UNDERSTANDING THE INTERDEPENDENCE BETWEEN PARALLEL CAREERS

Frans J. Willekens
Nederlands Interdisciplinair Demografisch Instituut
P.O. Box 11650
2502 AR THE HAGUE
The Netherlands

2.1. Introduction

"Scientific inquiry is concerned not only with discovering quantitative relations between variables, but also with interpreting these relations in terms of underlying causal mechanisms that produced them. Without a knowledge of these mechanisms, we cannot predict how variables will co-vary when the structure of the system under study is altered, either experimentally or by changes in the world around us." (Simon, 1979, p. 79). Increasingly, demographers emphasize the need to identify the underlying or intervening mechanisms linking demographic variables and suggest ways to accomplish the difficult task (Burch, 1980, p. 2; Caldwell and Hill, 1988, p. 1; Birg, 1988). The search for causal mechanisms is part of an attempt to develop a substantive theory of demographic behaviour. This paper is written in the same spirit. The aim is to explore the nature of the interdependencies between parallel careers. The fertility and labour force participation careers of women serve as an example. For no other set of two careers, the interdependence is as pronounced as for the fertility and employment careers. The basis for the interdependence is generally conflict or incompatibility, because "the timing of critical career-building phases does not accommodate women's biological life cycle" (Regan and Roland, 1985, p. 986).

Recent research findings on the interdependence between fertility and labour force participation are reviewed in section 2. The findings are inconsistent. In order to integrate the various research findings in a common framework we suggest a process approach. Employment and fertility are parallel processes, which interact with each other. The process perspective raises some new issues of causality. They are discussed in section 3. Sections 4, 5 and 6 present the main theory proposed in this paper to understand the interdependence between parallel careers. A main thesis is that relations between variables pertaining to fertility and employment are mediated by personality

traits, in particular the career orientations. The theory is applied to the study of the fertility-employment interaction in section 7. Section 8 concludes the paper.

2.2. Fertility and employment: a few research findings

Many studies indicate the existence of effects of family responsibilities on women's paid work and vice versa.¹ The Population Conference organized by the United Nations in Sofia (1983) reached the conclusion that "A number of delegates referred to the increasing participation of women in the labor force as one of the major factors in the decline of fertility" (United Nations, 1983, p. 6). Waite *et al.* (1984), summarizing previous research on the relationship between fertility and employment, arrive at the opposite conclusion: "Fertility influences work but work has no measurable impact on fertility." Klijzing *et al.* (1988) arrive at the same conclusion after applying three different methodologies to a single set of data from a retrospective survey (ORIN), which lead them to conclude that the decision to have a(nother) child is taken independently from labour force participation decisions.

Other authors would qualify these statements. Siegers (1985, p. 318) finds that the negative effect of the presence of children on labour force participation of married women is larger if the children are younger. The effect is, however, reduced if there are older children in the family. Personal characteristics such as level of education may affect the relationship (see e.g. Bernhardt, 1986). Nakamura and Nakamura (1984a) suggest that the effect of fertility on labour force participation is an artefact of cross-sectional studies. Using longitudinal data, they show that the impact on current work behaviour of the presence of children and of birth expectations is almost entirely reflected in a woman's work behaviour in previous years. Calhoun and Espenshade (1988, p. 29) and Veron (1988, p. 108) also find that cross-sectional studies overestimate the effect of fertility on labour force participation. Using French census data for the period 1962-1982, Veron finds that the participation rate of women increased irrespective of the number of

¹ Extensive reviews of research are: Spitze (1988) for US studies; Siegers (1985) and Mol *et al.* (1988, pp. 3-7) for Dutch studies; Standing (1978, pp. 192 ff.) for studies in developing countries.

children present. Women with no or few children are involved more in paid labour, but so are women with large families.

Unobservable attributes, mainly psychological in nature, such as "desire for motherhood" and other personality traits are also introduced to explain observed interaction. Ermisch (this volume, chapter 10) relies on this variable to explain that, among married childless women, those not in full-time jobs are much more likely to conceive. Additional examples are given in Section 7.

A few authors explicitly introduce the person's ability to think prospectively. Greene and Quester (1982) and Johnson and Skinner (1985), for instance, find that wives' labour supply is affected positively by the perceived risk of marital dissolution (see also Davis, 1984). This result of micro-level analysis is consistent with Fuchs' finding that the rise in labour force participation by married women with small children at home preceded by several years the rise in the divorce rate (Fuchs, 1983, p. 149). In an extensive review of research on the effects of women's employment on families, Spitze concludes that the analysis of behaviour suggests that the causal ordering is from fertility to employment, but that employment plans or intentions affect expected fertility more than the reverse (Spitze, 1988, p. 606).

Bulatao and Fawcett (1981, p. 437) find empirical support for their hypothesis that women with higher occupational aspirations are more likely to postpone early childbearing in order to get ahead in their occupational careers. They also find support for the hypothesis that early experience affects subsequent behaviour: women who have their first child at a younger age generally have more children and at shorter intervals. Teachman and Heckert (1985) find, however, that the effect of first-birth timing on subsequent childspacing has declined in more recent cohorts, showing that the "early-pregnancy treadmill" is losing its significance. The effect of early experience on subsequent behaviour also applies to the work career: women who worked before having children are more likely to work again at any time later in their lives than women who did not acquire work experience before having children (Mott, 1972; Mott and Shapiro, 1983).

In her study "The changing role of women in the British labour market and the family", Joshi (1988) summarizes the reasons why a woman is more likely to engage in paid work: rising levels of education, changes in attitudes, rising risk of divorce, improved health of women and children and improved technology of housework.

In order to explore the causal mechanism that underlies the observed interdependence between motherhood and employment, we view labour force participation and childbearing as *two parallel career processes*, which interact with each other and with their common environment. It is believed that both career activities are organized by a common dynamic mechanism which will be referred to as the *coordinating process*. The coordinating process is the process of human development and is related to Erikson's (1980) notion that life is a quest for identity and to Maslow's (1954, 1973) notion of self-actualization and self-determination (autonomy). But first a few statements on causality are in order. Conventional criteria for causality may not be valid in case processes are studied.

2.3. A note on causality

Two important criteria for causality do not necessarily apply in case of interacting processes. They are the conditions of *temporal ordering* and *contiguity*. Causes are required to occur prior to their effects. This requirement seemingly conflicts with the fact that human beings can think prospectively. They can form expectations of future events or conditions, anticipate consequences of actions and plan for the future. Simon (1979, p. 73) argues that this is not a case of the future influencing the present, because the expectations and anticipations are not actually determined by future events or conditions but by current knowledge that is predictive of the events or conditions. In other words, present behaviour is determined by predictions of the future, rather than by the future itself. The temporal order in which behaviour occurs is therefore often not a good indicator of causal priority. The causal priority is established in the mind in a way that is not reflected in the temporal sequence of behaviour (Marini and Singer, 1988, p. 377). For instance, consider the relationship between labour force participation and marital status. Among married women who enter or reenter the labour force prior to divorce, there are some who will enter the labour force and then decide to divorce and others who will decide to divorce and then look for a job in anticipation of the impending divorce. For the former group, labour force entry is causally prior to divorce; for the latter group, the divorce is causally prior to labour force entry. Since the anticipation of divorce may affect labour force behaviour prior to divorce, the temporal ordering of the events

does not reflect the causal priority. Martini and Singer argue that this problem is not necessarily solved by considering the temporal sequence of the formation of the behavioural intentions. When there is a perceived incompatibility between future activities, a single decision may jointly produce a related set of behavioural intentions. Causal priority can only be identified by asking people about the causal processes at work (Marini and Singer, 1988, p. 378). This, however, requires in-depth interviewing; records of the sequence and timing of overt behaviour are not sufficient.

The second requirement is that cause and effect be contiguous. In the tradition of the philosopher Hume, contiguity in space and time is a criterion of causation since contiguity makes structural continuity possible. The condition of contiguity of cause and effect is frequently not met in dynamic processes for two reasons. First, an "incubation period" may be required for the effect to become manifest. In addition, the effect may be spread out over time. Second, the dependence between two processes may be governed by a third, intervening process upon which the processes are jointly dependent. The intervening process serves the function of a causal process in Salmon's theory of scientific inference (Salmon, 1984; see also Marini and Singer, 1988, pp. 361 ff.). A causal process is capable of transmitting structure and modifications in structure and is therefore "capable of propagating a causal influence from one space-time locate to another" (Salmon, 1984, p. 155). The causal process connects two processes and explains their relationship. The contiguity requirement is untenable in life course analysis, because it does not allow a causal link between childhood experience and adult behaviour. The link does exist although it is not a direct one; the effect of early experience can be substantially modified by later experiences. Runyan's formulation fits nicely in the context of this paper: "The effects of early experiences are mediated through a chain of behavior-determining, person-determining and situation-determining processes throughout the life course." (Runyan, 1984, p. 212).

2.4. Human development: the temporal dimension

The British Medical Dictionary defines development as "The series of changes by which the individual embryo becomes a mature organism" (Sinclair, 1985, p. 1). Development implies evolution: new functions are acquired and old ones are lost. In Maslow's view, the evolution is towards self-actualization and self-

realization. Maslow (1954, 1973) segregates and orders different sets of human needs according to the immediacy with which their satisfaction is required (figure 1).

Basic physiological needs are the most pressing and fundamental ones, and their satisfaction is seen as prerequisite to seeking the satisfaction of the safety needs on the next higher level. Satisfaction of the safety needs is, in turn, prerequisite to seeking the satisfaction of self-esteem needs and self-actualization. The needs provide the motives for behaviour. In general, persons will try to achieve higher-order needs when conditions permit. Two needs are of particular relevance in the study of the interdependence between work and family careers. They are "protection from immediate or future threat to economic well-being" (safety need) and "self-actualization." Work for financial reasons is associated with the first need, while work for autonomy

Figure 1. Maslow's hierarchy of human needs

Source: Ickes, 1985, p. 6.

relates to the second aspiration, which is the highest in the hierarchy. The distinction between the two needs is the distinction between necessity and choice.

Developmental goals are dynamic. They change with the changing person and are affected by the environment. The context in which a person lives helps to shape the goals and facilitates or constrains their achievement (Lerner and Kauffman, 1985). In a choice framework, the context determines the extent to which a person is free to establish priorities and to allocate time and energy accordingly. In other words, it defines the options among which a person may choose (choice set). Biological, normative, economic, physical and situational factors affect the ability to achieve the goals or satisfy the needs. The context is composed of multiple levels changing interdependently across time (i.e. historically). Two levels of context are distinguished. The micro-context consists of the living and work environment and the people with whom personal relationships are maintained. The macro-context is the social, cultural and economic system, which determines the historical context in which a person lives. The micro-context can be influenced by the person, but the macro-context cannot.

To describe and interpret human behaviour, behavioural and social scientists increasingly rely on a developmental perspective. What distinguishes development studies from other studies of behaviour is that they are concerned with behavioural sequences and with the processes that underlie overt behaviour. A particular stimulus may trigger a behavioural pattern consisting of several changes (events or actions). A single decision may involve several actions. The developmental perspective emphasizes that changes or actions are related and contribute to and are affected by development.

Development is a continuous, however not monotonous, process. The life events that characterize human development are not uniformly distributed over the lifespan, but are concentrated in relatively short periods and constitute an orderly sequence. Each stage of development is characterized by a particular potential for development or developmental readiness, as referred to by Erikson (1980). Infancy, adolescence, young adult, adulthood, and mature age are examples of stages that are frequently distinguished in the psychological literature. Individuals go through the stages in infinitely varied ways, but the stages themselves are universal. The stages are separated by relatively short periods of transition. The chain of stable periods and transition periods pertaining to a given domain of life is referred to as a career. Careers that

are distinguished relate to profession, employment, fertility, education, health, place of residence, etc. A career can be associated with each attribute of a person that changes over the lifetime (Willekens, 1988). Careers may be characterized by the type of transitions or events that occur and by the pattern of occurrences (sequence and timing).

Transitions are generally preceded by transitional periods. These boundary zones between stable periods serve important functions in human development. During these periods, the question "Who am I ?", which is generally associated with the quest for identity, is augmented by the question "Where am I ?." Life commitments and activities are questioned and reappraised, new career options are explored, different directions are experimented with and, finally, choices are made. The very nature of the transitional period results in unstable commitments and unstable choices (Van Geert, 1986, p. 31). A transitional period is required to summarize, evaluate and terminate the past and to start the future (Levinson *et al.*, 1978, p. 50; Levinson and Gooden, 1985, p. 6; see also Plath, 1983, p. 48). The onset of the period is characterized by a dissatisfaction or conflict. The period is completed when career choices are made and a commitment to adhere to the choices is reached. During the subsequent stable period, the changes are consolidated and a new life structure is built.

Needs pertaining to the various life domains are not given and fixed, but they develop as a result of continuous interaction between the person and the context, in particular the society in which a person lives. From the values and needs, a person derives career orientations or attitudes. A career is a route to goal-achievement. It is, therefore, not only a sequence of events and stages, but it is a goal-directed or purposive sequence. The career orientation represents the attitudinal dimension or the predisposition to engage in a career. It may be viewed as being determined by two factors: the belief that engaging in a career brings about certain consequences (expectancy) and the contribution of the consequences to the fulfillment of the needs (value or anticipated life satisfaction). This view is consistent with the value-expectancy theory and provides a possibility to add a time dimension to this theory. The orientation or attitude provides the motives to become involved in a career. This involvement is denoted by career *commitment*. Commitment requires a person to allocate adequate time and energy. The higher the commitment to a career, the more time and energy is allocated. If external constraints permit, commitment results in career *attachment*, which refers to the person's behaviour over time. This distinction between career orientation,

commitment and attachment is not universally accepted. The concepts are usually loosely defined in the literature and that hinders the progress in life course theory. There have been attempts to clarify the concepts, but the outcome is not fully satisfactory (Hiller and Dyehouse, 1987).

2.5. Human development: parallel processes

Life consists of many domains. The activities pertaining to the various domains are overlapping. The career processes associated with the domains are active simultaneously and they interact with each other and with their common environment. The nature and the extent of the interdependence are very difficult to identify in the real world. Processes may depend on each other directly or indirectly through a third process. The impact of one process on another may become manifest after a long time only. Ideally, the study of the dependence structure involves first the isolation of each process from the influences of concurrent processes, as is done in a laboratory context and the study of the dynamics of the process "in a pure state", i.e. undisturbed by the presence of other processes. Once the intrinsic properties of each process are revealed, any set of processes may be combined to find out how they interact. These experiments are not feasible yet, so we are left with the study of interacting processes "in situ" and cannot do much more than hypothesize about the mechanisms by which career processes interact. We assume that the careers pertain to the same person.

Three types of dependencies between career processes are distinguished: *event dependence*, *status dependence* and *resource dependence*.

Event dependence

Career A is said to be event-dependent on career B if the occurrence of an event in career A, implying an advancement or progression, is influenced by the occurrence of an event in career B. The event in B may enhance or inhibit the occurrence of an event in A. It may also make the occurrence of an event possible. For instance, most professions require a diploma. The onset of the professional career is therefore contingent upon the completion of formal education. Some events involve two processes. Marriage, for instance, involves the marital career of two persons. An extreme case of event-dependence occurs when a career is truncated by an event in another career. Death for instance,

which is the event in the survival process, interrupts all existing careers. The advancement of any career is contingent upon the person being alive (the survival process being intact).

Status dependence

Career A is status-dependent on career B if the occurrence of an event in career A depends on the position (stage) occupied in career B. For instance, the probability of having a child in a given year depends on the marital status.

Resource dependence

Careers A and B are resource-dependent if they share the same resource. If the two careers together use less resources than when they operate separately, the dependence is referred to as symbiosis: the careers are complementary. If, on the other hand, they compete for the same limited resources, the careers are conflicting or incompatible. For instance, work and family careers are conflicting careers, since both require time and energy (resources) for their advancement.

The assumption that the careers pertain to the same person is important. Career processes in different persons may interact too, and the type of dependence may be one of the three listed. But the interaction is mediated by the personal relationship, in particular by the information channels that are established as part of the relationship. The flow of information (communication) becomes a critical component of the dependence structure.

The dependence structure is assumed to be organized hierarchically. For simplicity, we assume a single coordinating process which mediates the onset and progression of all processes. Other authors consider several coordinating processes.

The conceptual framework presented in this paper views overt behaviour as an outcome of a complex set of interconnected mental processes. The processes are organized hierarchically. High in the hierarchy are processes that relate to domains with the greatest significance for the self and the life course. These processes, which are referred to as *dominant processes*, are directly connected to the coordinating process. The other, *secondary processes* are linked indirectly to the coordinating process.

The hierarchical organization of processes has important consequences for the scheduling of events across the career processes. If a career process is subordinate to another career process, its events are scheduled to meet the requirements of the dominant career. For instance, if the family career is subordinate to the work career, family planning must make allowance for the work schedule.

The transitional period serves to build a new hierarchy of career processes by making choices about aspects of the greatest personal significance. The aspects pertain to domains - generally one or two, rarely as many as three - that occupy a central place in the life structure. Most often, marriage, family and occupation are the central domains. They receive the largest share of one's time and energy, and they strongly influence the character of the other domains. Once choices about the most significant domains are made, the conflicts in other careers sharing the same resources may more easily be resolved. Sometimes events occur "off-time", before the period of developmental readiness is reached, and affect all career processes. If such an occurrence is in a career that demands resources, the consequence may be a lifetime of stress. Premature pregnancy serves as an illustration. It "tends to disrupt and accelerate the life cycle of the adolescent by pre-empting educational, vocational and social experiences of persons at an early stage in their life" (Van den Akker, 1988, p. 327). The lifetime consequences are documented by Van den Akker.

2.6. The coordinating process

Several authors have suggested some sort of coordinating process that controls the various processes that characterize ageing and the life course and ensures an orderly sequence of events. Although the process has a considerable autonomy, it is affected by stimuli from other processes and the environment. Biologists believe that the coordination is taken care of by a sensor or regulator, which is biological in nature, and an ageing clock, which is genetic. The environment affects the timing of the ageing clock through an ageing centre, where the sensory inputs of temperature, nutrition, hormone information, etc. are assessed and the appropriate signal is transmitted to the clock (Everitt, 1982; Moore-Ede *et al.*, 1982). Sociologists believe that the main regulator of the timing of life events consists of a normative

prescription. The "proper" timing of life events and the duration of stages between events are viewed as an important instrument of social control and a stabilizing factor in social structure (Elchardus, 1984; Roth, 1963, 1983). The existence of a "proper" order of events and of socially expected durations induces Zerubavel to suggest that "we carry in our minds a sort of 'temporal map', which consists of all our expectations regarding the sequential order, duration, temporal location, and rate of recurrence of events in our everyday life" (Zerubavel, 1981, p. 14). In the psychologists' view, the coordinating process is one of cognitive and/or personality development. Some psychologists stress the dominance of the biological process and the significance of genetic factors in personality development (Freud, Eysenck). Eysenck states, following Royce and Powell, that there are personality traits that remain stable in life and find the explanation in inheritance. He claims that the general observation that genetic factors contribute between one-half and two-thirds of the phenotypic variance also applies to the stable personality traits (Eysenck, 1986, p. 217). He also supports a physiologically-based theory of personality (1986, p. 219). According to structuralists, such as Piaget and Levinson, the process of development creates and adapts a mental structure which mediates current behaviour and directs subsequent development. In Piaget's theory, the structure ("scheme") represents a person's view or knowledge of the world (cognitive structure) and enables the person to interact with that world (Miller, 1983, chapter 1). The structure proposed by Levinson and referred to as "life structure" is how a person views his life at a given time or, in Levinson's words, "the underlying pattern or design of a person's life at a given time" (1978, p. 41). The concept is related to the concept of personality (Levinson and Gooden, 1985, p. 5). The organization of the view of oneself and the world into structures and the adaptation of these structures take time. Because of this, we can identify stages in a person's life. Both Piaget and Levinson distinguish stable stages of structure-building (organization, consolidation) and unstable stages of transition from one structure to the next. In the transition periods, the life structure is reassessed and a new hierarchy of career processes is built.

In this paper, the coordinating process is assumed to interpret the various career orientations and the associated life goals, to assess the achievement along each career and to allocate resources (time, energy) to the career processes. Only processes that receive resources are active. The allocation mechanism determines the maximum speed of each process or, in case

of symbiosis, the maximum speed of intertwined processes. External conditions cannot activate a process directly. They can, however, stimulate a process to demand the coordinating process for resources. This request will most likely initiate an assessment of "Where am I ?" (position-taking) by the coordinating process, involving the status of the other processes. Whether the request is granted depends on the result of the assessment. The coordinating process activates other processes and allocates resources but it cannot ensure that the active processes generate the desired outcomes (events). In order to produce a desired outcome, the context or situation must meet the process requirements. In other words, an active process produces an event only if the circumstances permit. For instance, a job search process results in a job if a suitable job is available.

A basic question is: What governs the coordinating process ? We adopt the view that the coordinating process is governed by career orientations, which are derived from life (developmental) goals, and by stimuli from the various career processes and from the environment. Of primary importance for the career orientations are the life goals rather than the role status determined by the social environment. The view that demographic behaviour is an expression of human development rather than role status is best formulated by Held: "Marriage and procreation may come to be seen merely as experiences of an exploring, growing self and no longer as role and status positions" (Held, 1986, p. 162). The impact of society on behaviour is mediated by the development process, which in Erikson's theory is the quest for identity. Norms do not affect behaviour directly, but affect the identity which in turn affects behaviour. The career orientations provide a meaning for the building of a life structure. The coordinating process assesses the messages it receives from the other processes and the environment, and designs an action scheme (career strategy). One scheme may be "wait", in which case the information received is kept in a buffer (memory) until the process is ready to act. The mental frame in which the messages are processed is itself an outcome of previous stimuli (learning mechanism). It is closely related to the scheme-concept of Piaget. In this view, external stimuli help to determine the development path. The design of a life structure is an adaptive mechanism to increase the ability to perform (survive) in the given environment and to achieve the life goals.

If the coordinating process functions properly, the life events follow an ordered sequence and the stages take long enough to create the developmental

readiness for the next stage. In addition, the parallel careers advance in harmony and the life course is free of tension or stress.

2.7. Work and Family

2.7.1. The significance of career orientation

The life course perspective developed in this paper may be used to investigate the interdependence between work and family careers. Differences in observed career patterns may in part be explained in terms of differences in career orientations, i.e. in attitudes regarding the future life course. In the demographic literature, career orientation and personality traits in general are rarely used explicitly to explain behaviour over the life course. It is somewhat surprising given the popularity of attitudinal research (e.g. Fishbein model). There exist a few exceptions however. Bulatao and Fawcett (1981, p. 437) find that women with higher occupational aspirations are more likely to postpone early childbearing. Bernhardt relates labour force attachment of women to their basic orientation, which is "some kind of personality trait or attitudinal dimension" (Bernhardt, 1987, p. 2). She explains: "Family-oriented women regard paid work as something transitory and marriage and children as indispensable, while work-oriented women regard employment as a life goal and marriage and children as possibilities." (Bernhardt, 1987, p. 2). Other scholars at the University of Stockholm, Section of Demography, have used the notion of career orientation to explain behavioural patterns (Hoem and Hoem, 1989, p. 64; Korpi, 1989, p. 10). Regan and Roland (1985) adopt a similar perspective. Based on the position taken by Almquist *et al.* (1980) that women choose careers to complement lifestyle choices, they construct a lifestyle commitment variable with five categories: family-directed (family most important life goal, any other goal except work career second most important), family-accommodated (family most important life goal, career second most important), career-accommodated (career most important, family second most important), career-directed (career most important, any other goal except family second most important) and other-directed (neither family nor career as most important).

The existence of a career orientation partly explains the behavioural consistency over time, in particular the effect of early demographic behaviour

on the later life course. This statement is supported by longitudinal research carried out by Mott and Shapiro (1983). Using data from the first ten years of the National Longitudinal Surveys of Labor Market Experience of Young Women (USA), the authors found that (i) the traditional pattern work - childbearing and -rearing - work has been eroding and that young women are choosing to retain close ties to the labour market during the months just before and even just after childbearing; and that (ii) early work behaviour has no effect on later fertility. Early employment is a good predictor of work attachment during the life course, however: "The strong link between early employment and later attachment to work has been documented and shown to be independent of intervening fertility." (Mott and Shapiro, 1983, p. 250). Nakamura and Nakamura (1984a) arrived at the same conclusion: "There is little evidence that a woman's child status, including the presence of a new baby, has any current effect on her work behaviour after controlling for her work behaviour in the previous year." (1984a, p. 23). As Bernhardt and others in Sweden and Holden (1983) in Japan, Mott and Shapiro rely on psychological factors to explain the finding:

"We believe that work activity during the months surrounding the first birth reflects in large part an unmeasured 'commitment to work' that is operative in influencing work activity throughout the life cycle. Young women who remain employed until just before giving birth and who return to work shortly after the birth are regarded as manifesting greater motivation to work, or greater 'tastes' for market work. Their early work behaviour may well be reflecting longer-term aspects of a psychological 'need' for work activity, career satisfaction, and perhaps also a status based on activity outside the home." (Mott and Shapiro, 1983, pp. 250-251).

This view is consistent with Runyan's (1984, p. 212) assertion that the impact of early experience on the later life course is mediated by personality traits.

The concept of career orientation is a useful aid in causal analysis of life course events. The temporal ordering of behaviour is not a good indication of causality, since people think prospectively and anticipate events or conditions. This is particularly well illustrated in studies of the relation between employment and birth spacing. Coleman (1983) presents an interesting analysis of Japanese families. He shows how young married couples carefully try to space childbirths, not just with regard to present demand-and-supply factors in labour for infant care but also with a view to the husband's probable career advancement and thus the family's capacity a decade and more

in the future, to provide support for two or more offspring simultaneously in college. This behaviour is fully consistent with a career strategy to achieve life or developmental goals. The finding of Ni Bhrolchain (1986a, b) is equally interesting. Using employment and fertility histories from two British longitudinal surveys, he tests Keyfitz's (1977, p. 329) proposition that work-oriented women shorten their birth intervals to hasten the end of childbearing and -rearing and thus to return to work (see also Sweet, 1973, pp. 118-120, and Standing, 1978, p. 167). Women who do not anticipate paid employment would prefer a well-spaced family and thus longer birth intervals. The analysis shows that the proposition only applies to women who do not work between births. Ni Bhrolchain therefore concludes that there are two employment effects on spacing (1986b, p. 147): a positive effect associated with work during the interval and a negative effect associated with speed of return after childbearing. The two opposing effects are thought of as the influence of current and future work, respectively. The significance of the current work orientations is however dependent on the availability of child care, allowing women to work between births. The finding that in the 1970s the increased engagement in interbirth working did not significantly lengthen the birth intervals is very interesting in this regard (1986b, p. 151). For a review of the literature on the relation between employment and birth spacing, the reader is referred to Ni Bhrolchain (1986a, pp. 65-66). The design of a career strategy involving explicitly the timing of life events in relation to other events has been referred to as "timetable consciousness." Plath (1983, p. 155) defines it as the consideration of the present scheduling of life events on the remaining career.

2.7.2. The significance of context

Career orientations are not the only factors shaping a person's life course. The context in which a person operates is also important. The context determines the choice set or set of options among which the person may choose. In this respect, Avioli's finding on the employment status of married women in the USA is revealing: black employed wives are working out of financial needs, while their white counterparts appear to be working not so much out of financial need but rather out of an interest in being in the labour force (Avioli, 1985, p. 744). White wives derive satisfaction from their labour force status, while stress devolves to black wives. If the context in which a person

operates is demanding, the freedom of choice is limited and the effect of individual differences on behaviour will be reduced (Mischel, 1977). In that case, the consistency between attitudes-orientations and behaviour gradually disappears (Tazelaar, 1983, p. 119). The contextual or situational pressure should therefore be considered in life course studies. Many people may not have any choice at all; they can only select the most suitable adaptation to the constraints. But they may also try to change the context. The micro-context is shaped by the person as much as the life of the person is shaped by it. Marriage and migration are clear illustrations of how a person may influence the micro-context and hence the available career options. But the significance of other behavioural events may not be less. For instance, school drop-out severely restricts the employment career options. Prolonged education, on the other hand, increases the number of career options, everything else remaining constant. Analogously, being financially independent increases the freedom of choice of life goals and career strategies to achieve the goals.

There are numerous examples of the micro-context influencing the work behaviour of women. The attitude of family members has shown to significantly affect women's paid work involvement (Spitze, 1988). Another example, the availability of child care, flexible working hours and work in or around the home, affect women's labour force participation by removing a barrier to labour force entry and by reducing the incompatibility between work and children. Spitze (1988, p. 606) reports on research in the USA, which shows that approximately one out of six nonemployed women would look for employment if high-quality, affordable child care were available. In the Netherlands, it is one out of ten² (Wilbrink-Griffioen *et al.*, 1988, p. 138). The context, in particular the availability of child care, mediates the relation between fertility and employment.

The career orientation and the context (cultural, financial, facilities) in which a woman operates explain most of the interdependence between fertility and employment careers. But there are additional factors. One is career uncertainty. Few authors explicitly account for uncertainty. Greene and Quester (1982) found that the perceived risk of marital dissolution positively affects the work career attachment of women. This behaviour cannot be explained by the need for self-actualization, but by the need to protect oneself and the

² Included are women with at least one child under age four. About 75 per cent of these women are not engaged in paid work and about 30 per cent of these wish to engage in paid work.

children from economic deprivation. In order to understand the relation between career orientation and career behaviour, uncertainty must be taken into account.

Another factor is associated with the job or type of paid work. Jansweijer *et al.* (1988, p. 85) report an interesting finding: in the Netherlands, many women leave their job upon the birth of their first child, in particular if the prospects for promotion are not good. Job satisfaction and prospects therefore enter the decision to stay in employment or not after the birth of the first child. On the other hand, a woman may hold on to her job since leaving could put her at risk of not finding a suitable job when needed.

The interdependence between fertility and labour force participation of women in the West is characterized by the "combination strategy", a term introduced by Bernhardt (1987, p. 9). Women wishing to combine work and family careers have a limited number of options to choose from, all involving the provision of child care. Child care resolves part of the incompatibility of work and family careers. Presser (1986, 1988) finds that in the 1980s in the USA, about half of all care to children of employed mothers is provided by the parents or by relatives. For the Netherlands, the figure is 60 percent (Wilbrink-Griffioen *et al.*, 1988, p. 134). Of young dual-earner parents in the USA, one fourth are the principal providers of care when mothers are employed (Presser, 1988, p. 135). Spouses may select part-time employment and/or flexible working hours to share child care responsibilities. Close to one third of full-time workers and about two fifths of part-timers work other than fixed daytime schedules (Presser, 1988, p. 137). They may also involve relatives. One third of all care to children of employed mothers in the USA are given by relatives, mainly grandparents (Spitze, 1988, p. 607). Comparable figures are not available for the Netherlands. Shift work is likely to increase for two unrelated reasons. First, the growth in female employment is largely absorbed by the service sector, which has the highest proportion of shift workers among dual-earners couples.³ Second, relatives (notably grandmothers) are becoming less available for child care with increasing geographical mobility and the increasing employment of older women (Presser, 1988, p. 147).

The options may also be affected by the past career. Korpi (1989, p. 19) suggests that increased work experience gives women a better opportunity to

³ In the Netherlands, 85 per cent of all employed women have a job in the service sector (Jansweijer *et al.*, 1988, p. 81). Most employed women working flexible hours have children to take care of (Jansweijer *et al.*, 1988, p. 83).

realize the combination strategy because part-time jobs are easier to get for women with work experience.

2.8. Conclusion

Empirical research on the relationship between fertility and labour force participation of women did not result in consistent findings. One reason is the data used to identify the causal structure. Cross-sectional surveys, which provided most of the data in early studies, overestimate the interdependence between fertility and employment. It became clear that cross-sectional data cannot be used to study individual behaviour (Nakamura and Nakamura, 1985). Longitudinal data, which contain information on previous behaviour show a picture that differs considerably from the cross-section. Longitudinal studies reveal that early experience is a good predictor of subsequent behaviour. But how to explain the observations ? This paper aimed at contributing to the explanation by concentrating on process dynamics. Observed patterns of fertility and employment are outcomes of parallel career processes, which continuously interact with each other and with their common environment. In these particular career processes, the interaction is due to shared resources (time and energy). An individual has a limited amount of time and energy to allocate to family and work. Moreover, both careers are in their critical stages at about the same time. If the two careers are to be combined, the incompatibility needs to be resolved, either by appropriate scheduling of the life events (birth, labour market entry and exit) or by resources provided by others (by members of the support network or by the formal sector).

Although available longitudinal studies have increased our understanding of the interdependence between work and family careers substantially, they have an important shortcoming preventing a complete understanding of how career processes interact. The surveys focus on overt behaviour. But in most cases, behaviour is merely a manifestation of what goes on in a person's mind. In order to understand behavioural patterns, we need to identify and describe the mental processes, in particular the process of human development. Whether human development is governed by the quest for identity, as in Erikson's life course theory, by a process of adaptation to and assimilation of the social context, as in Piaget's theory, or even by a biological process is not of the greatest relevance at this stage of research. What is significant, however,

is that behavioural patterns can only be understood if they can be related to the underlying processes that constitute the causal mechanism. In this paper, the causal link between behavioural patterns in different domains of life is associated with a coordinating process, an abstract construct that processes information, keeps time by comparing the actual development to an intrinsic standard and allocates resources. Interactions between processes within the individual and between the individual and the micro- and macro-context are mediated by the coordinating process. It therefore mediates behaviour and directs subsequent development.

How information is processed, time is kept and resources are allocated remains largely unknown, except for the circadian timing system in biology (Moore-Ede *et al.*, 1982). Developmental psychology provides some partial clues (Miller, 1983). In this paper, we attach significance to career orientations, which are derived from the quest to meet a hierarchy of needs and are part of the personality structure. Although the personality structure, and therefore also the career orientations, changes over time as a result of the process of personality development, the basic *predisposition* to develop certain traits remains stable. At this stage of research, the predisposition is believed to be genetically determined.

The existence of a predisposition to develop certain personality traits is the basis of behavioural consistency, which in turn explains why early experience remains a good predictor of subsequent behaviour and early behaviour a good predictor of the life course, keeping in mind that relations between factors are probabilistic and not deterministic. Early experience is, of course, not always an effect of predisposition; it can occur by accident. Once one goes down a path, the forces of circumstance and the progressive investment of time and energy work together to make one continue along it (Hoem and Hoem, 1989, p. 65).

An implication of the existence of a predisposition is selection. Persons who choose to work for pay and to go into certain jobs are different from persons who choose to stay at home to raise a family. Very recently, authors have come to rely on latent traits and the associated selectivity to explain differences in employment and fertility patterns (e.g. Mott and Shapiro, 1983, p. 250; Spitze, 1988, p. 610). The latent traits correspond to the unobserved heterogeneity, frequently referred to in statistical analyses of career transitions and providing an explanation for the empirical finding that the longer

a person remains in a state or stage, the less likely he is to leave the state or stage (duration effect).

The impact of personality development on demographic behaviour is likely to grow. Self-actualization, the highest aspiration in Maslow's hierarchy of needs, is in reach of many and is becoming a norm for others. "The strong emphasis on individualism requires people to search constantly for guiding and stabilizing orientations, for an individual life style and a personal identity" (Van de Kaa, 1988, p. 21). But many will search in vain or will end in a lifetime of stress if incompatibilities between parallel careers are not resolved or the lower-level needs are not met. A better understanding of the complex interdependencies between parallel careers and the significance of personal differences in career orientations should contribute to the removal of the incompatibilities and other constraints on harmonious human development.