & Astone, 1986; Shanahan, 2000), and 2) of variation regarding the timing of transition to adulthood.

## 1.5 Aims and hypotheses of the present research

The purpose of this research was to investigate the patterning and timing of adult role transitions, their antecedents and long-term psychological implications. The foci were on the first occurrence of these transitions as well as on individuals' age at which the first occurrence of these transitions took place (i.e., timing of transitions). The aim of the present dissertation was approached through three separate publications which were built to cross the gaps existing in the previous literature concerning adult role transitions, their antecedents and psychological consequences. I aspired to make a contribution to the exist-

ing literature in several ways. First, in order to gain a better understanding of the structuring of adult transitions, their timing and possible implications, several types of adult transitions were incorporated and investigated simultaneously in the dissertation. The second contribution of my research stemmed from examining the relations between adult transitions and their psychological consequences spanning into mid-adulthood, which has remained largely unexplored in the existing literature (Furstenberg et al., 2005). Third, the present research also aimed to shed light on the mechanisms (i.e., mediators and moderators) through which the adult transitions contribute to subsequent psychological functioning. To the best of my knowledge, joint effects of mediators and moderators have never been included in a single study concerning adult transitions and their psychological implications. The examination of mediators and moderators can yield potentially valuable insight into the less understood linkage between the timing of adult transitions and psychological functioning. The final contribution of my research relates to the adoption of a longitudinal research design, which enabled me to examine adult transitions and their antecedents in childhood, as well as their implications for adulthood psychological functioning spanning into middle-age, all within the same study. Typically, adult transitions have been studied with a shorter-term perspective in the previous literature (Bynner, 2005), and with little regard for developmental and socio-demographic antecedents and long-term consequences of these transitions.

The integrative framework of the present research is presented in Figure 1. This model is based on the theoretical premises related to life course and lifespan theories (i.e., contextual views on human development; e.g., Baltes, 1987; Baltes et al., 1998; Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006) and empirical findings presented in previous sections of this dissertation. In all sub-studies, the association between adult role transitions and psychological functioning is examined. This is presented at the core of Figure 1. The life course theory (e.g., Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006) suggests that adult transitions may have long-term implications for an individual's life course. Consequently, in the present research, psychological functioning was examined from early adulthood to middle-age. In addition, adult transitions were considered to result from the interplay between the individual and the changing contexts in which the individual is embedded, as suggested by the concept of *bounded agency* (Heinz, 2009; Shanahan, 2000; Shanahan & Hood, 2000). Presented around the core of Figure 1, are the four contextual spheres that are considered to have an impact on transition behaviours and/or the association between the transitions and psychological functioning: the individual, family, institutions, and sociohistorical context. These spheres are interrelated and mutually interdependent.

The present research was divided into three topics: 1) the occurrence, timing, and patterning of adult role assumption, 2) the contextual antecedents of occurrence, timing, and patterning of adult role assumption, and 3) the adult

transitions in relation to psychological functioning. In the following, the topics and specific research questions related to the topics are presented.

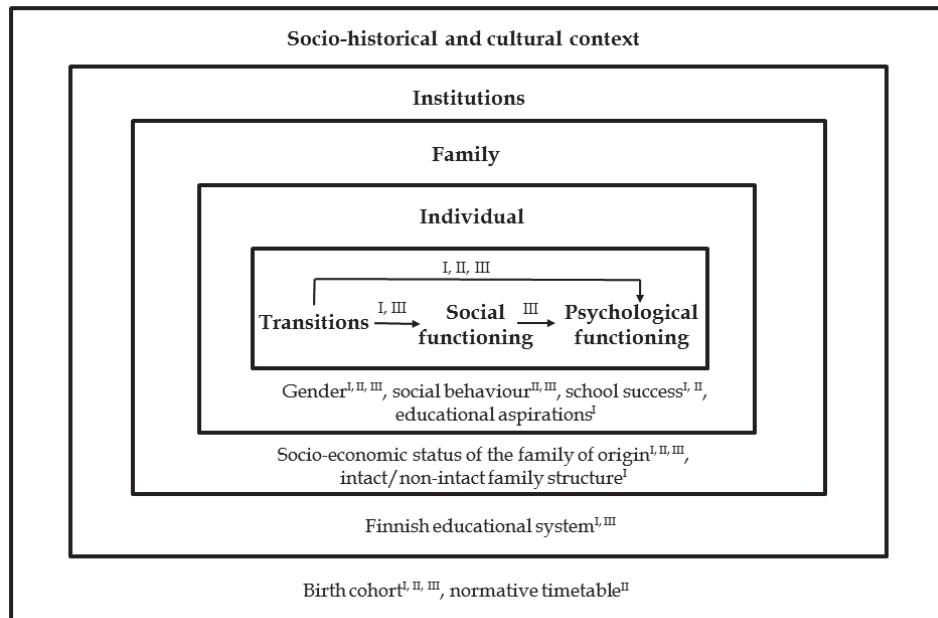


FIGURE 1 Integrative framework of my dissertation. Modified from Schoon (2006, p. 25, Fig. 2.1). I = investigated associations in Study I; II = investigated associations in Study II; III = investigated associations in Study III.

### 1. Assumption of adult roles, their patterning and timing

The first aim of the present research was to examine assumption of adult roles as well as their patterning and timing. This research objective was approached via Studies I and II. Study I identified detailed information on the combinations of adult roles obtained by the end of early adulthood (by age 27), whereas in Study II the overall (non-)occurrence and timing patterns of adult transitions from early to mid-adulthood were investigated. Study I included five transitional domains: moving from parental into independent living, obtaining a degree from a post-comprehensive educational institution, starting a full-time job, establishment of an intimate relationship, and becoming a parent. A degree refers to graduation from a vocational school, vocational college, or university. At least three patterns were expected to emerge (e.g., Oesterle et al., 2010; Ross et al., 2009; Sandefur et al., 2005): 1) a group of individuals who have undergone all adult transitions by age 27; 2) a group of individuals who have followed an academic path to adulthood, and delayed their family formation accordingly; and 3) a group of individuals who have undergone up to three of the five transitions.

Study II focused on the timing of the completion of the transition to adulthood. Four adult transitions (i.e., obtaining a degree from a post-comprehensive educational institution, starting a full-time job, establishment of an intimate relationship, and becoming a parent) were included in the study. Moving from parental home into independent living was not included among the stipulated transitions in Study II, because it did not differentiate Finnish young adults (Nikander, 1998). Adult transitions were studied up to age 42. The participants were classified into the categories of *On-Time Transitions* (all transitions completed by age 27), *Late Transitions* (at least one transition completed after age 27), and *Partial Transitions* (not all transitions completed at age 42).

Study III aimed to generate more detail on the completion and timing of two adult transitions: obtaining a degree from a post-comprehensive educational institution and becoming a parent. These transitions were studied up to the time the participants reached age 41.

## 2. Contextual spheres and adult transitions

All three studies considered three contextual spheres (see Figure 1): individual characteristics, family characteristics, and sociohistorical context. In Study I, individual characteristics were conceptualised as gender, school success, and educational aspirations whereas family context was operationalised as family SES and intact/non-intact family structure. Sociohistorical context was conceptualised by taking into consideration the impact of historical time and place when interpreting the results of the study. In Study II, individual characteristics were operationalised as gender, a child's self-control of emotions, social activity, and school success. Family context was operationalised by family SES. The sociohistorical context was conceptualised by taking into consideration the impact of historical time and place on the timing of adult transitions when the present participants were classified into the categories of on-time, late and partial transitions. Furthermore, the impact of historical time and place were taken into account when interpreting the results of the study. In order to shed light on the role of contextual characteristics in the transition behaviour, the following research question was examined in the present dissertation:

*Do childhood and adolescent individual and family characteristics contribute to the occurrence, timing, and patterning of adult role assumption?*

It was expected that it would be more typical of women to have undergone adult transitions at earlier age compared to men (e.g., Kokko et al., 2009). More specifically, it was expected that women would be overrepresented in groups that had completed all adult transitions by age 27 (Group 1 in Study I and On-Time Transitions group in Study II). It was also assumed that participants who had completed all of the transitions stem from families with a higher socioeconomic status (Studies I and II), show more adaptive behaviour in childhood (Study II), and have better school success in adolescence (Studies I and II) than

participants with missing transitions (e.g., Caspi et al., 1988). Furthermore, it was expected that individuals who took the academic path (Group 2 in Study I) would be characterised by having a high SES family background as well as good school success and high educational aspirations in adolescence (e.g., Schoon et al., 2007). Regarding the differences between on-time and late transitions in Study II, it was assumed that participants with late transitions would come from families with a higher SES, show more adaptive behaviour in childhood (e.g., Caspi et al., 1998), and have better school success in adolescence (e.g., Schoon et al., 2007) than participants with on-time transitions.

In Study III, the role of the contextual spheres was somewhat different than in Studies I and II. Gender and high self-control of emotions in childhood denoted individual characteristics whereas family SES represented family characteristics. Of these contextual influences, gender was examined as a possible moderator, and family SES and high self-control of emotions were used as control variables. Although gender differences were investigated, no expectations were formed regarding these because earlier studies concerning parenthood and its implications are based mostly on women, while career literature has been based mostly on men (Phillips & Imhoff, 1997; Woodward et al., 2006). Sociohistorical context was conceptualised as taking into consideration the impact of historical time and place when interpreting the results of the study.

### **3. Adult transitions in relation to psychological functioning**

*(a) Are (non-)occurrence, patterning, and timing of adult role assumption associated with psychological functioning?*

Based on developmental stage theories (e.g., Erikson, 1963; Havighurst, 1982; Levinson, 1986; Levinson et al., 1978) and previous research (e.g., Schulenberg et al., 2005; Williams et al., 1997), it was assumed that individuals with missing transitions would have a lower level of psychological functioning than other individuals (Studies I, II, and III). No expectations were formed regarding the *direct* association between differential timing of adult transitions and mid-adult psychological functioning (Studies II and III), due to the contradiction between the theory stating that non-normative transitions may have negative consequences for development (e.g., Elder, 1998) and recent research findings indicating that, along with on-time transitions, late transitions (e.g., Kokko et al., 2008) can also be beneficial to psychological functioning. Regarding long-term changes in psychological functioning (Study II), it was expected that an increase in the psychological functioning of individuals with late transitions would occur along with the acquisition of the transitions (e.g., Kokko et al., 2008).

*(b) Are (non-)occurrence and timing of adult transitions indirectly associated with middle-age psychological functioning via early middle-age social functioning?*

*(c) Does the level of education moderate the indirect association between the timing of adult transitions and middle-age psychological functioning?*

It was expected that obtaining a degree would be associated with career factors and social well-being (Ek et al., 2005; Keyes & Waterman, 2003), whereas becoming a parent was expected to be linked only to social well-being (Nomaguchi & Milkie, 2003). Regarding the timing of transitions, it was expected that the relatively late timing of transitions would be associated with good social functioning in early middle-age only when the later timing of transitions is associated with pursuing a higher level of education. Furthermore, it was expected that good social functioning in early middle-age would contribute to good psychological functioning in middle-age (Dolan et al., 2008; Keyes, 2005; Pulkkinen et al., 2006).

## 2 METHOD

### 2.1 Participants and procedure

The present research used data from the ongoing Finnish Jyväskylä Longitudinal Study of Personality and Social Development (JYLS) in which the same individuals have been followed from age 8 to 50 years (Pulkkinen, 2009; Pulkkinen & Kokko, 2010). The JYLS study was begun by professor Lea Pulkkinen in 1968, when she randomly selected 12 complete second grade classes in the medium-sized town of Jyväskylä, Finland, for the study; all of the pupils participated (i.e., the initial participation rate was 100%). The initial sample consisted of 173 girls and 196 boys of whom the majority (94%) were born in 1959 and the rest either in 1958 or 1960. The mean age of the participants was 8.3 years ( $SD = .25$ ). All participants were native Finns. At that time, Finland was very homogeneous by ethnicity.

Since the first data collection regarding the 8-year-old children in 1968, the main follow-ups have taken place at ages 14, 27, 33, 36, 42, and 50 years (Pulkkinen, 2006, 2009). Of the initial JYLS random sample, 222 (60.2%) participants have participated in all of the main follow-ups, and 328 (88.9%) participants have participated in at least four of the six follow-ups (Metsäpelto et al., 2010). At age 14 (in 1974), data was gathered from 167 girls (97% of the initial random sample) and 189 boys (96%), using peer nominations and teacher ratings (Pulkkinen, 2006). At age 27 (in 1986), a Life Situation Questionnaire (LSQ) was mailed to the participants, which was returned by 155 women (90%) and 166 men (85%), and 142 women (82%) and 150 men (77%) also participated in a semi-structured interview. When the participants were 36 years old (in 1995), 150 women (87%) and 161 men (83%; two men had died) filled in and returned the mailed LSQ, and 137 women (79%) and 146 men (75%) participated in a semi-structured interview during which self-reports were presented. When the participants were 42 years old (in 2001), the sample size was reduced to 157 women (one woman had died and 15 had refused to participate) and 186 men (five men had died and five had refused to participate). Of this available sample,



132 women (84%) and 147 men (79%) completed and returned the mailed LSQ, and 120 women (76%) and 123 men (66%) participated in a semi-structured interview. The age-42 data collection included the Life History Calendar (LHC; adapted from Caspi et al., 1996) and a health examination (Pulkkinen, 2006). The latest data collection was carried out when the participants were 50 years old (in 2009), and at this time the eligible sample size was reduced further to 149 women (three women had died and five had refused to participate) and 174 men (three men had died and nine had refused to participate; (Metsäpelto et al., 2010; Pulkkinen & Kokko, 2010). Of this eligible sample, 127 women (85%) and 143 men (82%) completed and returned the mailed LSQ, and 111 women (74%) and 116 men (67%) participated in a semi-structured interview. The data collection at age 50 also included the LHC. Of the 369 initial JYLS participants, 209 participants (108 women and 101 men) filled in the LHC both at ages 42 and 50, while 47 participants (17 women and 30 men) filled in the LHC only at age 42, and 18 participants (4 women and 14 men) filled in the LHC only at age 50. Altogether 274 JYLS participants (129 women and 145 men) filled in the LHC either at age 42 or 50 years, or at both ages.

No systematic attrition has been found in the JYLS sample (Metsäpelto et al., 2010; Pulkkinen, 2006; Pulkkinen et al., 2003; Pulkkinen & Kokko, 2010). The sample was at ages 36, 42, and 50 representative of the age-cohort born in Finland in 1959, when compared with data provided by Statistics Finland on, for instance, marital status, number of children, employment, and unemployment. At age 42, 60.2% (57.7% in the 1959 age-cohort) of the participants were married. Almost one third (30.2%) of the participants had divorced by age 42, and one third of the divorced were remarried. Cohabitation was fairly common: 74% of the participants had cohabited at some point of their life, and at age 42, 19% of the participants were cohabiting. The average number of children was 1.85 (in the 1959 age-cohort, this figure is 1.87). Regarding level of education, male participants did not differ from the 1959 age-cohort, but female participants had more often a higher secondary education (e.g., nurse) than women in the 1959 age-cohort. Both in the 1959 age-cohort and the JYLS sample, female participants had a higher secondary education more often than men, who typically had a lower secondary education. Correspondingly, it was more typical of women to be in lower white-collar occupations than men, who were typically in blue-collar occupations.

The sample, variables, and analysis methods used in studies I-III are summarised in Table 1. The number of participants varied across studies according to the focus of each study.

TABLE 1 Overview of the original studies: Sample, variables, and analysis methods.

Study	Data waves and sample	Variables	Analysis methods
Study I	<p>Ages 8, 14, 27</p> <p><i>N</i> = 354 (256 participants reported information about adult transitions in the age-42 life history calendar and for 98 participants the corresponding information was obtained from other JYLS data sources)</p>	<p><b>Adult transitions</b> moving into independent living, completion of education (measured with the highest level of vocational education obtained by age 27), full-time employment, having a partnership, becoming a parent</p> <p><b>Childhood characteristics</b> gender, socioeconomic status of the family of origin, intact family, grade point average, educational aspirations</p> <p><b>Social functioning at age 27</b> stability of career line, binge drinking</p> <p><b>Psychological functioning at age 27</b> life satisfaction, depressive symptoms</p>	<p>Latent class analysis</p> <p>Multinomial logistic regression analysis with odds ratios and 95% confidence intervals</p> <p>Multivariate analysis (regression analysis for continuous functioning measures, ordered logistic regression analysis for ordinal functioning measures)</p>
Study II	<p>Ages 8, 14, 27, 36, 42</p> <p><i>N</i> = 282 (256 participants reported information about adult transitions in the age-42 life history calendar and for 26 participants the corresponding information was obtained from other JYLS data sources)</p>	<p><b>Adult transitions</b> completion of education, full-time employment, having a partnership, becoming a parent</p> <p><b>Childhood characteristics</b> gender, socioeconomic status of the family of origin, social activity, high and low self-control of emotions, grade point average</p>	<p>Grouping based on theoretical considerations</p> <p>Multinomial logistic regression analysis with odds ratios and 95% confidence intervals</p> <p>General linear model profile analysis with</p>

		<p><b>Psychological functioning (ages in parentheses)</b>          psychological well-being (36 and 42), life satisfaction (27, 36, and 42), depressive symptoms (36 and 42), self-esteem (36 and 42), achieved identity (27, 36, and 42)</p>	<p>covariates (i.e., an application of MANCOVA)          Multivariate analysis of covariance for repeated measures</p>
Study III	<p>Ages 8, 42, 50  <i>N</i> = 281; 132 women and 149 men (256 participants reported information about adult transitions in the age-42 life history calendar and for 25 participants the corresponding information was obtained from other JYLS data sources)</p>	<p><b>Adult transitions</b>          completion of education, becoming a parent</p> <p><b>Contextual characteristics</b>          gender, socioeconomic status of the family of origin, high self-control of emotions, level of education</p> <p><b>Social functioning at age 42</b>          career achievement (occupational status and monthly salary), employment (present work situation and stability of career line), social well-being</p> <p><b>Psychological functioning at age 50</b>          psychological well-being, life satisfaction, depressive symptoms, self-esteem</p>	<p>Pearson correlations with equality tests based on z-transformation          Path analysis with observed variables [bootstrapping method, multigroup method]  <math>\chi^2</math>-difference test for nested models</p>

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## 2.2 Measures

Detailed information on the various measures used in the studies I-III is provided in the original publications and summarised briefly in Table 1. Therefore, only a brief summary is given in this section. Differential measures of psychological and social functioning were utilised in Studies I, II (only psychological functioning) and III for two reasons. First, as Study I was part of a larger special issue published by *Longitudinal and Life Course Studies*, my choice of measures was bounded by the aims of the special issue. Second, each sub-study had its own specific research questions, and the measures were chosen accordingly. In Studies I and II, the focus was on whether and how the completion of adult transitions is associated with separate measures of social (only in Study I) and psychological functioning. In Study III, social and psychological functioning were treated as upper-level constructs. Due to the relatively small sample size, separate average scores of social and psychological functioning were used instead of treating these as latent variables.

### 2.2.1 Adult role transitions

Information about *moving into independent living*, *obtaining a degree from a vocational education institution* (either from a vocational school, vocational college, or university), *starting a full-time job* (summer jobs lasting only a few months were not included), *establishment of an intimate relationship* (either a cohabitation or a marriage), and *becoming a parent* for the first time was obtained mainly through the use of the LHC (Caspi et al., 1996; Kokko et al., 2009). In addition, the data were supplemented with all available information on adult transitions gathered using LSQs, and interviews at ages 27, 36, 42, and 50. Utilising visual aids included in the LHC worksheet, the occurrence, timing, and duration of these transitions were documented from age 15 to 42 during the interview as reported by the participants. The time unit in the LHC was one year.

Various cut-off points and measurement levels for the transition variables were utilised in Studies I, II and III for two reasons. First, each sub-study had its own specific research questions, and the cut-off points were chosen accordingly. Following the suggestion of the life course theory (e.g., Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006), the Finnish cultural features described in section 1.2.3 were taken into account when choosing age 27 as the cut-off point in Studies I and II. In the Finnish context, age 27 is the age by which it was possible for the 1959 age-cohort to complete all five adult transitions. Hence, age 27 can be considered as the upper limit for on-time transitions as regards the 1959 birth cohort. Detailed rationales for the other cut-off points are presented in the original studies. Second, utilising different cut-off points and measurement levels for the transition variables enabled me to check whether or not the results are method-dependable.

## 2.2.2 Contextual factors

### Individual characteristics

*Gender* was coded 1 = female, 2 = male. *Child's social behaviour* at age 8 was assessed using three subscales (Kokko et al., 2008): *activity* (three items; e.g., "always busy and plays eagerly with other children"), *high self-control of emotions* (including emotional stability, constructiveness, and compliance; 8 items, e.g., "is a reliable classmate"), and *low self-control of emotions* (including emotional lability, aggressiveness, and anxiety; 18 items, e.g., "is sometimes very touchy and other times really nice"). *School success* at age 14 was measured by grade point average (min. 4, max. 10). The information about school success was collected from school archives. For *educational aspirations*, actual entrance to upper secondary school qualifying for tertiary education was used (Pitkänen, Kokko, Lyyra, & Pulkkinen, 2008). Actual entrance to upper secondary school qualifying for university studies was used as an indicator of participants' educational aspirations because in Finland, selection to post-comprehensive education is mostly based on adolescents' interests.

### Family characteristics

*Socioeconomic status (SES)* of the family of origin was coded when the child was 8 years old, on the basis of the father's occupation (the mother's occupation was used if she was the sole provider; Pitkänen, Lyyra, & Pulkkinen, 2005). *Structure of the family of origin*, when the child was 14 years old, was coded by 0 for *intact family* if the participant lived with both parents and by 1 if the *parents had divorced, separated from a cohabitation or a parent had died* (Pulkkinen, Lyyra, & Kokko, 2009).

### Institutions

*Level of vocational education* was assessed with the following question in the LSQs: "What is your occupational education?" Education was grouped into four categories: 1 = *no vocational education or short courses lasting for no more than 4 months at most*, 2 = *vocational school*, 3 = *vocational college*, 4 = *university* (Pulkkinen et al., 2006; Pulkkinen, Ohranen, & Tolvanen, 1999).

## 2.2.3 Psychological functioning

In Studies I and II, measures of psychological functioning were treated as separate variables. In Study I, these variables were life satisfaction and depressive symptoms whereas in Study II, psychological well-being, life satisfaction, depressive symptoms, self-esteem, and achieved identity were examined. In Study III, psychological functioning was an average score of psychological well-being, life satisfaction, depressive symptoms, and self-esteem.

*Psychological well-being.* Psychological well-being was measured using the Scales of Psychological Well-Being (Ryff, 1989). It consisted of 18 items (e.g., "In general, I feel I am in charge of my life").

*Life satisfaction.* In Studies I and II, life satisfaction was assessed using five questions presented in the mailed LSQs. The questions concerned satisfaction with housing, financial situation, choice of occupation, present occupational situation, and content of leisure time (Feldt, Mäkikangas, & Aunola, 2006). In Study III, life satisfaction was assessed using seven questions presented in the mailed LSQs (Kokko et al., in press). Five of the questions were the same as in Studies I and II. Two additional questions concerned satisfaction with the present intimate relationship or lack of it, and present friendship relations. In Studies I and II, it was not possible to measure life satisfaction with seven questions, because questions related to one's satisfaction with the present intimate relationship or lack of it, and present friendship relations were not measured in the JYLS study in 1986 when the participants were 27 years old (see Pulkkinen, 2006).

*Depressive symptoms.* In Study I, depressive symptoms were assessed using a subscale of the Personal Control Inventory presented in the mailed LSQ at age 27 (in 1986). The subscale was composed of five items (e.g., "I feel despair"; Pulkkinen & Rönkä, 1994). In Studies II and III, the existence of depressive symptoms was evaluated using the Depression Scale from Depue's General Behavior Inventory (GBI; Depue, 1987). It consisted of 16 items (e.g., "Have you become sad, depressed or irritable for several days or more without really understanding why?"). A different measure for depressive symptoms was used for Study I, because the GBI scale was presented to the JYLS participants for the first time in the 1995 data collection phase when the participants were 36 years old (see Pulkkinen, 2006).

*Self-esteem* was measured using Rosenberg's Self-Esteem Scale (Rosenberg, 1965). The scale consisted of 10 items (e.g., "I feel that I am a person of worth, at least on an equal plane with others").

*Identity achievement status* was coded on the basis of Marcia's Identity Status Interview (ISI) (Marcia, 1966). The ISI covered political ideology, religion, life style, intimate relationships, and occupation (Fadjukoff & Pulkkinen, 2006).

#### **2.2.4 Social functioning**

In Study I, social functioning was measured with two separate variables: binge drinking and stability of career line. In Study III, social functioning was defined in terms of employment, career achievement and social well-being. Employment was defined as an average score of the present work situation and stability of career line. Career achievement was defined as an average score of two standardised measures: occupational status and monthly salary.

*Binge drinking.* In the mailed LSQ, the participants were asked to complete a quantity-frequency (q-f) table with the following instruction: "How much alcohol do you take in at one time? If you have quit, please refer to the situation before you had quit. Circle the most appropriate frequency option on each line."

In addition, in the interview, the participants were asked to recall how often during the past 12 months they had consumed so much alcohol that they had been truly drunk. Binge drinking was operationalised on the basis of the reported times of being drunk, but adjusted for the frequency having drunken at least five portions per occasion as reported in the g-f table (Pitkänen et al., 2008).

*Stability of career line* was evaluated on the basis of participants' answers to several questions presented in the LSQs and interviews. Regarding career stability at age 27, the follow-up covered 11 years, from 1977 to 1986 (from age 16 to 27; Rönkä et al., 2000). Regarding career stability at age 42, the follow-up period covered 5 years, from 1996 to 2001 (from age 37 to 42; Pulkkinen et al., 2006). Women who had been on maternity leave but returned to their jobs after the leave were coded as having a stable career.

*Present work situation* was assessed with the following question presented in the LSQ: "What is your present work situation?" Women on maternity leave were coded as full-time workers if they had a job to return to after being at home. In Finland, paid maternity leave is available for up to 10 months, after which a woman may take unpaid leave without losing her job until the child is 3 years old (Pulkkinen et al., 2006; Pulkkinen et al., 1999).

*Occupational status* was assessed with the following question presented in the LSQs: "What is your latest professional title (irrespective of whether or not you are currently working)?" The occupational statuses of unemployed participants and full-time mothers were classified according to the occupations they held prior to becoming unemployed or staying at home (Pulkkinen et al., 2006; Pulkkinen et al., 1999).

*Monthly salary* in Euros was assessed with the following question in the mailed LSQ: "Which category does your monthly taxable gross income fall into before the taxes are deducted (including all taxable income, pensions, unemployment benefits, etc.; Pulkkinen & Polet, 2010)?" No capital income was included in this measure.

*Social well-being* was assessed using the Scales of Social Well-Being (Keyes, 1998). The scale consisted of 15 items (e.g., "I have something valuable to contribute to the world").

## 2.3 Data analyses

All of the data analysis methods used in Studies I–III are described in the original publications and summarised briefly in Table 1 in the present dissertation. Therefore, only the main analysis methods of each study are outlined, as follows.

### 2.3.1 Study I

The aim of Study I was to investigate patterns of adult role assumption at age 27, their antecedents in childhood, and psychosocial correlates. The study em-

ployed both person-centred and variable-centred analysis strategies (e.g., Bergman & Trost, 2006; von Eye & Bogat, 2006) to study these links. The analyses proceeded in three stages. In the first stage, the patterns of adult role assumption were identified using latent class analysis. Latent class analysis (LCA) is a statistical method that enables the examination of latent structures among a set of categorical variables (Lazarsfeld & Henry, 1968; McCutcheon, 1987). The objectives of LCA are to categorise individuals into the smallest number of latent classes that describe the association among a set of observed categorical variables (Muthén & Muthén, 2000), and to identify variables that best distinguish between classes (Nylund, Asparouhov, & Muthén, 2007). The parameters of the LCA model represent proportions of individuals within each of the latent classes (i.e., latent class probabilities) and the probability of an individual in a given latent class to endorse each indicator variable (i.e., conditional probabilities; Muthén & Muthén, 2000; Nylund et al., 2007). In addition, LCA provides posterior probabilities, that is, estimates of class probabilities for each individual (Muthén & Muthén, 2000).

In Study I, LCA was carried out with five categorical transition variables measured by age 27: residence, level of education, employment status, partnership status, and parenthood. LCA was chosen as an analysis method instead of conventional cluster analysis because LCA provides model fit indices (e.g., Bayesian information criterion (Schwartz, 1978), adjusted Bayesian Information Criteria (Sclove, 1987), Bootstrap Likelihood Ratio Test (Nylund et al., 2007)), which enable the assessment of how well a model fits with the data, and the appropriateness of the number of latent classes specified. In addition, because LCA is model based method, the same results can theoretically be replicated with an independent sample (Muthén & Muthén, 2000). However, alongside overall model fit indices, entropy (Celeux & Soromenho, 1996) and the interpretability of latent classes (Muthén & Muthén, 2000) were considered when choosing the optimal number of latent classes. Entropy is not a model fit index; instead, entropy indicates how clear the delineation of classes is and whether individuals are placed into classes with high precision (Celeux & Soromenho, 1996).

In the second stage, multinomial logistic regression analyses were conducted to investigate the extent to which childhood and adolescent characteristics predicted a participant's membership in a particular latent class. Regression coefficients were presented as odds ratios (*OR*). An *OR* is the ratio of the odds of being in a particular latent class *k* (versus being in the reference class *j*) for any value *b* of a particular childhood characteristic to the odds of being in class *k* for value *b*+1 of the childhood characteristic. For example, for a dichotomous covariate, the *OR* represents the change in the odds of being in latent class *k* (versus being in reference class *j*), when the value of a particular childhood characteristic changes from 0 to 1. An *OR* greater than one indicates that those individuals with the characteristic (i.e., for whom the value of the childhood characteristic is 1) are more likely to be in the class *k* than those individuals without the characteristic. Each latent class was in turn used as a reference class



in order to compare each latent class to all other latent classes. In addition to odds ratios, relative risks (*RR*) were reported in order to enable a direct comparison of the present results with the results shown in the study by Salmela-Aro and her colleagues (2012) which was published in the same special issue of the *Longitudinal and Life Course Studies* publication as Study I herein. An *RR* is a ratio of two probabilities. *RR* indicates how many times more likely it is that a participant will be a member of a latent class *k*, given a one unit change in a childhood characteristic. For example, for a dichotomous characteristic, *RR* represents the ratio of the probability of being in a latent class *k* for covariate category 1, versus the probability of being in latent class *k* for the covariate category 0.

In the third stage, multivariate analyses were conducted to examine whether membership in different latent classes predicted various aspects of psychosocial functioning in early adulthood. Regression analysis was used for continuous functioning outcomes (i.e., life satisfaction and depressive symptoms), and ordered logistic regression analysis was used for ordinal functioning outcomes (i.e., career stability, binge drinking, and smoking). A set of dummy indicators of latent classes were used as independent variables to estimate class differences in outcomes. Dummy indicators were used to represent each category of the latent class variable in the regression equation. Then one of the dummy indicators was excluded from the analysis (i.e., it served as a reference group) so that the regression equation could be estimated. In order to compare each latent class to all other latent classes, each latent class was set, by turns, as a reference group (i.e., each dummy was excluded by turns from the analysis). The childhood and adolescent variables were controlled for in the analyses in order to rule out the possibility that the observed differences between the latent classes in functioning indicators would result due to childhood and adolescent factors.

In all analyses, the method of estimation was that of full information maximum likelihood (FIML) implemented in the Mplus statistical package (version 6.0; Muthén & Muthén, 1998–2010). FIML uses all observations in a data set when estimating the parameters in the model, without imputing the missing values.

### 2.3.2 Study II

The purpose of Study II was to examine the relations between the timing of adult transitions, childhood antecedents, and psychological functioning from early adulthood to early middle-age. This study utilised a mixed method research design (Creswell & Plano Clark, 2007). Based on theoretical considerations as well as cultural characteristics of Finnish society regarding the timing of four adult transitions (i.e., obtaining a degree from a post-comprehensive educational institution, starting a full-time job, establishing a stable partnership, and becoming a parent), three timing categories were formed: 1 = *On-Time Transitions*, 2 = *Late Transitions*, and 3 = *Partial Transitions*. Participants in the *On-Time Transitions* category had undergone the stipulated four adult transi-

tions at least once by age 27. Participants in the *Late Transitions* category may have undergone one or more transitions already by age 27, but at least one of the transitions was not undergone until they were aged between 28–42. Finally, the *Partial Transitions* category consisted of participants who had one or more transitions that had not taken place by age 42.

A multinomial logistic regression analysis with odds ratios and 95% confidence intervals was conducted to investigate whether childhood characteristics predicted the membership to the three timing groups. The association between the timing groups of adult transitions and psychological functioning was investigated in two stages, adjusting for the childhood variables. First, a general linear model profile analysis with covariates (i.e., an application of MANCOVA) was used for examining whether the profile of psychological functioning in early middle-age differed between the three timing groups. Second, a multivariate analysis of covariance for repeated measures was conducted to examine the stability of the mean of the indicators of psychological functioning separately for the timing groups from early adulthood to early middle-age. The analyses were conducted using the SPSS 15.0 for Windows statistical package.

### 2.3.3 Study III

The goal of Study III was to investigate the different mechanisms between the occurrence and timing of education and parenthood in relation to middle-age psychological functioning in women and men. Social functioning was investigated as a possible mediator, and level of education and gender were examined as possible moderators in the aforementioned linkages. The study employed a variable-centred analysis approach (e.g., Bergman & Trost, 2006; von Eye & Bogat, 2006) to study these links. More specifically, path analyses with observed variables were performed using the Mplus statistical package (version 6.0; Muthén & Muthén, 1998–2010). The method of estimation was that of FIML. Two different path models (occurrence and timing models) were estimated.

Mediation models are usually tested according to the procedure recommended by Baron and Kenny (1986). However, methodologists (e.g., MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; Shrout & Bolger, 2002) have recently criticised the Step 1 requirement in Baron and Kenny's approach, which states that the total effect of the independent variable X on the outcome variable Y must be statistically significant (Baron & Kenny, 1986). According to the critics, if there are theoretical reasons to expect that the mediation process is distant or complex rather than proximal, then the magnitude of the relationship between X and Y becomes smaller due to possible additional or competing variables in the mediation process (e.g., MacKinnon et al., 2002; Shrout & Bolger, 2002). This argument also applies to Study III because of the long time period covered (the minimum time span between a transition and psychological functioning at age 50 was eleven years). Furthermore, the psychological functioning of the middle-aged is grounded in various past experiences which may cancel each other out; therefore, the occurrence and timing of the stipulated transitions

may have no direct effect on middle-age psychological functioning. In these kinds of situations, it is recommended to drop the Step 1 requirement from the test of mediation and to utilise significance tests of the indirect effect (i.e., the product of the paths leading from the independent variable X to the mediating variable M and from the mediating variable M to the outcome variable Y; Preacher & Hayes, 2004). The bootstrapping approach has been recommended as a reliable method for testing indirect effects because it does not assume that the indirect path is normally distributed (Preacher & Hayes, 2004; Shrout & Bolger, 2002). The bootstrap method estimates the sample distribution of the indirect effect by repeatedly drawing random samples from the original sample with replacement. This allows generating bootstrapped confidence intervals to test the significance of the indirect path. Accordingly, in Study III, indirect effects were estimated using the bootstrapping method available in the Mplus statistical package (Muthén & Muthén, 1998–2010). However, as the strength of the indirect effect can vary according to a moderator variable (i.e., *moderated mediation*; Baron & Kenny, 1986; Preacher et al., 2007), a possible moderating effect of gender was also tested for, using the multi-group option available in the Mplus programme. Furthermore, a possible moderating effect of participants' level of education was also examined. Due to the relatively small sample size, however, the moderating effect of the level of education was examined by computing two interaction terms (timing of education  $\times$  level of education, timing of parenthood  $\times$  level of education). These interaction terms were included in the path analysis model as independent variables.

### 3 MAIN RESULTS OF THE ORIGINAL STUDIES

#### Study I

**Räikkönen, E., Kokko, K., Chen, M., & Pulkkinen, L. (2012). Patterns of adult roles, their antecedents and psychosocial correlates among Finns born in 1959. *Longitudinal and Life Course Studies*, 3, 211-227.**

The aim of the study was to identify patterns of adult role combinations across the domains of housing, educational attainment, work, partnership, and parenthood at age 27. Also childhood antecedents and concurrent psychosocial functioning correlates of the identified patterns were examined.

Using latent class analysis, three patterns were identified. Members of the *Work-orientation with delayed parenthood* (46.0% of the participants) typically had undergone four of the five adult transitions: They had moved from parental home, obtained a degree from a post-comprehensive educational institution, worked full-time, had been in a committed relationship, and had no children. Half of the group had an educational degree from a vocational school. About one fifth of the *Work-orientation* pattern were truly singles (i.e., they had never been married or cohabiting). Members of *Traditional work and family* pattern (35.0%) typically had undergone all five adult transitions, that is, most of them lived independently, had a degree from a post-comprehensive educational institution, they worked full-time, and they were married and had at least one child. Almost half of the members of this class had an educational degree from a vocational school. Members of the third class, *Academic-orientation with no children* (18.9%) typically had undergone four of the five adult transitions: They had moved from parental home, obtained a degree from a post-comprehensive educational institution, worked full-time, had been in a committed relationship, and had no children. About two fifths of the *Academic-orientation* pattern were truly singles (i.e., they had never been married or cohabiting).

Almost all of the participants (95.9%) in the three patterns were living independently. Individuals in the *Traditional* pattern were more likely women, whereas individuals in the *Academic-orientation* and *Work-orientation* patterns

were more likely men. The SES and structure of the family of origin did not differentiate the patterns, but individuals in the *Academic* pattern had higher school success and educational aspirations in adolescence than those in the other patterns. None of the childhood measures differentiated *Traditional* and *Academic* patterns.

Regarding psychosocial functioning, the results showed that individuals in the *Traditional* and *Academic* patterns showed higher life satisfaction than individuals in the *Work-orientation* pattern. Furthermore, individuals in the *Traditional* pattern reported higher career stability as well as less depressive symptoms and binge drinking than individuals in the *Work-orientation* pattern. The results suggest that elongation of transition into stable adult roles does not seem to be associated with higher psychosocial functioning than relatively early completion of transitions. In particular, the fact that the combination of delayed family-related role transitions and low levels of post-comprehensive education was associated with low levels of psychological functioning implies the importance of these role transitions for well-being.

## Study II

**Räikkönen, E., Kokko, K., Rantanen, J. (2011). Timing of adult transitions: Antecedents and implications for psychological functioning. *European Psychologist*, 16, 314–323.**

The purpose of the study was to examine childhood contextual antecedents and psychological implications of the (non-)occurrence and timing of adult transitions (i.e., completion of education, full-time employment, having an intimate relationship, having a child). As suggested in the life course theory (e.g., Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006), historical time and cultural features of Finland were taken into consideration when the participants were classified into the categories of *On-Time Transitions* (all transitions concluded by age 27), *Late Transitions* (at least one transition concluded after age 27), and *Partial Transitions* (not all transitions concluded by age 42). The biggest category was the *Late Transitions* category, including 37.9% of the participants. Almost as large category as the *Late Transitions* category was the *Partial Transitions* category which consisted of 36.5% of the participants. All of the participants in this group had undergone at least one of the four stipulated adult transitions. The majority of the women (84.6%) and men (76.6%) had only one missing transition, either that of the graduation from post-comprehensive education or having the first child. The smallest group was the *On-time Transitions* category (25.5%).

Findings showed that contextual as well as some of the individual characteristics were related to variability in the occurrence of adult transitions. Participants with all transitions (either *On-Time* or *Late*) were socially more active in childhood (at age 8) than participants with partial transitions. Furthermore, participants with on-time transitions were more likely females, and participants who experienced late transitions were more likely to stem from families with a

high SES than participants with partial transitions were. None of the other childhood antecedents contributed to the timing of transitions.

The findings also indicated that having undergone all adult transitions was beneficial for adult psychological functioning. The participants who had undergone all of the transitions reported higher psychological well-being and self-esteem and fewer depressive symptoms at ages 36 and 42, as well as higher life satisfaction at ages 27, 36, and 42 than participants with partial transitions. The timing of the transitions accounted for only one aspect of psychological functioning: subjective well-being. Participants with on-time transitions showed higher life satisfaction at ages 27 and 36 than participants with late transitions, but by age 42 the difference levelled off. The findings suggest that the occurrence and non-occurrence of adult transitions account for psychological functioning from early adulthood to early middle-age, while having roots going back to early contextual and individual factors in childhood. However, the findings also suggest that individuals taking a path of prolonged adult transitions do not seem to benefit from it in terms of psychological functioning compared to those who make stable commitments in the areas of family and career already in early adulthood.

### Study III

**Räikkönen, E. & Kokko, K. (2012). Education, Parenthood, and Middle-Age Psychological Functioning: Paths via Social Functioning in Women and Men. Manuscript submitted to publication.**

The aim of the study was to investigate the mechanisms linking the occurrence and timing of education and parenthood with middle-age psychological functioning in women and men. Early middle-age social functioning was studied as a possible mediator, and level of education and gender as possible moderators.

The results for both women and men showed that, obtaining a degree from a post-comprehensive educational institution by age 41 contributed directly to good middle-age psychological functioning, whereas becoming a parent was directly linked to good middle-age psychological functioning only in women. Becoming a parent also contributed to good middle-age psychological functioning via indicators of better early middle-age social functioning in both genders, whereas obtaining a degree contributed indirectly to good middle-age psychological functioning through early middle-age stable employment only in men.

The results further demonstrated the moderating effect of the level of education in the association between the timing of parenthood and career achievement in both genders and the association between the timing of education and career achievement in men. Highly educated individuals showed higher career achievement when they had a later timing of parenthood, whereas individuals with a lower level of education showed lower career achievement when they became parents at a later age. In addition, highly educated men showed higher

career achievement when they had a relatively early timing regarding their education, whereas men with lower level of post-comprehensive education showed higher career achievement when they had later timing regarding their education. Indicators of good social functioning contributed to better psychological functioning. These results suggest that the occurrence of transitions contributes directly and indirectly to psychological functioning, whereas the later timing of transitions, particularly parenthood was beneficial to subsequent functioning only because of its linkage to having attained a high level of education.

## 4 GENERAL DISCUSSION

The transition to adulthood is one of the most important transitions during one's life course. This period comprises five highly interdependent transitions: moving from the parental home to independent living, completing one's education, entering full-time work, establishing a stable partnership, and becoming a parent (e.g., Arnett, 2000; Caspi, 2002; Furstenberg et al., 2005; Hogan & Astone, 1986; Shanahan, 2000). These transitions have roots going back to early individual and contextual factors during childhood and adolescence, and are likely to have long-term implications in various domains of life (e.g., Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006). In order to understand the structuring of this period and its possible implications, the various dimensions of the transition to adulthood should be considered simultaneously (Macmillan & Copher, 2005). Yet, it is only in recent years that research has begun to pay attention to the complex developmental nature of adult transitions (Amato et al., 2008; Martin et al., 2008; Mouw, 2005; Oesterle et al., 2010; Osgood et al., 2005; Robette, 2010; Ross et al., 2009; Salmela-Aro et al., 2011; Sandefur et al., 2005). The present research examined adult transitions, and their childhood antecedents and psychological implications up to mid-adulthood. The results of the research suggest that, in general, adult transitions occur over a long period of time for the majority of individuals. Furthermore, the transitions related to education and parenthood seem to differentiate transitional patterns the most. Both individual and family characteristics were related to variability in the adult role assumption, but only gender determined the timing. The timing of transitions may have been determined more by individuals' own interests and decisions. Regarding the implications of the transitions, this research suggests that the achievement of adult transitions contributes directly and indirectly to improved psychological functioning, whereas missing transitions are associated with reduced psychological functioning. Furthermore, the elongation of transition to stable adult roles does not seem to be beneficial in terms of subsequent psychological functioning, unless it is done in order to obtain a high level of post-comprehensive education.



#### 4.1 Patterns and timing of adult role assumption

The first aim of the present research was to examine the patterning and timing of adult role assumption. Two different analytical strategies were used: latent class analysis (in Study I) and theoretical grouping (in Study II). Both strategies consistently showed that individuals who achieved all adult transitions by early adulthood (i.e., on-time) did not represent the majority. Instead, it seems that it was typical for at least one role transition to occur beyond early adulthood. Thus, it seems that in Finland, the delayed step into adult roles, a period which has recently also been labelled as emerging adulthood (Arnett, 2000), has been going on for many decades. Study I further revealed that members of two groups, *Academic-orientation with no children* as well as *Work-orientation with delayed parenthood*, had delayed adult transitions beyond early adulthood. The main difference between these transitional groups was that members of the *Work-orientation with delayed parenthood* had no or low levels of post-comprehensive education whereas members of the *Academic-orientation with no children* had obtained a high post-comprehensive qualification. Similar results have been reported in a study by Ross and his colleagues (Ross et al., 2009). These findings suggest that a delayed assumption of adult roles is not necessarily associated with high academic attainment. Instead, individuals with varying backgrounds may postpone adult transitions. From the methodological point of view, the consistency of the findings obtained through the present research using two different analytical strategies implies that the results were not method-dependable.

The results of the present research also suggest that obtaining a degree from a post-comprehensive educational institution and becoming a parent for the first time are the most important adult transitions shaping transitional behaviours. Namely, these two transitions distinguished the patterns of adult role assumption the most (Study I), and were also the two most typical transitions that the participants had not undergone by early middle-age (Study II). However, it should be kept in mind, particularly with regard to missing educational transitions, that, for the respective age-cohort born in 1959, not having a post-comprehensive education did not necessarily mean exclusion from the labour market and disadvantaged outcomes later in life as a consequence. In contrast, the meaning of not having a post-comprehensive education is likely to be much more important for the more recent age-cohorts since having a post-comprehensive education and training are considered to be more valuable than ever due to the fact that jobs have become less secure and occupational careers have become more fluid (Furstenberg et al., 2005; Settersten & Ray, 2010). Thus, the consequences of not having a post-comprehensive education are also likely to be more severe, as shown, for example in a relatively recent Finnish study that reported that having no post-comprehensive education was linked to serious problems in social functioning, such as long-term unemployment, low occupational status and income, single parenthood, and early retirement (e.g.,

Vanttaja & Järvinen, 2004). Furthermore, these young adults without any post-comprehensive education are more likely to end up becoming outsiders in society (Myrskylä, 2011).

The content of the three patterns of adult roles found in Study I corresponded fairly well with that of the classes described in studies analysing data collected in Finland (Salmela-Aro et al., 2012), in the UK (Ross et al., 2009; Schoon et al., 2012) and in the United States (Amato et al., 2008; Maggs et al., 2012; Oesterle et al., 2010; Osgood et al., 2005; Sandefur et al., 2005), using latent class analysis. Thus, although it has been suggested that the overall transitional period to adulthood has lengthened, diversified and become more heterogeneous with regard to the timing and content of role changes in most Western countries in recent decades (e.g., Arnett, 2000; Furstenberg et al., 2005; Shanahan, 2000), the main transitional patterns in early adulthood appear to be rather similar across countries and cohorts.

## 4.2 Antecedents of adult transitions

The present research investigated individual (i.e., gender, childhood social behaviour, school success, and educational aspirations) and family contextual characteristics (i.e., socioeconomic status and intact vs. non-intact structure of the family of origin) as possible antecedents of adult transitions. Overall, the findings suggest that both individual and family characteristics were related to variability in the assumption of adult roles, supporting the idea that individual agency is bounded by contextual factors (Heinz, 2009; Shanahan, 2000; Shanahan & Hood, 2000). However, only gender was associated with the variability in the timing of adult transitions. Thus, it is possible that individuals' own interests and decisions (i.e., human agency; e.g., Brandtstädter, 2009; Elder, 1998; Elder et al., 2003; Heckhausen et al., 2010; Nurmi, 2004) may have affected the timing of transitions more than contextual characteristics related to the family of origin. The cultural context of the present research (i.e., Finland) is a plausible reason for this. It has been suggested that the role of the individual as a shaper of his or her own development is stronger when the life course is less normatively structured (Wrosch & Freund, 2001), as is the case for example in Finland.

### 4.2.1 Individual characteristics

Overall, the results the present research consistently demonstrated, that gender predicted the patterning and timing of the assumption of adult roles. Accordingly, women were overrepresented in the on-time transitional group (Study II) and in the family-oriented pattern, namely, *Traditional work and family* (Study I). These results are consistent with earlier studies based on older and more recent age-cohorts which have shown that women undergo adult transitions at an earlier age than men, particularly family transitions (e.g., Cohen et al., 2003; Kokko

et al., 2009; Oesterle et al., 2010), and that adult transitions are more closely interlinked among women than among men (Kokko et al., 2009). A similar finding was found in a younger Finnish birth cohort (born in 1966; Salmela-Aro et al., 2012), suggesting that no cohort effect exists (e.g., Baltes et al., 1998; Elder, 1998; Schoon, 2006). Thus, although educational and work pathways of women and men have become more similar in the last decades (Fussell & Furstenberg, 2005), women and men still differ in their pathways to adulthood. A plausible explanation is that these results reflect women's biological clock, which determines the time during which women can have biological children.

The findings of the present research also revealed that adaptive behaviour in childhood, in particular social activity, contributed to the assumption of adult roles but not their timing (Study II), lending only partial support to previous studies (e.g., Caspi et al., 1988). Furthermore, mixed results regarding adolescent school success (Studies I and II) and educational aspirations (Study I) were found in the present dissertation. More specifically, in Study I, individuals in the *Academic-orientation with no children* group had better school success and higher educational aspirations than individuals in the *Traditional work and family* and *Work-orientation with delayed parenthood* groups, whereas in Study II, good school success did not contribute to any of the timing groups. A possible explanation for these mixed results may lie behind the fact that, in Study I, childhood social behaviour was not taken into account in the analyses. It is possible that childhood social behaviour and adolescent school-related variables interact or have joint, cumulative effects on the subsequent life course. Accordingly, Pulkkinen and her colleagues (1999) found, based on the same JYLS data as the present research, that parental socioeconomic status is associated with emotional self-control, which further explained adolescent school success. These links also seemed to vary according to gender. In addition, in Study II, *Late transitions* group included individuals who had completed one or more of the transitions after the age 27. As the Study I showed, these individuals were a more heterogeneous group than just highly educated individuals. Therefore, school success did not distinguish them.

#### 4.2.2 Family characteristics

Overall, the results of the present research regarding socioeconomic status (SES) of the family of origin consistently demonstrated that the timing of transitions was not associated with family SES, contradicting previous research findings that high family SES promotes later timing of adult transitions (e.g., Schoon et al., 2007). In Finland, socioeconomic differences are relatively small and there are no tuition fees in post-comprehensive education (including university) (Kokko et al., 2008; Sahlberg, 2011). Furthermore, Finnish social security system provides housing allowance for students who lived in a rented apartment to offset residential costs (Raivola et al., 2000). Consequently, in Finland, it is easier and more likely for individuals with different social backgrounds to follow the path they prefer compared, for instance, to countries where tuition fees are charged by educational institutions. The present research further showed that

the structure of the family of origin (intact vs. non-intact) did not differentiate the transitional patterns (Study I). This finding along with the present findings related to family SES suggest that family of origin may have had a relatively small influence on the transitional behaviours of the Finnish age-cohort born in 1959. Thus, individuals' lives are embedded in the historical time and place, as suggested in the life course theory (e.g., Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006).

The comparison of the present results (Study I) with the results found in the study by Salmela-Aro and her colleagues (2012) (based on a younger Finnish age-cohort born in 1966) suggest that some cohort effects may have occurred (e.g., Baltes et al., 1998; Elder, 1998; Schoon, 2006) in Finland with regard to the association between family background and the transition to adult roles. First, in Study I, the structure of the family of origin, whether intact or non-intact, did not contribute to the patterns of adult role assumption, whereas Salmela-Aro and her colleagues (2012) found that individuals from a broken family were more likely to be in the *Slow starters* group (characterised by having taken on only few adult roles in early adulthood) than in the other transitional groups. The differential effect of family structure between the two cohorts might be considered indicative of an increasing impact of family instability leading to disadvantageous transition behaviour. Second, in Study I, family SES did not contribute to the membership in pattern groups of adult role assumption, whereas in the study by Salmela-Aro and her colleagues, high family SES contributed to the membership in the academically oriented groups (i.e., *Highly educated without family*, *Highly educated with family*). This may be indicative of an increasing impact of family disadvantage between the two cohorts. However, the values of relative risks in the two studies (Study I, Table 6: 1.498 for *Academic-orientation with no children*; Salmela-Aro et al., Table 5: 1.354 for *Highly educated without family* and 1.311 for *Highly educated with family*) are similar in magnitude, suggesting that no actual cohort effect exists. However, the relation between the socioeconomic status of the family of origin and the patterning of adult role assumption needs further clarification.

### 4.3 Implications of adult transitions for psychological functioning

The present research also examined the implications of adult role assumption for psychological functioning from early adulthood to middle-age. Overall, the results for both women and men demonstrated that the achievement of adult transitions was associated with good psychological functioning directly (Studies I, II, III) as well as indirectly via good early middle-age social functioning (Study III). However, in Study III, these direct links were rather weak, suggesting that middle-age psychological functioning is a phenomenon that is grounded in many different past and present experiences, not just in adult transitions. These results supported the existing theoretical propositions of developmental stage theories (e.g., Erikson, 1963; Havighurst, 1982; Levinson,

1986; Levinson et al., 1978) and the life course theory (e.g., Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006). On the one hand, it is beneficial, in terms of psychological functioning, to find one's niche in society, as suggested by developmental stage theories (e.g., Erikson, 1963; Havighurst, 1982; Levinson, 1986; Levinson et al., 1978). On the other hand, beneficial and adverse consequences of whether or not one finds a niche tend to accumulate (e.g., Elder, 1998; Elder et al., 2003; Elder & Shanahan, 2006), thus increasing the heterogeneity between individuals in regard to life paths and trajectories of psychological functioning (Schulenberg & Maggs, 2002; Schulenberg et al., 2003; Schulenberg & Zarrett, 2006).

Relatively few studies (e.g., Falci et al., 2010; Kokko et al., 2009) have investigated transitions that did not happen alongside the occurrence and timing of adult transitions. In line with this scarce previous research, the present findings indicated that missing adult transitions may have unfavourable implications from early adulthood to early middle-age (Study II). The quality (i.e., work- or family-related transition) of the missing transition did not make a difference.

Regarding the timing of adult transitions, the results of this dissertation consistently suggested that although possibilities for prolonged exploration in different life domains are presently valued in Western societies (e.g., Arnett, 2000; Shanahan, 2000), the delayed assumption of adult roles as such do not seem to be beneficial for psychological functioning (Studies I, II, and III). Instead, individuals who made stable commitments in the areas of family and career in relatively early phases of adulthood had the best psychological functioning in early adulthood (Studies I and II). These beneficial effects seemed to last up to mid-adulthood (Study II). Thus, focusing on only few transitions may not be sufficiently sturdy base for well-being (Garrett & Eccles, 2009). In their study based on an age-cohort born in 1966, Salmela-Aro and her colleagues (2012) reported similar results regarding early adult functioning, suggesting that no cohort effect has occurred (e.g., Baltes et al., 1998; Elder, 1998; Schoon, 2006). In other words, despite the different birth year, the foundation for Finns' psychological functioning has remained similar.

Interestingly, the results of the present research regarding the later timing of transitions are in line with other recent research (e.g., Fadjukoff et al., 2007; Kokko et al., 2008; Koropecj-Cox et al., 2007) and suggestions (Settersten Jr, 2007), but contradict the theoretical suggestions regarding adverse implications of the off-time or late timing of adult transitions (e.g., Elder, 1998; Neugarten et al., 1965). It could be that the postponement of transitions is beneficial only under some conditions. Accordingly, findings of the present research indicated that the postponement of adult transitions, particularly parenthood (Studies I and III), seemed to have positive effects on psychological functioning only if it was done in order to obtain a high educational degree. In these kinds of cases, the later timing of transitions may reflect individuals' attempt to steer their own development, thus strongly underlining the individual as an active agent making decisions about his or her life (e.g., Brandtstädter, 2009; Elder, 1998; Elder et

al., 2003; Heckhausen et al., 2010; Nurmi, 2004). It has been suggested that the co-occurrence of two or more major transitions (e.g., obtaining a high degree and becoming a parent) and the related life-planning may overwhelm one's coping capacities (Schulenberg & Maggs, 2002; Schulenberg et al., 2003; Schulenberg & Zarrett, 2006) and reduce success in one or more of the transitions due to limited resources (Nurmi, 1993), which in turn, may reduce psychological functioning. In order to avoid this strain and to be successful in all goals and transitions, individuals may make plans as to when and in which order to pursue these goals and transitions. They intentionally direct their resources (e.g., time and energy) in order to optimise their success in achieving the goals and transitions they prefer (e.g., Baltes & Baltes, 1990; Baltes et al., 1998; Heckhausen et al., 2010). However, pursuing one goal (e.g., obtaining a high post-comprehensive educational degree) while maximising the resources to achieve this goal also means that individuals have less resources to pursue other goals. In order to adapt to and compensate for such a situation, individuals may postpone striving for other goals (i.e., becoming a parent) until more resources are available.

It may also be that the lower level of psychological functioning among those with relatively late parenthood along with a low level of post-comprehensive education may result from the contextual mismatch between their desire to become a parent and the actual contextual opportunities (Eccles et al., 1997; Schulenberg et al., 2004; Schulenberg & Maggs, 2002; Schulenberg et al., 2003; Schulenberg & Zarrett, 2006). For example, it is possible that these individuals have experienced various difficulties earlier in life, such as behavioural and adjustment problems in school, which have predisposed them to having no or a low level of post-comprehensive education and an unstable working career. Due to these problems, they may have limited resources to cope with the challenging transition to parenthood.

An unexpected finding in Study II was that neither the assumption of adult roles nor their timing was related to the level of identity achievement at any age. The result was surprising since it has been suggested that the process of identity formation intensifies both in regard to love and work in emerging adulthood (Arnett, 2004). There may be several explanations for this finding. First, a study by Fadjukoff and her colleagues (2007), based on the same JYLS data as the present research, has shown that the timing of family- and career-related adult transitions are related differently to identity development: earlier family-related and later career-related adult transitions are both associated with higher identity achievement. Therefore, it is possible that individuals with earlier and later adult transitions may have the same level of achieved identity, but the kind of transitions that are beneficial to their identity development are different. Second, it is possible that non-normative choices regarding certain transitions, such as not having a child, may involve as much deliberation as normative decisions to undergo adult transitions. Third, it has been shown that in cases where the non-normative or missing transition is involuntary (e.g., being infertile), it is important to come to terms with the situation and to be able to dis-

engage from goals related to this transition (Salmela-Aro et al., 2001). Successful goal adjustment has been shown to be associated with better well-being (e.g., Heckhausen et al., 2001; Salmela-Aro et al., 2001), and it may, in all likelihood, also be linked to higher levels of achieved identity. Hence, non-normative transitions may lead to as high a level of identity achievement as normative decisions might. Finally, additional analysis (data not shown here) revealed that there were mean level differences between the timing groups regarding identity achievement; however, the factors of gender, family SES, and social activity - which were used as control variables in Study II - explained these differences. Thus, it seems that although the timing of adult transitions and the identity formation process are associated with each other on a correlational level (Fadjuoff et al., 2007), variance in the mean level of identity achievement may result from the same childhood contextual factors that differentiated the timing groups. However, the relation between the timing of adult transitions and identity development needs further clarification.

The results of the present research also demonstrated a modifying effect of gender in the relation between adult transitions and subsequent psychological functioning (Study III), thus reflecting the notion of bounded agency (Heinz, 2009; Shanahan, 2000; Shanahan & Hood, 2000). More specifically, three gender-moderated associations were found: 1) becoming a parent contributed directly to good middle-age psychological functioning only in women; 2) obtaining a degree was indirectly linked to middle-age psychological functioning via stable employment only in men; and 3) educational attainment moderated the indirect path from the timing of education to psychological functioning via career achievement only in men. Individuals with a later timing of becoming a parent showed higher career achievement, which, in turn contributed to better psychological functioning when they had achieved a higher level of post-comprehensive education. In contrast, individuals with later first parenthood showed lower career achievement, which, in turn contributed to lower psychological functioning when they had a lower level of education. Thus, it seems that although both educational and family transitions affected the middle-age psychological functioning of women and men, the psychological functioning of men was more strongly tied to their educational transitions, whereas family transitions affected the lives of women more strongly. These gender-related differences are likely to resemble traditional gender roles in which men are considered to be breadwinners while women are expected to be responsible for family duties.

The cultural context of the present research is also a plausible explanation for the present gender-moderated results, supporting the idea that individuals' decisions are shaped by historical time and place (e.g., Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006). The result regarding the beneficial linkage between becoming a parent and middle-age psychological functioning was comparable with results found in studies using data collected in other Scandinavian countries (Daukantaite & Zukauskienė, 2006), whereas studies using data gathered in the United States and Australia have found either inverse re-

sults regarding becoming a parent and psychological functioning (e.g., Lee & Gramotnev, 2007; Marks & Fleming, 1999) or no association between these two (e.g., Jeffries & Konnert, 2002; Koropeckyj-Cox et al., 2007). Scandinavian countries have welfare systems that are similar to each other. These systems include maternity allowance, relatively long parental leaves, and communal child care services enabling also mothers to work full-time outside the home (Ellingsæter & Rønsen, 1996; Rose, 2006). Because of this readily available support provided by Scandinavian societies, women are able to invest in both their family and working life. This match between women's desire to work and have a family and the contextual opportunities provided by Scandinavian society is likely to psychological functioning (Eccles et al., 1997; Schulenberg et al., 2004; Schulenberg & Maggs, 2002; Schulenberg et al., 2003; Schulenberg & Zarrett, 2006). Engagement in both family- and work-related roles contributes to one's psychological functioning because it helps to meet the basic psychological needs of competence and relatedness (Deci & Ryan, 2000). Furthermore, occupying multiple roles (e.g., full-time worker and parent) can be beneficial to one's psychological functioning because some roles may balance the stressful effects of some other roles (Ahrens & Ryff, 2006; Hong & Seltzer, 1995; Kandel, Davies, & Raveis, 1985). Cultural context also offers an explanation for the present career-related results. Namely, the Finnish labour market, as that in other Scandinavian countries (Dolado, Fulgueroso, & Jimeno, 2001), is highly segregated into female- and male-dominated occupations, which may be reflected in the differences between women's and men's career opportunities (European Commission's Expert Group on Gender and Employment, 2009). In accordance with the suggestion of the life course theory (e.g., Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006), the historical time and place in which the individual is embedded seems to set the boundaries for transitions.

#### **4.4 Strengths and limitations**

The strengths of the present research are manifold. As regards its theoretical strengths, the present research incorporated several adult transitions and investigated these simultaneously. Study I featured five transitions, Study II featured four transitions, and Study III featured two transitions. By investigating the different transitions simultaneously, the diversity of individuals' life course could be taken into account more accurately than just by focusing merely on isolated life events (Furstenberg et al., 2005).

A second theoretical strength of the present research was its reliance on both life course (e.g., Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006) and life-span theories (e.g., Baltes, 1987; Baltes et al., 1998; Heckhausen et al., 2010). By complementing the ideas of the life course theory with the ones formulated in the life-span theory, as suggested in recent literature (e.g., Diewald & Mayer, 2009; Settersten, 2009; Shanahan & Porfelli, 2002), it was possible



to discuss the present results in light of the individual as well as various contexts ranging from individuals' own characteristics to the sociohistorical context.

Third, the present research yielded valuable information on the direct and cumulative implications of adult transitions up to middle-age. The present research demonstrated that adult transitions have direct and indirect associations with middle-age psychological functioning, and that some of the indirect links between transitions and psychological functioning via social functioning were moderated by gender.

A fourth theoretical strength of the present research was that it examined the possible moderating effect of the level of post-comprehensive education in the indirect linkage between the timing of adult transitions and psychological functioning. The present research revealed that later timing of parenthood had a beneficial effect on middle-age psychological functioning via good career prospects only if parenthood was postponed in order to obtain high educational credentials. The later timing of transitions as such was not beneficial.

One of the methodological strengths of the present research was its reliance on data from the Jyväskylä Longitudinal Study of Personality and Social Development (JYLS) of Finns born in 1959 (Pulkkinen, 2006; Pulkkinen et al., 2003; Pulkkinen & Kokko, 2010). The use of JYLS data can be considered as an important advantage for three reasons. First, the sample is heterogeneous and representative of the age-cohort born in 1959. Second, the participation rate in the JYLS study has remained high throughout the years. Due to these reasons, the present findings are more generalisable than those of earlier studies based on more restricted samples. Third, the JYLS data covers an exceptionally long period of time, from age 8 to 50. This enabled the investigation of various contextual antecedents (i.e., gender, social behaviour, family SES, family structure, school success, educational aspirations) of assumption of adult roles and their timing, as well as psychological functioning from early adulthood to middle-age within the same individuals, adjusting for childhood contextual variables. Furthermore, the long follow-up period enabled one to consider on-time, late and missing transitions alongside the early timing of transitions.

Second, the present research was multifaceted in its utilisation of various data analysis methods. The main methods ranged from the diverse use of variable-oriented methods (cross-sectional and repeated measures MANCOVA, regression analysis with various outcomes, path analysis, mediation analysis with bootstrapping, and moderation analysis) to person-oriented methods (latent class analysis, theoretical grouping). In addition to the purely quantitative methods used in Studies I and III, a mixed method approach (Creswell & Plano Clark, 2007) was also applied in Study II: Based on theoretical considerations, the timing of adult transitions were coded into three categories, after which statistical methods were utilised to examine whether childhood characteristics predicted the membership to the three timing groups, and whether the timing groups of adult transitions differed in psychological functioning. By combining person- and variable-oriented approaches, a more comprehensive understanding of transitional behaviours, and their antecedents and implications was

gained. In Studies I and II, person-orientated analyses revealed individual heterogeneity in the patterning and timing of assumption of adult roles, whereas variable-orientated analyses in these studies enabled the investigation of childhood antecedents and psychological implications with regard to the individual heterogeneity. Furthermore, the utilisation of two different grouping techniques (latent class analysis in Study I, and theoretical grouping in Study II) yielded complementary information regarding adult transitions: Theoretical grouping revealed overall (non-)occurrence and timing patterns of adult transitions from early to mid-adulthood whereas latent class analysis yielded detailed information on the combinations of adult roles obtained by early adulthood (age 27). The purely variable-centered analyses conducted in Study III enabled the investigation on indirect mechanisms between adult transitions and psychological functioning, as well as possible moderating effects of gender and level of education on these linkages.

Third, in the present research, completion and timing of adult transitions were operationalised in various ways. In Study I, the completion of adult transitions and their patterning by age 27 were examined. In Study II, timing categories of adult transitions were determined by using ages 27 and 42 as cut-off points. In Study III, the completion of adult transitions regarding post-comprehensive education and parenthood were examined up to age 41. Two kinds of variables were used in Study III: whether or not a person has completed the stipulated transition by age 41 (dichotomous variable), as well as the age at which a person has completed a transition (continuous variable). Despite these various operationalisations, the main findings of the sub-studies were consistent, which implies that the results were not method-dependable.

Despite these major strengths, at least five limitations should be taken into account in any effort to generalise the results of the present dissertation. First, owing to the relatively small sample size even if large enough for a study covering an age-range of 42 years, the present research may have suffered from limited statistical power. Particularly in Study I, this may have resulted in an inability to identify the interconnections of the categorical transition variables as well as to detect subtle links between latent classes of adult role assumption and concurrent psychosocial functioning correlates.

Second, information about adult transitions was gathered mostly using the Life History Calendar (LHC), presented to the JYLS participants during the age-42 personal interview (in 2001). The LHC covered a time span from age 15 to 42 (Kokko et al., 2009; Pulkkinen, 2006). The long recall period may have been subject to the accuracy of the participants' memory, which may have impaired the validity of the LHC data. However, this is not considered to be a serious flaw for three reasons. First, the present thesis focused on the first occurrence of moving from the parental home, obtaining a degree, starting a full-time job, establishing a stable partnership (either cohabitation or marriage), and becoming a parent. In all likelihood, these transitions are fairly easy to remember. Second, also prospective data on these five transitions were also gathered in the JYLS study. These data were informally utilised for ensuring the validity of the

LHC data (Kokko et al., 2009). Third, previous studies have shown that information gathered with the LHC is reliable (Caspi et al., 1996; Freedman et al., 1988).

Third, the JYLS data did not allow the investigation of the possible selection of participants into the patterns and timing of adult transitions on the basis of adolescent and early adult psychological functioning, since none of the indicators of psychological functioning (i.e., psychological well-being, life satisfaction, depressive symptoms, self-esteem, achieved identity) used in the present research were measured before age 27. Study II implied high mean-level stability with respect to the indicators of psychological functioning; the timing of transitions was associated only with the long-term mean-level change of life satisfaction. Due to this high stability, it is possible that psychological functioning may have played a role in the allocation of participants into certain categories of patterns and timing of adult transitions. The investigation of this possible selection effect remains open for future research.

Fourth, agency was operationalised with variables that measured participants' actual actions. However, these kinds of measures may not capture the planning dimension of agency (Shanahan & Hood, 2000). In other words, it is impossible to say whether any planning and goal setting preceded the observable actions of the present participants.

Fifth, I was able to make some tentative conclusions about whether cohort effects (e.g., Baltes et al., 1998; Elder, 1998; Schoon, 2006) may have occurred in Finland with regard to adult transitions, their antecedents and psychosocial implications. I arrived at my conclusions by comparing the results of Study I with the results found in the study by Salmela-Aro and her colleagues (2012), which was based on a representative Finnish age-cohort born in 1966 and used similar analysis methods as Study I. However, these conclusions should be interpreted with caution because it may be that the time lag between the birth years of the two cohorts (six years) is too short for detecting possible cohort effects in the linkage between adult transitions and psychosocial functioning. It should also be kept in mind that the comparisons to the study by Salmela-Aro et al. are not based on statistical testing. Furthermore, some questions still remain open, such as whether or not any cohort effects have influenced the linkage between the timing of adult transitions and their long-term psychological implications. Consequently, future research should explore the potential cohort effects in more detail by using age-cohorts with a longer time lag.

## 4.5 Implications of the present research

The present research added to the knowledge of adult transitions, their antecedents and psychological implications up to middle-age, but also raised some new questions for future research. First, there is a need for examining adult transitions both theoretically and methodologically from *dual-points of entry* (Shanahan & Porfelli, 2002). The dual-points of entry strategy generates

research questions that contain elements of both, person and context. Thus, it encourages the integration of the life-span and life course approaches. A promising research design for this would be a mixed methods approach in which elements of qualitative and quantitative research approaches are combined (Johnson et al., 2007). The “mixing” may concern philosophical assumptions behind the design, data collection, and/or data analysis. The central premise of mixed method research is that combining quantitative and qualitative approaches provides a better understanding of research problems than either approach alone (Creswell & Plano Clark, 2007). For example, using two different birth cohorts, one could first quantitatively examine how long it takes to complete all five adult transitions, what individual characteristics (e.g., gender, socioemotional behaviour in childhood) predict these transitional patterns, and whether any cohort effects played a role. The comparison of two birth cohorts and the inclusion of individual predictors represent ideas of the life course theory (e.g., Elder, 1995, 1998; Elder et al., 2003; Elder & Shanahan, 2006). Then, the resulting information could be completed by selecting some individuals from each birth cohort for a qualitative interview about how they have transitioned to adulthood, what kind of goals, choices and compromises they have had to make, and how successful they think they have been. Topics related to individuals’ choices and compromises represent the ideas of life-span psychology (e.g., Baltes et al., 1998; Heckhausen et al., 2010; Nurmi, 2004).

Second, the present research yielded valuable information on the patterning of adult role assumption by early adulthood as well as their timing up to early middle-age. However, it is still unclear, how role transitions regarding housing, education, work, partnership, and parenthood intersect and are linked across time to form pathways, and whether there are any cultural differences between these pathways. Consideration of the diverse ways in which young people move from adolescence to adulthood across time is important because these various pathways have potentially different implications for subsequent psychosocial functioning and the quality of life later in adulthood (Macmillan & Eliason, 2003; Shanahan, 2000). There are some relatively new modelling techniques, such as latent class analysis and latent transition analysis, that would enable the investigation of change in class membership (Muthén & Muthén, 2000).

Third, the present research advanced the existing theory base by demonstrating that the later timing of transitions had either beneficial or reductional effects on mid-adult psychological functioning, depending on the level of education. Therefore, in the future, it would be recommendable to include the level of education in the studies concerning adult transitions whenever possible.

Finally, the present research had a particular focus on missing transitions. Thus far, few studies (e.g., Falci et al., 2010; Kokko et al., 2009) have incorporated missing transitions alongside actual occurrence and timing of the adult transitions in the same study. Therefore, more research on this topic is needed in the future. For example, it might be fruitful to identify possible mechanisms (i.e., mediators and moderators) by which these non-transitions may influence

subsequent psychological functioning. Research suggests that, for example, regrets may play an important role in the linkage between missing transitions and psychological functioning. It has been shown that missing transitions may cause regrets (e.g., Jeffries & Konnert, 2002), which in turn reduce psychological functioning later in life (e.g., Dijkstra & Barelds, 2008). This would be valuable information when developing interventions and strategies for helping people to cope with missing transitions. In addition, it would be important to incorporate these missing transitions into theory. In the life course theory, non-normative transitions are determined as a transition that occurs either earlier or later compared to peers or to one's own plans (Elder, 1998). Yet, also missing transitions can be considered as non-normative since most people undergo adult transitions in some point in life.

The present research also raised some important notions concerning practical implications. First, the research of this dissertation suggested that individual agency may play an important role in Finnish young adults' transitional behaviours. Although the period from dependent adolescence to independent adulthood with many new social roles and contexts is experienced mostly positively by young people (Arnett, 2004), not all youth may be able to make use of this unstructured period of multiple opportunities and vast potentials (Osgood et al., 2005; Schwartz, Côte, & Arnett, 2005). Such youth are at risk of ending up experiencing missing adult transitions, and consequently weaker attachment to work life as well as lower psychological functioning. Therefore, it is worthwhile for parents and other adults raising children to foster and enhance children's agentic skills and characteristics which may facilitate effective decision making and problem solving needed to tackle adult transitions.

Second, the present research also showed that transitions related to education and parenthood shaped the transitional patterns the most. Those who did not achieve these transitions showed the lowest psychological functioning of all individuals from early to mid-adulthood. Of these two transitions, education is the one that an individual has more influence on. As post-comprehensive education and training have become more and more valuable due to the fact that jobs have become less secure and occupational careers have become more fluid (Furstenberg et al., 2005; Settersten & Ray, 2010), it would be important to pay attention to young adults' possibilities of finding an educational field that they are interested in. Recent research has shown that an educational setting that is in accordance with one's skills, competencies and interests contributes positively to one's autonomous motivation which further facilitates progress in one's goals (Vasalampi, Salmela-Aro, & Nurmi, 2009, 2010), and, hence, is likely to promote achievement of the post-comprehensive educational transition. Therefore, it would be important to offer children diverse experiences, environments and activities through which they can explore their interests, strengths and weaknesses, and, consequently, prepare themselves to adult transitions.

Third, an important finding of the present research was that the later timing of parenthood was not beneficial in terms of subsequent career opportunities and psychological functioning for those who had obtained a lower-level

degree from a post-comprehensive educational institution. From a policy perspective, this implies that it would be important to pay attention to the possibility of combining studies at post-comprehensive educational institution with family formation.

## TIIVISTELMÄ

### Riippuuko kaikki ajoittumisesta? Aikuisuuden siirtymät, niiden ennakoijat ja yhteydet psykologiseen toimintakykyyn pitkittäistutkimuksen näkökulmasta

Aikuistuminen on yksi elämän tärkeimmistä siirtymistä. Tätä siirtymää jäsenne-tään yleensä viiden osasiirtymän avulla. Nämä osasiirtymät ovat kotoa muut-taminen, koulutuksen päättäminen, kokopäivätyön aloittaminen, parisuhteen muodostaminen ja vanhemmaksi tulo (esim. Arnett, 2000; Furstenberg ym., 2005; Hogan & Astone, 1986; Shanahan, 2000). Näiden viiden *aikuisuuden siirty-män* kokemista on pidetty aikuistumisen edellytyksenä (Erikson, 1963; Ha-vighurst, 1982; Levinson, 1986; Levinson ym., 1986). Aikuisuuden siirtymien kokemisen suotuisaan aikaan (esim. Baltes ym., 1998; Elder, 1998; Havighurst, 1982; Heckhausen ym., 2010) on puolestaan ajateltu luovan edellytykset myö-hemmälle hyvälle toimintakyvylle.

Aikuisuuden siirtymiä ja niiden seurauksia tarkasteltaessa on tärkeää ot-taa huomioon siirtymiin vaikuttavia seikkoja. Ihmisen itsensä ajatellaan olevan toimija (engl. agent), joka omilla päätöksillään muovaa elämäänsä (esim. Brandtstädter, 2009; Elder, 1998; Elder ym., 2003; Heckhausen ym., 2010; Nurmi, 2004). Nämä päätökset koskevat esimerkiksi sitä, milloin ja missä järjestyksessä siirtymiä koetaan, tai halutaanko siirtymiä ylipäänsä kokea. Aikuisuuden siir-tymiä koskevat päätökset puolestaan vaikuttavat muihin elämän siirtymiin joko avaamalla uusia mahdollisuuksia tai sulkemalla niitä. Päätökset siirtymistä voivat siis kasautua. Aiemmat tutkimukset aikuisuuden siirtymistä osoittavat, että varhainen äidiksi tulo voi heikentää uramahdollisuuksia (esim. Jaffee, 2002; Kokko ym., 2009), jos varhainen äitiys on estänyt ammatilliseen koulutukseen osallistumisen. Heikentyneet uramahdollisuudet on aiemmissa tutkimuksissa puolestaan kytketty alentuneeseen psykologiseen toimintakykyyn (esim. Wil-liams ym., 1997).

Aikuisuuden siirtymät ovat myös vahvasti sidoksissa kulttuuriin ja histo-rialliseen aikaan, jossa ihminen elää (esim. Elder, 1998). Historiallinen aika ja yhteiskunta voivat muovata aikuisuuden siirtymiä esimerkiksi vallitsevan kou-lujärjestelmän tai niin sanottujen. normatiivisten aikataulujen välityksellä. Normatiivisella aikataululla tarkoitetaan yhteiskunnassa vallitsevia odotuksia tai käsityksiä siitä, milloin ja missä järjestyksessä elämäntapahtumien tai siir-tymien tulisi tapahtua ihmisen elämässä. Normatiivisesta aikataulusta poik-keamisen on ajateltu olevan haitallista yksilön kehitykselle. Erityisen haitallista poikkeaminen voi olla, jos jokin aikuisuuden siirtymistä jää tapahtumatta. Ai-kuisuuden siirtymien kokematta jääminen onkin yhdistetty aiemmissa tutki-muksissa niin varhaisaikuisuuden (esim. Schulenberg ym., 2005) kuin keski-iänkin (esim. Williams ym., 1997) heikentyneeseen psykologiseen toimintaky-kyyn.

Myös erilaisten yksilölliseen kehitystaustaan liittyvien tekijöiden, kuten sukupuolen, lapsuuden perheen, koulumenestyksen ja lapsuuden sosio-

emotionaalisen käyttäytymisen on todettu kytkeytyvän aikuisuuden siirtymiin. Esimerkiksi ne, joiden lapsuuden perheessä oli heikko sosioekonominen asema (esim. Jaffee, 2002; Kokko ym., 2008), kokivat todennäköisemmin aikuisuuden siirtymiä varhaisella iällä, kun taas lapsuuden perheen hyvä sosioekonominen asema, hyvä koulumenestys (esim. Schoon ym., 2007) ja erityisesti pojilla ujous (Caspi ym., 1988; Dennissen ym., 2008) ennakoivat myöhäisemmällä iällä tapahtuneita siirtymiä.

Vaikka aikuisuuden siirtymiä on tutkittu jonkin verran, on tutkimuksissa mahdollista nähdä useita olennaisia puutteita. Ensimmäinen puute on se, että lähes poikkeuksetta aikuisuuden siirtymiä käsitelleissä tutkimuksissa on tarkasteltu kerrallaan vain yhtä siirtymää (Furstenberg ym., 2005), tyyppillisesti äidiksi tuloa. Lisäksi useimmat aikuisuuden siirtymiä käsitelleet tutkimukset ovat tarkastelleet vain varhain koettuja siirtymiä, mutta tutkimustietoa myöhäisemmällä iällä koetuista siirtymistä tai siirtymistä, jotka jäävät kokematta, ei juurikaan ole. Aiempien tutkimusten perusteella on myös epäselvää, millainen rooli erilaisilla lapsuuden ja nuoruuden tekijöillä on aikuisuuden siirtymien kokemisessa ja minkälainen yhteys siirtymillä on aikuisiän psykologiseen toimintakykyyn. Erityisesti siirtymien mahdollisista vaikutuksista pitkällä aikavälillä on vähän tietoa. Yksi syy tähän saattaa olla se, että riittävän pitkään jatkuneita pitkittäistutkimuksia on olemassa vain harvoja. Neljäntenä puutteena voidaan pitää sitä, että lähes kaikki aikuisuuden siirtymien seurauksia käsitelleet tutkimukset ovat keskittyneet siirtymien ja seurausten suorien yhteyksien tarkasteluun, mutta tätä suoraa yhteyttä välittävistä tai muuntavista tekijöistä tiedetään varsin vähän.

Aikuisikään siirtyminen ei ole vain yksi yksittäinen tapahtuma, vaan sitä on parempi kuvata kokonaisuutena sen monimuotoisuuden vuoksi (Hogan & Astone, 1986). Väitöskirjatyöni keskeisenä tavoitteena olikin ottaa huomioon tämä monimuotoisuus tarkastelemalla useita aikuisuuden siirtymiä yhtäaikaaisesti. Kolmesta osatutkimuksesta koostuva väitöstutkimukseni pohjautuu meillä olevaan Jyväskylän Longitudinal Study of Personality and Social Development (JYLS) -pitkittäistutkimuksen aineistoon. Professori Lea Pulkkinen poimi vuonna 1968 JYLS-tutkimuksen alkuperäiseen satunnaisotokseen 12 kokonaista kansakoulun toista luokkaa Jyväskylän alueelta (Pulkkinen, 2006, 2009). Otokseen kuului 369 kahdeksanvuotiasta oppilasta, 196 poikaa ja 173 tyttöä. Alkuperäisen otoksen on todettu olevan edustava otos vuonna 1959 syntyneistä suomalaisista (Pulkkinen, 2006; Pulkkinen & Kokko, 2010). Vuoden 1959 jälkeen aineistoa on kerätty tutkittavien ollessa 14-, 27-, 33-, 36-, 42- ja 50-vuotiaita. Väitöskirjassani hyödynnettävä elämäntapahtuma-aineisto perustui vuonna 2001 toteutetun haastattelun yhteydessä Elämänhistoriakalenterimenetelmän (Caspi ym., 1996; Kokko ym., 2009) avulla kerättyyn materiaaliin ( $n = 256$ ). Tutkittavat olivat tuolloin 42-vuotiaita. Lisäksi täydensin elämänhistoriakalenterin avulla kerättyä aineistoa muilla menetelmillä, muissa ikävaiheissa kootuilla elämäntapahtumatiedoilla kunkin väitöskirjani osatutkimuksen tavoitteiden mukaisesti (ks. taulukko 1). Lapsuuden ja nuoruuden ennakoijista kerättiin tietoa opettaja- ja toveriarvioinnein tutkittavien ollessa 8- ja 14-



vuotiaita. Tietoa tutkittavien aikuisiän psykologisesta ja sosiaalisesta toimintakyvystä kerättiin postikyselyin ja henkilökohtaisten haastatteluiden avulla. Väitöstutkimukseni tilastollisina pääanalyysimenetelminä käytettiin multinomiaalista logistista regressioanalyysia, profiilianalyysia, toistomittausten monimuuttujaista kovarianssianalyysia, latenttien luokkien analyysia, monimuuttujaista regressioanalyysia ja polkumallinnusta.

*Ensimmäisessä osatutkimuksessa* tavoitteenani oli tutkia, minkälaisia aikuisuuden siirtymiltään eroavia alaryhmiä varhaisaikuisen joukosta löytyy, mitkä lapsuuden ja nuoruuden taustatekijät ennustavat ryhmiin valikoitumista ja ovatko löydetty alaryhmät yhteydessä varhaisaikuisuuden psykososiaaliseen toimintakykyyn. Tutkimuksessa oli 354 tutkittavaa. Löysin kolme alaryhmää, joissa kaikissa oli tyypillistä asua itsenäisesti poissa vanhempien luota: *Työkeskeiset* (on ammatillinen koulutus, todennäköisimmin ammattikoulututkinto; kokopäivätyössä; ovat avo- tai avioliitossa; ei lapsia; 46 % otoksesta), *Nopeat aikuistujat* (kaikki viisi siirtymää koettu; 35 %) ja *Akateemiset* (on joko opisto- tai yliopistotasoinen tutkinto; kokopäivätyössä; ovat tai ovat olleet avo- tai avioliitossa; ei lapsia; 19 %). *Nopeat aikuistujat* olivat todennäköisemmin naisia kuin kahteen muuhun ryhmään kuuluvat tutkittavat. *Akateemisten* ryhmään kuuluvilla tutkittavilla oli nuoruusiässä muiden ryhmien tutkittavia parempi koulu- menestys ja korkeammat koulutukseen liittyvät tavoitteet. Lapsuuden perheen sosioekonominen asema tai rakenne ei erotellut ryhmiä.

Ensimmäisessä osatutkimuksessa havaittiin myös, että *Nopeat aikuistujat* ja *Akateemiset* tunsivat elämänsä tyydyttävämmäksi varhaisaikuisuudessa kuin *Työkeskeiset*. Lisäksi *Nopeat aikuistujat* raportoivat vähemmän masennusoireita ja humalahakuista juomista sekä vakaampaa työuraa kuin *Työkeskeiset*. Tulokset antavat viitteitä siitä, että viivästynyt siirtyminen aikuisuuden rooleihin ei kytkeydy suotuisampaan psykologiseen toimintakykyyn verrattuna melko varhaiseen roolien omaksumiseen. Erityisesti perheen perustamisen lykkääntyminen yhdessä matalan koulutustason kanssa näyttäisi olevan epäsuotuisaa toimintakyvyn kannalta.

*Toisessa osatutkimuksessa* keskityin tarkastelemaan aikuistumista neljästä siirtymästä (koulutus, kokopäivätyö, parisuhde ja vanhemmuus) koostuvana kokonaisuutena. Jätin kotoamuuton pois tutkimuksesta, sillä Suomessa nuoret itsenäistyvät lapsuuden kodistaan varhain (Nikander, 1998), ja siksi kotoa muuton ajoittuminen ei erottele suomalaisia. Lisäksi ensimmäinen osatutkimus osoitti näin olleen jo 1959 syntyneiden ikäkohortilla. Pysin selvittämään, mitkä lapsuuden ja nuoruuden yksilölliset ja perheeseen liittyvät taustatekijät ennustavat aikuisuuden siirtymien esiintymistä tai esiintymättömyyttä ja ajoittumista, kun aikuisuuden siirtymät otetaan huomioon yhtäaikaaisesti. Lisäksi tarkastelin, eroavatko aikuisuuden siirtymien esiintymisen/esiintymättömyyden ja ajoittumisen perusteella muodostetut ryhmät aikuisiän psykologisessa toimintakyvyssä, tapahtuuko psykologisen toimintakyvyn tekijöiden keskiarvoissa muutosta varhaisaikuisuudesta keski-aikuisuuteen mentäessä ja onko mahdollinen muutos erilaista edellä mainituissa ryhmissä. Tutkimuksessa oli kaikkiaan 282 tutkittavaa.

Osatutkimus osoitti, että lapsuuden yksilölliset ja osittain myös perheeseen liittyvät taustatekijät ennakoivat aikuisuuden siirtymien esiintymistä eli sitä, koettiinko kaikki aikuisuuden siirtymät 42 ikävuoteen mennessä vai ei. Sen sijaan mikään taustatekijöistä ei ollut yhteydessä siirtymien ajoittumiseen. Aikuisuuden hyvän psykologisen toimintakyvyn kannalta oli suotuisaa, jos kaikki tarkastellut siirtymät oli koettu varhaiskeski-ikään mennessä, mutta ajoittumissellakin oli merkitystä: varhaisemmalla aikuisiällä aikuisuuden rooleihin siirtyneet kokivat elämänsä tyydyttävämpänä varhaisaikuisuudessa verrattuna niihin, jotka pitkittivät siirtymiä. Ero ryhmien välillä kuitenkin tasoittui varhaiskeski-ikään mennessä.

*Kolmannessa osatutkimuksessa* keskityin tutkimaan peruskoulun jälkeisen koulutuksen hankkimisen ja vanhemmaksi tulon suoria ja kasautuvia yhteyksiä keski-ikäen psykologisen toimintakykyyn naisilla ja miehillä. Tarkastelin sosiaalista toimintakykyä mahdollisena välittävänä tekijänä. Lisäksi tarkastelin sukupuolta ja koulutustasoa mahdollisina siirtymien ajoittumisen ja psykologisen toimintakyvyn välistä kasautuvaa yhteyttä muuntavina tekijöinä. Tutkimuksessa oli 281 tutkittavaa.

Havaitsin, että kummallakin sukupuolella sekä peruskoulun jälkeisestä koulutuksesta valmistuminen että vanhemmaksi tulo ennakoivat hyvää psykologista toimintakykyä keski-ikässä, mutta vanhemmuus ennakoivat voimakkaammin naisten ja koulutus voimakkaammin miesten toimintakykyä. Siirtymien ajoittumista koskeneet tulokset puolestaan osoittivat, että vanhemmaksi tulon viivästyminen yhdistyi parempaan työuralla menestymiseen ja siten myös hyvään keski-ikäen psykologiseen toimintakykyyn vain silloin, kun viivästyminen syynä oli korkeakoulututkimuksen hankkiminen. Sen sijaan heillä, joilla oli alhaisempi peruskoulun jälkeinen koulutus, vanhemmaksi tulon viivästyminen ennakoivat epäsuotuisaa urakehitystä ja niin ikään matalampaa psykologista toimintakykyä keski-ikässä.

Yhteenvedona väitöstutkimukseni tulosten perusteella voidaan ensinnäkin todeta, että aikuisuuden rooleihin siirtyminen jatkuu useilla ihmisillä pitkälle aikuisikäen asti yksilön psykologista toimintakykyä edistäen. Kokematta jääneet aikuisuuden siirtymät heikensivät yksilöiden psykologista toimintakykyä aina varhaisaikuisuudesta keski-ikäen saakka. Aikuisuuden rooleihin siirtymistä muokkasivat eniten koulutuksen hankkiminen ja vanhemmaksi tulo, ja nämä elämäntapahtumat olivat myös tyypillisimmät tapahtumat, jotka jäivät kokematta.

Tutkimukseni antoi myös viitteitä siitä, että yksilön omilla tavoitteilla, toiveilla ja valinnoilla voi olla suurempi merkitys aikuisuuden rooleihin siirtymisessä, ja erityisesti niiden ajoittumisessa, kuin ympäristöön liittyvillä tekijöillä. Tämä voi olla kuitenkin hyvin kulttuurisidonnaista, sillä Suomessa kouluttaminen on ilmaista ja siten kukin yksilö voi mieltymystensä ja taitojensa perusteella valita oman polkunsa. Monenlaiset valinnanmahdollisuudet voivat kuitenkin olla kaksiteräinen miekka, sillä kaikki eivät kykene hyödyntämään näitä mahdollisuuksia. Tämä voi johtaa kielteiseen kehitykseen ja edelleen syrjäytymiseen nyky-yhteiskunnassa, jossa erityisesti koulutuksen merkitys on koros-

tunut. Epäsuotuisan kehityksen ehkäisemiseksi lasten ja nuorten kasvatuksessa olisikin tärkeää keskittyä tukemaan ja kehittämään heidän omaan toimijuuteensa liittyviä tietoja ja taitoja.

Tutkimukseni osoitti myös, että aikuisuuden siirtymien lykkääminen myöhäisempään aikuisikään ei sellaisenaan edistänyt psykologista toimintakykyä. Siirtymien, erityisesti vanhemmaksi tulon lykkääminen näytti olevan hyödyllistä vain, kun se johtui yksilön tavoitteellisesta toiminnasta eli korkean koulutuksen hankkimisesta. Tulevissa aikuisuuden siirtymien ajoittumista käsittelevissä tutkimuksissa onkin siis perusteltua ottaa koulutustason vaikutus huomioon.

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## ORIGINAL PUBLICATIONS

### I

#### **PATTERNS OF ADULT ROLES, THEIR ANTECEDENTS AND PSYCHOSOCIAL CORRELATES AMONG FINNS BORN IN 1959**

by

Eija Räikkönen, Katja Kokko, Meichu Chen, & Lea Pulkkinen

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## Patterns of adult roles, their antecedents and psychosocial wellbeing correlates among Finns born in 1959

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### Abstract

*The study aimed to identify patterns of adult role combinations across the transitional domains of housing, educational attainment, work, partnership, and parenthood at age 27, and to investigate their antecedents and concurrent psychosocial wellbeing correlates. Data were derived for 354 Finns (born in 1959) from the Jyväskylä Longitudinal Study of Personality and Social Development. Three latent classes were identified: Work-orientation with delayed parenthood (WO; 46%; completed adult transitions of independent living, education, work, and partnership), Traditional work and family (35%; completed all five adult transitions), and Academic-orientation with no children (AO; 19%; completed independent living, education, work, and partnership transitions). Individuals in the Traditional pattern were more likely to be women, whereas individuals in the AO and WO patterns were more likely to be men. The socio-economic status (SES) and structure of the family of origin did not differentiate the patterns, but individuals in the AO pattern had had higher school success and educational aspirations in adolescence than those in the other patterns. Early adult life satisfaction and career stability were higher, and depressive symptoms and binge drinking lower in the Traditional pattern than in WO. Life satisfaction was also higher in AO than in WO.*

**Keywords:** adult roles, childhood, early adulthood, psychosocial wellbeing

### Introduction

The life course of an individual has been conceptualized as “a sequence of socially defined, age-graded events and roles that the individual enacts over time” (Elder 1998, 941), suggesting that transitions between roles in different life domains are interdependent, and that understanding the structuring of the life course requires simultaneous consideration of these various dimensions (Macmillan and Copher 2005). In the global transition to adulthood, the key adult role transitions (adult transitions hereafter) include moving from parental home into independent living, completing full-time education, starting a full-time job, establishment of

an intimate relationship, and becoming a parent (e.g. Arnett 2000; Furstenberg, Rumbaut and Settersten 2005; Shanahan 2000). However, few studies have operationalized the complex developmental nature of the transition to adulthood according to the aforementioned conceptualization of the life course. Instead, most of the studies conducted about transitions to adult roles have investigated them singly, more or less independent of one another (Furstenberg, Rumbaut and Settersten 2005) with some exceptions (Osgood et al 2005; Ross et al 2009; Räikkönen, Kokko and Rantanen, 2011; Sandefur et al 2005; Schulenberg et al 2005). Also the predictors

and correlates of the transition patterns are unexplored. The aim of our study was to assess, within a representative sample of Finns born in 1959, patterns of role assumption in early adulthood, and the childhood antecedents and concurrent psychosocial wellbeing correlates of these patterns.

The timing and patterning of life transitions can be understood as a person's means to match decisions, commitments and career transitions with other life transitions, such as becoming a parent, as well as with contextual opportunities and constraints, as defined by Reitzle and Vondracek (2000). According to this definition, the individual is perceived as an active *agent* making decisions regarding his/her own life (Elder 1998; Elder, Kirkpatrick Johnson and Crosnoe 2003). These decisions, in turn, may affect subsequent transitions by opening or closing off opportunities, suggesting that transitions in different domains of life are interdependent.

In our study, we focused on variations in the combinations of adult roles across the domains of housing, education, work, partnership, and parenthood. Studies which have used person-centered typological approaches (e.g. latent class analysis) to investigate how different roles across these five domains weave together, suggest that the length and the level of post-comprehensive education and timing of family formation are crucial in determining transition patterns and role combinations at a particular age. The first typical pattern consists of individuals either lacking, or with short and low levels of post-comprehensive education, together with full-time work, marriage or cohabitation, and parenthood (Osgood et al 2005; Ross et al 2009; Sandefur, Eggerling-Boeck and Park 2005; Amato et al 2008; Oesterle et al 2010). The second typical pattern includes individuals who have obtained some post-comprehensive education, are working full-time, and have no family (Osgood et al 2005; Ross et al 2009; Sandefur, Eggerling-Boeck and Park 2005; Amato et al 2008). The third typical pattern consists of individuals who have a family but are disadvantaged with respect to career (Osgood et al 2005; Ross et al 2009; Amato et al 2008). The fourth pattern consists of those individuals who have obtained a higher level of education and who have postponed family formation (Osgood et al 2005; Ross

et al 2009; Sandefur, Eggerling-Boeck and Park 2005; Amato et al 2008; Oesterle et al 2010). The fifth pattern is based on some empirical evidence regarding a group of individuals named as "slow starters" (Amato et al 2008) or "inactive" (Osgood et al 2005); that is, individuals who have assumed few or none of the adult roles.

The decisions regarding if, when, and in which order to undergo transitions, are always made in circumstances that are constrained by different background factors, such as gender, family of origin, and prevailing socio-historical and cultural context (Elder 1998; Shanahan 2000; Elder, Kirkpatrick Johnson and Crosnoe 2003; Schoon and Silbereisen 2009) as well as individuals' decisions made before the transitions. This interplay between the individual and the context has been described using the term *bounded agency* (Shanahan 2000). Our study focused upon the influences on the individual (i.e. gender, school success, and educational aspirations), the family, and the wider socio-historical and cultural context of the country in question (Finland). In the following paragraphs, we elaborate each of these influences and previous research on them.

### The Finnish context

The present study was based on data collected from a representative sample of individuals born in 1959 in Finland (Pulkkinen 2006). In Finland, it has been typical for most youngsters to move out of the parental home at a fairly young age; women at 20 years and men at 21 years (Nikander 1998). The ages are similar for more recent age-cohorts. One reason for these early transitions to independent living is that the Finnish social welfare system provides a housing allowance for students who live in a rented apartment, to offset residential costs (Raivola, Zechner and Vehviläinen 2000). For those who are not students but otherwise have low incomes, Finnish society also provides a housing allowance (Saarikallio and Ylöstalo 2007).

The basic structure of the Finnish educational system has remained similar since the 1970s (Sahlberg 2011). Comprehensive school lasts for 9 years (from age 7 to 16). After that, youngsters enter either general upper secondary school (3 years) for post-comprehensive education, vocational upper secondary school (2-3 years depending on the study

program), or the labor market (Sahlberg 2011; Statistics Finland 2003). Selection to general and vocational upper secondary schools is based on the interests and grades of students. Vocational school qualifies young people only for vocational college (nowadays polytechnics) whereas upper secondary school qualifies them for tertiary education (i.e. either vocational college or university) (Sahlberg 2011).

The cohort born in 1959 was completing comprehensive school at a time when (1975) it was relatively easy to transfer directly from school to full-time work; the unemployment rate then was 2.6% (Statistics Finland 2003). The unemployment rate stayed at a relatively low level until the early 1990s recession, but in 1992, the unemployment rate was already 11.7%. However, most young people throughout this period decided to continue in full-time education; almost 3 in 4 Finnish adults aged 25–64 have qualified from upper secondary or tertiary education. An important reason for this high percentage continuing their studies is that all post-comprehensive education is and was free up to the university level (Kokko et al 2008). It is typical of Finland that students are on average around 25 to 29 years old when they graduate from university. There are several reasons for this, such as a competitive university entrance system, which delays the start of studies, and the fact that students usually take a Master's degree, which is a common requirement in the labor market. Moreover, men are obliged to participate in either military or civil service (optional also for women) before their 29<sup>th</sup> birthday.

A further distinctive feature of Finnish society is an equal engagement in full-time employment among women and men (Lehto and Sutela 2008). Part-time work with reduced working hours for mothers has been common in other Nordic countries. However in Finland, it is relatively rare, even among mothers with young children: in 1984, only 7% of Finns worked part-time.

Regarding family-related transitions, the mean age for getting married for the first time was 25.9 years in women and 28.1 years in men in 1986–1990, and the mean age of first childbirth was 26.5 years (Statistics Finland 2003). Finnish men are about two years older

than women when they become a parent for the first time (Statistics Finland 1994). Highly educated women become parents later than other groups; they are about two years older at first childbirth than women who have not obtained a Master's degree. In Finland, cohabitation before marriage or as an alternative to marriage has been popular for many years. Among women born in 1938–42, 13% had lived in cohabitation, but among women born in 1958–62, 51% had lived in cohabitation before marriage and 33% as an alternative to marriage.

#### Socio-demographic and individual influences

Factors that differentiate transition behaviors include gender, the socio-economic status (SES) and structure of the family of origin, and personal choices. Although the educational and work pathways of women and men have become similar in the past few decades (Fussell and Furstenberg 2005), women and men still seem to differ in their pathways to adulthood: empirical studies based on older and more recent age-cohorts have demonstrated that women undergo adult transitions earlier than men, particularly in the family domain (Cohen et al 2003; Oesterle et al 2010; Kokko, Pulkkinen and Mesiäinen 2009). The timing of different transitions may also be more closely interlinked among women than among men (Kokko, Pulkkinen and Mesiäinen 2009). Factors related to an individual's family of origin may also influence transition behaviors: individuals from low SES families tend to undergo adult transitions earlier than those from higher socio-economic backgrounds, for whom the later timing of transitions is more typical (e.g. Osgood et al 2005; Sandefur, Eggerling-Boeck and Park 2005; Schoon, Martin and Ross 2007). This is most likely due to differences in the level of educational attainment: low family SES and earlier timing of transitions are associated with lower educational attainment (Kokko et al 2008). An impact of the structure of the family of origin on transitions was found in the study by Ross and his colleagues (2009), which showed that individuals who grew up in divorced families were less likely to pursue their educational career in post-secondary education, and more likely to establish their own families at an earlier age. Individuals' own educational aspirations,

expectations, and performance in school may also differentiate transition behaviors (Osgood et al 2005; Ross et al 2009; Schoon, Martin and Ross 2007).

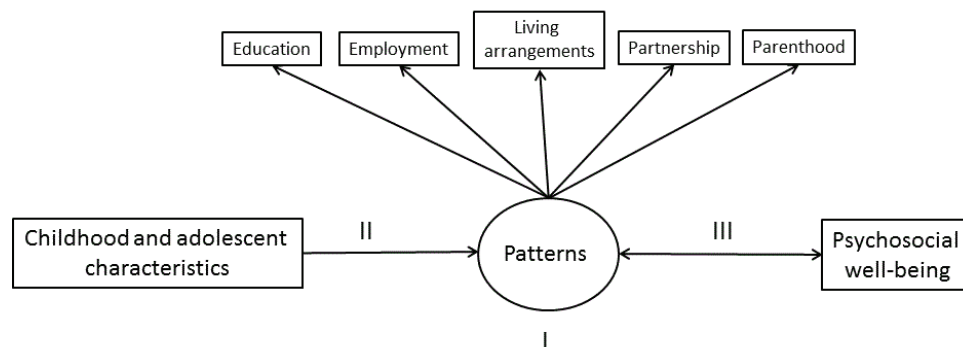
The transition to adulthood provides new roles and social contexts, and the successes and difficulties one experiences with the many challenges during this period may strengthen or alter the ongoing trajectories of substance use, health and wellbeing (Schulenberg et al 2005; Schulenberg, Bryant and O'Malley 2004). In general, the average levels of wellbeing and substance use have been found to increase from late adolescence to early adulthood (Schulenberg et al 2005). The average level of wellbeing tends to increase across adulthood (Räikkönen, Kokko and Rantanen 2011) whereas the average level of binge drinking has been shown to peak in early adulthood and then decrease (Schulenberg et al 2005). However, studies suggest that engagement in family roles, particularly marriage or cohabitation, reduces the use of substances (Schulenberg et al 2005; Staff et al 2010) and enhances one's wellbeing (Schulenberg et al 2005; Lee and Gramotnev 2007). By contrast, postponing transitions to stable adult roles beyond early adulthood has been linked to lower levels of wellbeing (Räikkönen, Kokko and Rantanen 2011;

Schulenberg et al 2005) and higher levels of binge drinking (Schulenberg et al 2005) in early adulthood.

### Aims and hypotheses

The *first* aim of the present study was to identify patterns of adult role combinations in early adulthood by investigating five transition domains (i.e. moving into independent living, completion of education, full-time employment, having an intimate relationship, and having a child) simultaneously (Figure 1). Taking into account the cultural features of Finland, as well as the Jyväskylä Longitudinal Study of Personality and Social Development (JYLS) data collection phases, we chose age 27 as the cut-off point. Completion of education means that a participant has obtained a degree from vocational school, vocational college, or university. We expected to find at least three latent classes: 1) a group of individuals who have undergone all adult transitions by age 27; 2) a group of individuals who have followed an academic path to adulthood, and because of their extended studies, their family formation is delayed; 3) a group of individuals who have undergone few of the five transitions (e.g. Ross et al 2009).

Figure 1. Conceptual model of the study. The Roman numerals I - III index the research questions of the study.



Our *second* aim was to investigate whether individual agency and contextual characteristics contribute to the identified latent classes (Figure 1). Context was operationalized by gender, family SES, and intact/non-intact family structure (Ross et al 2009), while individual agency was conceptualized in relation to school success and educational aspirations (Schoon, Martin and Ross 2007). Orientation to studies reflects individual agency concerning transitions in education. We expected that women would have experienced all five transitions more typically than men by age 27, because women are, on the average, two years younger than men at the time of marriage and the birth of the first child, and because women and men are equally educated and also employed in Finland, due to day care services for all children. Furthermore, we expected that individuals in the academic path would have experienced fewer transitions, because more-educated individuals tend to delay the birth of the first child (Statistics Finland 1994). Fewer completed transitions were expected to be found among individuals who have had difficulties in the completion of education and employment. In relation to background factors, we expected that high SES of the family of origin, good school success and high educational aspirations would be associated with the academic path, compared to the path including fewer completed transitions (Schoon, Martin and Ross 2007). The stability of the family of origin was expected to be associated with the pattern of all five transitions by age 27 (Ross et al 2009).

Our *third* aim was to examine whether the identified latent classes would differ in psychosocial wellbeing measured at age 27 (Figure 1). We defined psychosocial wellbeing in terms of life satisfaction, depressive symptoms, stability of career line, and binge drinking. We assumed that individuals with fewer completed adult transitions would show lower levels of psychosocial wellbeing compared to other groups (e.g. Schulenberg et al 2005).

## Methods

### Sample

The present study used data from the ongoing Jyväskylä Longitudinal Study of Personality and Social Development (JYLS) study, in which the same individuals have been followed from age 8 to age 50

(Pulkkinen 2006; Pulkkinen and Kokko 2010). The study was begun by Lea Pulkkinen in 1968, when she randomly selected 12 complete second-grade classes in the town of Jyväskylä, Finland, for the study; all the pupils participated (i.e. the initial participation rate was 100%). The original sample consisted of 173 girls and 196 boys, of whom the majority (94%) was born in 1959; the rest were born either in 1958 or 1960. The mean starting age of the participants was 8.3 years ( $SD = .25$ ). All participants were native Finns. After age 8, main data collection phases took place at ages 14, 27, 36, 42, and 50. In the present study, adult transitions were studied up to age 27.

At ages 8 and 14, data were gathered using peer nominations and teacher ratings (Pulkkinen 2006). At age 14 (in 1974), the sample size was 167 girls (97% of the original sample) and 189 boys (96%). At age 27 (in 1986), the methods of data collection were a mailed Life Situation Questionnaire (LSQ) and a semi-structured interview. The LSQ was completed by 155 women (90%) and 166 men (85%), and interviews conducted with 142 women (82%) and 150 men (77%).

Information about adult transitions was gathered using the LSQs administered at ages 27, 36, 42, and 50, and retrospectively using the Life History Calendar (LHC; adapted from Caspi et al 1996) at ages 42 and 50. As a result of this procedure, the number of participants in the present study was 354 (95.9% of the initial sample; 165 women and 189 men). Both at ages 42 and 50, the sample was representative of the original random sample (studied at ages 8 and 14 in regard to social behavior and school success) and their age-cohort born in Finland in 1959, when compared with data provided by Statistics Finland on, for instance education, occupational status and marital status (Pulkkinen 2006; Pulkkinen and Kokko 2010).

### Measures and Variables

*Adult role* combinations in the following five transition domains were examined: *Educational attainment*, *employment*, *living arrangements*, *partnership*, and *parenthood*. The variable for educational attainment measures the highest degree obtained by age 27. Educational attainment was coded 1 = *no post-comprehensive education*, 2 = *vocational school*, 3 = *vocational college*, and 4 =



university. A *degree* refers to graduation from a vocational school, vocational college, or university. The variable for living arrangements describes whether or not a participant has moved out from the parental home by age 27. It was coded 0 = *lives with parents*, 1 = *lives away from parents*. The variable for employment was coded in five categories: 1 = *out of labor force*, 2 = *full-time homemaker*, 3 = *full-time student*, 4 = *part-time work*, and 5 = *full-time work*. The category 'full-time work' included only those participants who had worked full-time by age 27. If a participant had not worked full-time by age 27, then the status at age 27 was coded. The partnership variable was coded in two stages. First, partnership

status at age 27 (married, cohabiting, divorced, separated after a cohabitation, or single) was coded for each participant. "Single" denoted a participant who had never been married or cohabited by age 27. Second, categories of "divorced", "separated", and "single" were combined. Partnership was coded 1 = *marriage*, 2 = *cohabitation* and 3 = *single*. The two-stage coding of the partnership variable enabled us to trace, when necessary, all those participants who had completed the relationship transition by age 27. Parenthood was coded 1 = *no children*, 2 = *one child* and 3 = *two children or more*. Distributions of each transition variable are presented in Table 1.

**Table 1. Observed role characteristics in the JYLS sample (N = 354) by age 27.**

	Percent (%)	Variable specific N
<b>Education</b>		<b>352</b>
No post-comprehensive education	31.81	112
Vocational school	42.05	148
Vocational college	15.34	54
University	10.80	38
<b>Employment status</b>		<b>346</b>
Unemployed/out of labor force	2.02	7
Full-time home maker	1.73	6
Full-time student	5.20	18
Part-time work	1.73	6
Full-time work	89.30	309
<b>Living arrangements</b>		<b>345</b>
Lives away from home	95.94	331
Lives with parents	4.06	14
<b>Relationship status</b>		<b>344</b>
Marriage	47.09	162
Cohabitation	22.10	76
Single	30.81	106
<b>Parental status</b>		<b>346</b>
No children	53.47	185
1 child	27.75	96
2 or more children	18.78	65

*Childhood and adolescent predictors*

Gender was coded 0 = female, 1 = male. Socio-economic status of the family of origin was coded when the child was 8 years old, on the basis of the father's occupation (the mother's occupation was used if she was a sole provider) into two categories: 0 = blue-collar and 1 = white-collar worker (Pitkänen, Lyyra and Pulkkinen 2005). Family structure at age 14 was coded 0 for intact family (i.e. the participant lived with both parents) and 1 if the parents had divorced, separated from cohabitation or a parent had died (Pulkkinen, Lyyra and Kokko 2009). School success at

age 14 was measured by grade point average (min. 4, max. 10). The information about school success was collected from school archives. The observed range for school success was 5.3-9.1 (Table 2). For the purposes of the present study, school success was centered around its mean (7.22; see Table 2). We used actual entrance to upper secondary school (qualifying for tertiary education) as an indicator of participants' educational aspirations (Pitkänen et al 2008). For the purposes of the present study, educational aspirations were coded using two categories: 0 = other, 1 = upper secondary school.

**Table 2. Descriptive statistics for childhood and adolescent antecedents, and early adult psychosocial wellbeing correlates.** Means and standard deviations (in parentheses) are reported for continuous variables, and percentages for categorical variables.

	Mean (sd)/%	N <sup>1</sup>
<b>Childhood and adolescent antecedents</b>		
Gender (1 = male)	53.40	354
Family SES at age 8 (1 = white-collar workers)	28.81	354
Family structure at age 14 (1 = non-intact family)	23.78	349
Educational aspiration at age 14 (1 = upper secondary school)	39.94	343
Grade point average at age 14	7.22 (.87)	332
<b>Psychosocial wellbeing at age 27</b>		
Life satisfaction	2.97 (.43)	322
Career stability		335
Unstable	23.28	
Changeable	7.46	
Stable	69.25	
Depressive symptoms	1.98 (.46)	320
Binge drinking		323
Not at all	21.05	
Once a year or less	7.43	
Less than once a month	34.06	
1-3 times a month	21.36	
Once a week	12.38	
Several times a week	3.72	

Note: <sup>1</sup> N is the number of non-missing cases for each variable.

*Psychosocial wellbeing at age 27* was assessed by life satisfaction, depressive symptoms, stability of career line, and binge drinking. *Life satisfaction* was assessed using five questions presented in the mailed LSQ. With these questions, we sought to assess a broader construct of global life satisfaction. The questions concerned satisfaction with housing, financial situation, choice of occupation, present occupational situation, and content of leisure time. The response scale ranged from 1 = *very dissatisfied* to 4 = *very satisfied*. Statistically significant correlations between the items ranged from .11 to .50. Satisfaction with leisure time did not correlate with housing and financial situation. An average score was computed, and Cronbach's alpha was .56 (Feldt, Mäkikangas and Aunola 2006).

*Depressive symptoms* was a subscale of a Personal Control Inventory presented in the mailed LSQ. The subscale was composed of five items (e.g. "I feel despair."). The response scale ranged from 1 (strongly disagree) to 4 (strongly agree; Pulkkinen and Rönkä 1994). An averaged score was computed and Cronbach's alpha was .65.

*Stability of career line* was evaluated on the basis of several questions presented in the LSQ and interview. The follow-up covered 11 years, from 1975 to 1986 (i.e. from age 16 to 27) (Rönkä, Kinnunen and Pulkkinen 2000). Three categories were formed: 1 = *unstable career* (including participants who had experienced long periods of unemployment); 2 = *changeable career* (including participants whose jobs had varied and for the most part did not correspond to their field; those who had started studying; those whose work situation had suddenly become unstable; or those who had removed themselves from the work force in order to care for children); 3 = *stable career* (including participants who had worked in their own field without repeated interruptions due to unemployment, or had a career which had become stable during the first years of the follow-up period). Women who had been on maternity leave, but who had returned to their jobs after the leave, were coded as having a stable career.

*Binge drinking for occasions of drunkenness* During the interview, the participants were asked to recall how often during the past 12 months they had consumed so much alcohol that they had been truly drunk. Furthermore, in the mailed LSQ, the participants were asked to complete a quantity-frequency (q-f) table with the following instruction:

"How much alcohol do you drink in one session? If you have stopped drinking, please refer to the situation before you quit. Circle the most appropriate option on each line." The quantity options consisted of different portion estimates per occasion: 1 drink or less, 2-4 drinks, or 5 drinks or more. One drink (portion of alcohol) was defined as one bottle (33cl) of beer (4.5% alc.), one glass of wine (12cl ~ 12% alc.), one glass of strong wine (8cl ~ 21% alc.) or one 4cl shot of spirits. Binge drinking was operationalized on the basis of the reported times of being truly drunk, but adjusted for the frequency of drinking at least five portions per occasion as reported in q-f table presented in the mailed LSQ. The variable for binge drinking was coded 0 = *not at all*, 1 = *once a year*, 2 = *less often than once a month*, 3 = *one to three times a month*, 4 = *once a week*, and 5 = *several times a week* (Pitkänen et al 2008).

### Analytic Strategy

The analyses of the present study were conducted in three phases. First, the patterning of adult roles was examined using latent class analysis (LCA). LCA is a statistical method that enables the examination of latent structures among a set of categorical variables (Lazarsfeld and Henry 1968). In the present study, five categorical variables were used: residence, educational attainment, employment status, partnership status, and parenthood. The parameters of the LCA model are proportions of individuals within each of the latent classes (i.e. latent class probabilities) and their distribution across the predictor variables in a given latent class (i.e. conditional probabilities) (Nylund, Asparouhov and Muthén 2007). An advantage of using LCA instead of conventional cluster analysis, is that it provides several model fit indices, which enable the assessment of the model fit to the data, and the appropriateness of the number of latent classes specified. In addition, because LCA is a model-based method, the same results can theoretically be replicated with an independent sample (Muthén and Muthén 2000). The following indices are employed in our study: Bayesian Information Criterion (BIC) (Schwartz 1978), adjusted Bayesian Information Criteria (aBIC) (Sclove 1987), and Bootstrap Likelihood Ratio Test (BLRT) (Nylund, Asparouhov and Muthén 2007). Lower values of BIC and aBIC indicate a better fitting model. BLRT *p*-values above 0.05 indicate a good fit of the specified LCA

model, while values below 0.05 indicate that the number of classes should be increased by one (Nylund, Asparouhov and Muthén 2007). In addition, entropy (Celeux and Soromenho 1996) and interpretability of latent classes (Muthén and Muthén 2000) are considered when choosing the optimal number of latent classes. Entropy values approaching 1 indicate clear delineation of classes and that individuals are placed into classes with high precision (Celeux and Soromenho 1996).

Second, after deciding the best LCA solution, multinomial logistic regression analyses were conducted to investigate the extent to which childhood and adolescent characteristics predicted membership of the latent classes (Figure 1). Regression coefficients were presented as odds ratios (*OR*). An *OR* is the ratio of the odds of being in a particular latent class *k* (versus being in the reference class *j*) for any value *b* of a particular childhood characteristic, to the odds of being in class *k* for value *b*+1 of the childhood characteristic. For example for a dichotomous covariate, the *OR* represents change in the odds of being in a class *k* (versus being in the reference class *j*), when the value of a particular childhood characteristic changes from 0 to 1. An *OR* greater than one indicates that those individuals with the characteristic (i.e. for whom the value of the childhood characteristic is 1) are more likely to be in the class *k* than those individuals without the characteristic. Each latent class was in turn used as a reference class in order to compare each latent class to all other latent classes. In addition to *ORs*, we report relative risks (*RR*) in order to provide the reader with a direct comparison of the present results with the results shown in the study by Salmela-Aro, Ek, Taanila and Chen (2012, this issue). A *RR* is a ratio of two probabilities. *RR* indicates how many times more likely a participant is to be a member of a latent class *k* given a one unit increase in a childhood characteristic. For example for a dichotomous characteristic, *RR* represents the ratio of the probability of being in class *k* for characteristic category 1, versus the probability of being in class *k* for category 0.

Third, multivariate analysis was conducted to examine whether membership in the latent classes predicted psychosocial wellbeing in early adulthood (Figure 1). Regression analysis was used for continuous wellbeing outcomes (i.e. life satisfaction and

depressive symptoms) and ordered logistic regression analysis was used for ordinal wellbeing outcomes (i.e. career stability and binge drinking). A set of dummy indicators of latent class membership was used as independent variables to estimate class differences in outcomes. In order to compare each latent class to all other latent classes, each latent class was set by turns as a reference group (i.e. each dummy was excluded by turns). The childhood and adolescent variables were controlled for in the analyses, in order to rule out the possibility that the observed differences between the latent classes in wellbeing indicators would result from the childhood and adolescent factors.

All analyses were conducted using the Mplus statistical package version 6.0 (Muthén and Muthén 1998-2010). In all analyses, the method of estimation was that of full information maximum likelihood (FIML) implemented in Mplus. FIML uses all observations in a data set when estimating the parameters in the model, without imputing the missing values. The models for the second and the third stages were estimated simultaneously to maximize the information in the data for estimation, the error terms between continuous measures of psychosocial wellbeing were allowed to correlate, and MLR estimator with Monte Carlo integration approach was used in the estimation process.

## Results

### Descriptive results

The descriptive statistics for childhood predictors and correlates for early adult psychosocial wellbeing are shown in Table 2. Some gender differences were found in the predictors and correlates. Women were more likely to enter upper secondary school qualifying for university ( $\chi^2(2) = 20.36, p < .001$ , *Adjusted standardized residual (ASR) = 4.4*) than men, for whom it was more typical to enter vocational school (*ASR = 3.4*). Women also had better school success than men ( $t(271) = 7.64, p < .001$ ). Regarding wellbeing, gender differences were found in binge drinking ( $\chi^2(5) = 71.08, p < .001$ ). Men were more likely to report binge drinking 1–3 times a month (*ASR = 4.0*), once a week (*ASR = 4.8*), or several times a week (*ASR = 3.4*) whereas women were more likely to report drinking binge less than once a month (*ASR = 5.1*) or not at all (*ASR = 3.0*).

**Latent Classes**

Fit statistics for the estimated latent class models showed that the 3-class model had the best fit indices, but also 2- and 4-class models received some

support (Table 3). However, the interpretability of the 2- and 4- class models was not as good as that of the 3-class model. Therefore, we chose the three class model as the final model.

**Table 3. Model fit indices for estimated latent class solutions.**

Number of classes	BIC	aBIC	BLRT <i>p</i> -value	Entropy
2 classes	2739	2659	0.000	0.837
3 classes	2776	2655	0.002	0.805
4 classes	2830	2668	0.072	0.836
5 classes	2884	2681	0.070	0.789

Note. BIC = Bayesian Information Criteria ; aBIC = adjusted Bayesian Information Criteria; BLRT = Bootstrap Likelihood Ratio Test.

**Table 4. Latent class probabilities and conditional probabilities<sup>1</sup>**

	Work-orientation with delayed parenthood	Traditional work and family	Academic- orientation with no children
<b>Education</b>			
No post-comprehensive education	.347	.356	.161
Vocational school	.568	.423	.000
Vocational college	.085	.147	.359
University	.000	.074	.480
<b>Employment status</b>			
Unemployed/out of labor force	.037	.007	.000
Full-time home maker	.000	.050	.000
Full-time student	.000	.033	.237
Part-time work	.019	.024	.000
Full-time work	.944	.886	.763
<b>Living arrangements</b>			
Lives with parents	.077	.010	.000
Lives away from home	.923	.990	1.000
<b>Relationship status</b>			
Marriage	.000	.972	.246
Cohabitation	.421	.028	.254
Single	.579	.000	.500
<b>Parental status</b>			
No children	.753	.000	1.000
1 child	.204	.516	.000
2 or more children	.043	.484	.000
Class <i>N</i> <sup>2</sup>	163	124	67
Latent class probabilities <sup>2</sup>	0.460	0.350	0.189

Notes.

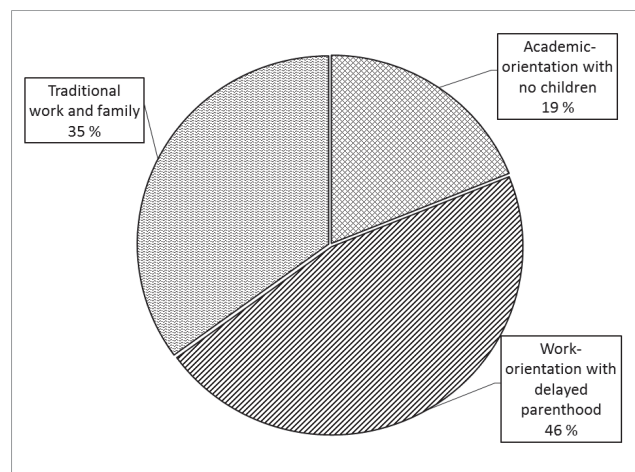
<sup>1</sup> Latent class probabilities are proportions of individuals within each of the latent classes and conditional probabilities are their distribution across the indicator variables in a given latent class.

<sup>2</sup> Values from classification of individuals based on their most likely class membership.

Table 4 presents the latent classes and the conditional probabilities of the chosen model. Class proportions are presented in Figure 2. Almost all participants in the three classes were living independently (95.9% of the sample; Table 1). Members of the largest class, *Work-orientation with delayed parenthood* (46.0%; Table 4) typically had undergone four of the five transitions by age 27: They had moved from the parental home, obtained a degree from a post-comprehensive

educational institution, worked full-time, had been in a committed relationship, and had no children. Half of the group had an educational degree from a vocational school. At age 27, their partnership status was mixed: the class included single and cohabiting individuals. Additional analysis showed that 20.8% of the members in the *Work-orientation* were truly singles (i.e. they had never been married or cohabited).

Figure 2. Percentages of JYLS latent classes ( $N = 354$ ).



Members of the second class, *Traditional work and family* (35.0%; Table 4) had typically undergone all five adult transitions by age 27, that is, most of them lived independently, had a degree from a post-comprehensive educational institution, they worked full-time and they were married with at least one child. Almost half of the members of this class had an educational degree from a vocational school.

Members of the smallest class, *Academic-orientation with no children* (18.9%; Table 4) typically had undergone four of the five adult transitions: They had moved from the parental home, obtained a degree from a post-comprehensive educational institution, worked full-time, had been in a committed relationship, and had no children. At age 27, their partnership status was mixed – the class included single, cohabiting, and married

participants. Additional analysis showed that 37.3% of the members in the *Academic* pattern were truly singles (i.e. they had never been married or cohabited).

#### Antecedents of Class Membership

Women were more likely to be in the *Traditional* pattern than in the *Academic* and *Work-orientation* patterns (Tables 5 and 6). No gender differences were found between the *Academic* and *Work-orientation* patterns. Individuals who had achieved higher school success and entered upper secondary school at age 14 were more likely to be in the *Academic* pattern than in the *Traditional* and *Work-orientation* patterns. The structure and socio-economic status of the family of origin did not significantly contribute to the class membership.

**Table 5. Patterns of adult role combinations in relation to childhood and adolescent antecedents: multinomial logistic regression analysis with odds ratios (OR) and 95% confidence intervals (CI).**

Childhood and adolescent characteristics	Traditional vs. Work-orientation	Academic- vs. Work-orientation	Academic-orientation vs. Traditional
	OR (95% CI)	OR (95% CI)	OR (95% CI)
Male (vs. female)	<b>0.42 (0.25; 0.72)*</b>	1.41 (0.63; 3.17)	<b>3.36 (1.49; 7.56)**</b>
White-collar (vs. blue-collar SES)	0.94 (0.53; 1.67)	1.45 (0.69; 3.05)	1.54 (0.75; 3.18)
Lives with one parent (vs. parents together)	0.58 (0.32; 1.05)	0.82 (0.35; 1.93)	1.41 (0.57; 3.48)
Grade point average	1.09 (0.74; 1.61)	<b>3.21 (1.84; 5.61)***</b>	<b>2.96 (1.68; 5.23)***</b>
Educational aspirations (upper secondary school vs. other)	1.64 (0.85; 3.15)	<b>22.02 (6.98; 69.44)***</b>	<b>13.43 (4.26; 42.35)***</b>

Note. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

**Table 6. Patterns of adult role combinations in relation to childhood and adolescent antecedents: relative risks.**

Childhood and adolescent characteristics	Work-orientation with delayed parenthood	Traditional work and family	Academic-orientation with no children
Male (vs. female)	1.452	0.610	2.048
White-collar SES (vs. blue-collar)	1.025	0.967	1.489
Lives with one parent (vs. parents together)	1.299	0.757	1.068
Grade point average 1 sd above vs. average	0.929	1.007	2.981
Educational aspirations (upper secondary school vs. other)	0.611	1.001	13.442

**Table 7. Patterns of adult role combinations in relation to psychosocial wellbeing: multivariate analysis.**  
 Regression coefficients and their standard errors (s.e. in parentheses) in each latent class are reported for all outcomes. In addition, odds ratios (OR) are presented in the case of categorical outcomes.

	Life satisfaction <i>b (s.e.)</i>	Depressive symptoms <i>b (s.e.)</i>	Career stability <i>b (s.e.)</i>	OR	Binge drinking <i>b (s.e.)</i>	OR
<b>Comparison group: Work-orientation</b>						
Traditional work and family	<b>0.18 (.05)***</b>	<b>-0.13 (.06)*</b>	<b>0.62 (.29)*</b>	<b>1.84</b>	<b>-0.66 (.24)**</b>	<b>0.52</b>
Academic-orientation with no children	<b>0.15 (.08)*</b>	-0.01 (.08)	0.27 (.47)	1.31	-0.06 (.33)	0.94
<b>Comparison group: Traditional work and family</b>						
Academic-orientation with no children	-0.03 (.07)	0.122 (.08)	-0.34 (.50)	0.71	0.60 (.33)	1.82

Note. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .



### Psychosocial wellbeing at age 27

Individuals in the *Traditional* pattern reported higher life satisfaction and career stability as well as less depressive symptoms and binge drinking at age 27 than individuals in the *Work-orientation* pattern (Table 7). Individuals in the *Academic* pattern showed higher level of life satisfaction than individuals in the *Work-orientation* pattern. No differences were found between *Traditional* and *Academic* patterns.

### Discussion

In the present study, we investigated the patterning of adult roles across the domains of housing, educational attainment, employment, partnership, and parenthood in early adulthood, as well as their childhood and adolescent antecedents and contemporaneous psychosocial wellbeing correlates. Our analyses were based on a representative sample of Finns born in 1959. We identified three patterns: *Work-orientation with delayed parenthood*, *Traditional work and family*; *Academic-orientation with no children*. Our three patterns of adult role combinations corresponded fairly well to classes found in earlier studies using latent class analysis (e.g. Oesterle et al 2010; Osgood et al 2005; Ross et al 2009; Sandefur, Eggerling-Boeck and Park 2005). Thus, although the transition to adulthood has lengthened, diversified, and become more heterogeneous in the timing and content of role changes in most western countries in recent decades (e.g. Arnett 2000; Furstenberg, Rumbaut and Settersten 2005; Shanahan 2000), the transitional patterns appear to be rather similar across countries in early adulthood.

Unsurprisingly, the majority of our participants lived independently. Hence, housing situation did not distinguish the patterns. In Finland, it is typical for young adults to move out from the parental home at an early age (Nikander 1998). This applies both to the 1959 cohort and to more recent age cohorts. One reason for this young age is that Finnish society provides a housing allowance to offset residential costs for students and those with low income for other reasons (Raivola, Zechner and Vehviläinen 2000; Saarikallio and Ylöstalo 2007). As in previous studies (e.g. Osgood et al 2005; Ross et al 2009, Sandefur, Eggerling-Boeck and Park 2005), transitions in relation to educational attainment and family

formation distinguished our patterns most clearly. As indicated by the group name, individuals in the *Academic-orientation with no children* had obtained a high level of education, whereas individuals in the other two groups had lower levels of post-comprehensive education. Among those individuals who had obtained a more limited amount of education, two groups were found: first, individuals who had become parents (*Traditional* pattern), and second, individuals who had no children (*Work-orientation* pattern).

Contrary to our expectations (e.g. Ross et al 2009), we did not find a pattern of individuals who had undergone few (less than four) of the adult transitions. Instead, we found two patterns of individuals (*Academic and Work-orientation*) who had one delayed transition: parenthood. The *Work-orientation* pattern was the most prevalent pattern, covering over two fifths of our sample. This pattern as well as the *Academic* pattern could be considered to represent those individuals who are experiencing a delayed step into adult roles, a period which has recently been labeled as emerging adulthood (Arnett 2000).

Our results indicated that both background and individual agency-related characteristics contributed to membership of the patterns of adult role combinations, supporting the idea of bounded agency (Shanahan 2000). Our findings showed that women were over-represented in the family-oriented pattern, namely *Traditional work and family*. This result reflects earlier findings which have shown that women establish a family at an earlier age than men (Cohen et al 2003; Kokko, Pulkkinen and Mesiäinen 2009). Furthermore, as in earlier studies (e.g. Ross et al 2009), individuals in the *Academic* pattern had better school success and higher educational aspirations (indicated by the entrance to upper secondary school qualifying for tertiary education) than individuals in the *Traditional* and *Work-orientation* patterns. Contrary to our expectations (e.g. Schoon et al 2007), family SES did not distinguish our patterns. One reason for these findings may be that in Finland, socio-economic differences are relatively small, education is free up to university level (Kokko et al 2008), and housing allowances were provided for students who lived in rented apartments, to offset residential costs (Raivola,

Zechner and Vehviläinen 2000). Consequently, due to these readily available opportunities provided by Finnish society, it was more possible for individuals with different social backgrounds to follow the path they preferred than, for instance, might be the case in countries where there are tuition fees.

Our results showed that individuals in the *Traditional* and *Academic* patterns showed higher life satisfaction than individuals in the *Work-orientation* pattern. Furthermore, individuals in the *Traditional* pattern reported higher career stability and less depressive symptoms and binge drinking than individuals in the *Work-orientation* pattern. Regarding those individuals with a limited amount of post-comprehensive education, our results suggest that the relatively early completion of adult transitions seems to be associated with higher levels of wellbeing. Furthermore, in Finland, communities are obliged to provide a child care service, which enables mothers to work full-time outside the home. Therefore, becoming a parent is not an obstacle to having a stable career. Regarding the difference in life satisfaction among those who had one missing transition (*Academic* and *Work-orientation* patterns), our results indicate that individuals in the *Academic* pattern had a higher level of life satisfaction because they had obtained a higher level of post-comprehensive education than individuals in the *Work-orientation* pattern. Accordingly, it has been shown that having a higher level of education is associated with higher life satisfaction than having a lower level of education (Daukantaite and Zukauskienė 2006). However, based on our wellbeing results, no conclusions about causal links between the completion of transitions and psychosocial wellbeing can be drawn, because the wellbeing measures used in our study were not available before age 27. The examination of causal associations between wellbeing and transitions, remains for the future.

Our study contains some limitations which should be acknowledged. First, owing to the relatively small sample size, our study may have suffered from limited statistical power. This may have resulted in an inability to identify the interconnections between the categorical transition variables as well as to detect subtle links between latent classes and concurrent wellbeing correlates. Second, although latent class

analysis provides a tool for exploring the interconnections among a set of categorical variables, one should be cautious about attaching too much meaning to a latent class or to a label assigned to it (Sandefur, Eggerling-Boeck and Park 2005). Third, the patterns of adult role combinations were identified at age 27, and thereby, they represent only a snapshot in time. Therefore, our patterns do not capture the dynamic nature of the transition process. For instance, it is possible that individuals in the *Work-orientation* pattern may have established a family later on. Using latent transition analysis, one could study change in class membership (Macmillan and Copher 2005; Oesterle et al 2010). Fourth, psychosocial wellbeing was measured at the same age as the transitional domains used in latent class analysis. Therefore, no conclusions can be drawn regarding the causality between psychosocial wellbeing and adult role combinations. Considering the limitations, studies with larger samples are needed in the future to confirm our results regarding patterns of adult role combinations, their antecedents in childhood and psychosocial wellbeing implications in adulthood. Furthermore, the examination of how role transitions regarding housing, education, work, partnership, and parenthood intersect and are linked across time, would be worth a separate study in the future.

Our study contributed to the existing research regarding transition to adulthood, first by considering the occurrence of five key adult transitions (i.e. moving from parental home into independent living, completion of full-time education, starting a full-time job, establishment of an intimate relationship, and becoming a parent (Furstenberg, Rumbaut and Settersten 2005; Shanahan 2000) simultaneously, rather than as isolated life events. The importance of taking the inter-relation of the adult transitions into account has been highlighted by Furstenberg and his colleagues (2005). Second, our analyses were based on a representative sample of Finns born in 1959. Third, we used a longitudinal approach, which enabled us to investigate contextual and individual childhood antecedents of the patterns of adult role combinations, as well as concurrent psychosocial wellbeing correlates of the patterns within the same individuals, adjusting for the childhood antecedents.

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