1 INTRODUCTION

Historically, lifespan psychology has always been interested in questions about how psychological phenomena develop, how they change over time, and what kind of transition processes take place (e.g., P. B. Baltes, 1987; P. B. Baltes, Lindenberger, & Staudinger, 2006; P. B. Baltes, Reese, & Lipsitt, 1980). Besides investigating changes in behavior, researchers have become increasingly interested in examining how and why the motivation that regulates behavior changes across the lifespan (e.g., Ebner, Freund, & Baltes, 2006; Freund, 2003; Heckhausen, 1997; Nurmi, Pulliainen, & Salmela-Aro, 1992; Ogilvie, Rose, & Heppen, 2001). The psychological literature on motivational concepts is comprehensive and discusses a variety of constructs such as goals, wishes, dreams, fantasies, drives, or needs. Among those concepts, goals - defined as internal representations of desired states (Austin & Vancouver, 1996) - are certainly the most prominent phenomena. Goals guide and motivate behavior, they give direction to a person's life and thus, are important components of an individual's development (Brandtstädter & Lerner, 1999; Brunstein, Maier, & Dargel, 2007; Freund, 2003). Furthermore, as with all developmental constructs, goals change over the lifecourse as a result of changing social and personal requirements (e.g., Heckhausen, 1999). Hence, throughout life, there is a dynamic interplay between goals as antecedents, correlates, and consequences of development.

Nobody can attain all of his or her goals. Goal attainability is dependent on several factors such as limited biological resources and genetic potential, a restricted lifespan, socio-structural constraints, age-graded norms, and chosen biographical tracks (Wrosch, Scheier, Carver, & Schulz, 2003a). It has been shown that a confrontation with unrealizable goals can result in frustration and a decline in well-being (e.g., Brunstein, 1993; Carver & Scheier, 1990; Klinger, 1975; Wrosch, Scheier, Miller, Schulz, & Carver, 2003b). Therefore, the literature discusses several types of self-regulatory strategies such as goal disengagement (Klinger, 1975; Wrosch et al., 2003a) that help to avoid or buffer these negative consequences of unattainable goals. In the present dissertation I suggest and investigate a possible compensatory strategy for dealing with blocked goals at an imaginary level, that is, the transformation of a blocked goal into a life longing.

Life longings or Sehnsucht[1] is a phenomenon that most people have experienced in their lives. When individuals yearn for a loved person, a desired object, a special moment in

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[1] Instead of "longing" (which is only one of several English translations of the German word "Sehnsucht"), the terms "Life Longings" - proposed by the team of the "Life Longing Project" at the Max Planck Institute for Human Development – and "Sehnsucht" will be used in this thesis.

the future, or a memorable situation in their past, they are experiencing life longings. According to the concept of life longings put forward in this thesis, this makes them feel equally good and bad, hopeful and frustrated, excited and depressed. Life longings make individuals aware of the incompleteness but also of the multiple possibilities of life. Not surprisingly, life longings have evoked the interest of philosophers, poets, artists, and even consumer researchers (Belk, Ger, & Askegaard, 2003) who have dealt with human life longings in their essays, poetry, pictures, or advertisements. To date, however, little attention has been paid to this phenomenon in (empirical) psychology.

Baltes and colleagues (P. B. Baltes, in press; Scheibe, Freund, & Baltes, 2007) offer a developmental conceptualization of life longings that is guided by basic assumptions of lifespan psychological theory. As a consequence of the imperfection of life, the continuous dynamic of gains and losses in human development, and the constant search for optimization and growth, individuals are always seeking strategies to manage incompleteness and non-fulfillment in their lives (P. B. Baltes, 1987, 1997). One behavioral management strategy may be the imagination of alternative realities of life. Within this framework, life longings are defined as emotionally intense desires for alternative states or realizations of life that are remote or unattainable. Baltes and colleagues (P. B. Baltes, in press; Scheibe et al., 2007) conceptualized life longings with six structural criteria: (1) utopian conceptions of ideal development, (2) sense of incompleteness and imperfection of life, (3) conjoint focus on the personal past, present, and future (ontogenetic tritime focus), (4) life reflection and evaluation, (5) emotional ambivalence, and (6) symbolic richness. In addition, life longings can be quantified and further classified by their salience (e.g., frequency, intensity), controllability, and content.

So far, only theoretical reflections exist about the emergence of life longings and their intraindividual trajectories (P. B. Baltes, in press). Thus, the major aim of this dissertation was to investigate one possible behavioral manifestation of the development of life longings. As stated above, life longings might develop when individuals realize that they cannot attain an important goal. A constructive way to manage an unrealizable goal may be to generate fantasies by transforming the goal into a life longing. The assumption that life longings can develop out of unattainable goals implies that goals and life longings represent two distinct constructs. Studies in which goals and life longings were compared to each other (Mayser, Scheibe, & Riediger, in press; Scheibe & Freund, subm.) show that goals are more action-oriented, more future-oriented, and more realizable than life longings. In contrast, life longings are more emotionally ambivalent, more past-oriented, and more utopian than goals. Besides structural distinctions, goals and life longings differ on a functional level. Although

both concepts share the function of giving direction to a person's life, life longings are asssumed to have a second, unique important function, that is the management of nonrealizability and loss (P. B. Baltes, in press). In this sense, one can conclude that life longings in fact do represent a unique motivational concept not captured so far by goals.

Drawing from these theoretical deliberations on the development and functionality of life longings, the aim of the present study was to investigate two main questions: (1) Do life longings develop out of unattainable goals? (2) Is it beneficial for subjective well-being to continue pursuing an unattainable goal at an imaginary level as a life longing? For comparative reasons and in order to minimize the variability between participants' reported unattainable goals, I decided to examine one specific goal that is shared by many persons but cannot be attained by everyone, namely the goal to have children in middle-aged women. In the media and in the literature, the terms "longing" or "Sehnsucht" are used quite frequently when childless women speak about their intense yet unattainable wish for their own child. Being faced with the normative but unattainable goal to have children, involuntarily childless women often report a lower quality of life and lower levels of psychological well-being (e.g., Andrews, Abbey, & Halman, 1991; Jeffries & Konnert, 2002). However, especially from a long-term perspective, not all involuntarily childless women show lower well-being than women who are childless by choice (Bengel, Carl, Mild, & Strauß, 2000). A transformation of the goal to have children into a life longing might be an adaptive strategy to deal with this situation and it might explain why some women do well despite the nonrealizability of an important life goal. Moreover, knowledge about the individual experience of the life longing to have children, its influencing factors, and possible consequences might not only provide us with information about the development and functionality of life longings but also further our understanding of those women's needs, for instance in terms of intervention strategies to cope with their unattainable goal.

This dissertation is organized as follows. First, the conceptual framework for the present study is summarized and I derive the central research questions and hypotheses of my thesis. Next, the sample, design, procedure, and measurement instruments are described, followed by a chapter that presents the results for these research questions. Finally, the reported results are linked back to the initial hypotheses and integrated into overarching theoretical considerations and existing empirical work. In addition, limitations of the present study are discussed and an outlook for future directions of research is given.

2 CONCEPTUAL BACKGROUND

The aim of the present chapter is to provide an overview of conceptual and empirical work that motivated the current study on the development and functionality of life longings. It starts with a short description of some important historical roots from non-psychological definitions of life longings. In the next section, first attempts to psychologically conceptualize life longings are summarized and qualitative empirical studies that were conducted within these frameworks are briefly described. Further, I will illustrate in more detail a developmental conceptualization of life longings that was driven by theoretical assumptions of the humanities and lifespan psychological theory. The next section will consider the ontogenetic development of life longings. I begin by discussing some possible manifestations of the development of life longings, including the suggestion that life longings develop out of unattainable goals. Then, I elaborate on the functionality related to the development of life longings. In the next section, structural similarities and differences between goals and life longings will be described. The subsequent empirical study investigates the transformation process of an unattainable goal into a life longing using the sample case of involuntary childlessness. Therefore in the next chapter, it shall be illustrated why a sample of childless women is appropriate for the examination of the suggested developmental process. The conceptual background chapter is concluded by presenting the main research questions, working models, and hypotheses of this thesis.

2.1 Non-Psychological Approaches to Life Longings

In *various branches of the Humanities* such as philosophy, literature, and arts, Sehnsucht (life longings) is a topic with longstanding traditions. Therefore, the following illustrations can mark only very few important traditional approaches (see Danzer, 1998 for a short summary regarding life longings from a philosophic and literary point of view).

One of the first philosophers who disucessed the concept of life longings was the Greek philosopher Plato when he described life longings as a main feature of love and eros. Historically much later, Fichte and Schelling formulated initial philosophical approaches to a theory of life longings. Fichte, for instance, understood life longings as the desire for something unknown that manifests itself in feelings emptiness. Representatives of more recent theoretical approaches to life longings are the philosophers Bloch and Schuller. According to Bloch (1959), life longings represent emotional strivings that motivate growth. Schuller (1993) embedded life longings within the concept of dreams and defined them as the desire for "otherness". Schuller states that life longings reside in the freedom of fantasy, they

are irrational, they have no goal, and they represent a search for something without having a way to achieve it. In Schuller's understanding, life longings are - similar to the terms nostalgia or utopia - an escape from the present state into an imagined better reality in the past or future (see also Cazès, 2001; Schmid, 2007; Vosskamp, 2004).

Besides philosophical considerations, life longings are very salient phenomena in the literature and arts (Clair, 2005; Vosskamp, 2004). In Germany at the end of the 18th century until the middle of the 19th century, a whole cultural-historical period, the Romanticism, dealt with topics related to life longings. Inspired by the late work of Goethe, poets like Novalis, Chamisso, and Eichendorff expressed the ambivalent feelings of Sehnsucht (life longings) in melancholic poems that discussed loneliness, unrequited love, the pain of long separations, desire for change, or homesickness (see also Schmid, 2007). Both the philosophical and the literary approaches represent important building blocks that may support and guide us in conceptualizing life longings from a psychological perspective.

2.2 Psychological Conceptualizations of Life Longings

The goal of the present chapter is to provide conceptualizations of life longings from psychological perspectives. First, I will summarize the few existing general psychological definitions and empirical investigations of life longings. The second section of this chapter focuses on a lifespan psychological conceptualization of life longings and empirical work conducted within this framework.

2.2.1 Initial Attempts to a Psychological Definition of Life Longings

To date, only a few researchers have approached the concept of life longings from a psychological perspective. Accordingly, only a few psychological definitions and empirical studies exist. Boesch (1998) probably offered one of the most elaborate psychological conceptualizations so far. He describes life longings as the painful affect of desiring something while at the same time being distant to it. Life longings are thought to be associated with an emotional tension caused by both the awareness of alternative ideal realities and the imperfection of life. In this context, he emphasizes the importance of utopian conceptions for an individual's life. He suggests that life longings symbolize a search for harmony, happiness, meaning, and security in life. Therefore, he conceptualizes life longings as the driving force behind a person's actions and strivings (see also Boesch, 1991) and this may be constructive. However, as life longings are to a certain extent illusionary and increase the awareness of incompleteness of one's life, they may also have a dysfunctional component.

One area of research in which life longings have been discussed at least on a theoretical level is clinical psychology. The German term Sehnsucht consists of two parts: "sehnen" (English: longing) and "Sucht" (English: addiction). Tretter (1994) for instance elaborates on the association between longing and addiction in a clinical setting. He defines life longings as a state of tension between two alternative situations, the present one and a positively valued idealized one. In this sense, life longings deal with human needs and involve emotional, cognitive, and motivational processes. He argues that life longings could be one basis for addiction disorders.

As the construct of life longings is relatively new in psychology, only a few empirical studies exist and the primary method of investigation has been qualitative research. In an attempt to assess the semantic meaning structure of life longings, several interview studies were conducted in which adults aged 25 to 52 years were asked about their experiences of life longings (Palaian, 1993; Ravicz, 1998; Schurer, 2001). All open-ended interviews were analyzed qualitatively and revealed similar results. In the study by Ravicz (1998), participants described their life longings as the experience of a desire to change something in their lives and to become someone or something different from their actual situation. For these participants, life longings were associated with themes of reaching for something, desiring objects, encountering barriers, and experiencing bittersweet feelings. Palaian (1993) defined life longings as persistent desires that occur over an indefinite period of time. She found that life longings were experienced as painful losses that are accompanied by feelings of frustration and the awareness that something is missing in life that induce a call to action to escape from the present. Participants in the interview study by Schurer (2001) mentioned similar defining aspects of life longings. Life longings were described as states as well as processes that are characterized by a discrepancy between the actual and a desired situation. Similar to other studies, participants considered life longings as a motivator for future actions.

Holm and colleagues conducted several studies on the experience of life longings in children. In this research, life longings are defined as a need for something without which life would be incomplete. Furthermore, Holm (1999) states that life longings involve ambivalent emotions, that is, love and happiness on the one hand, sadness and depression on the other hand. In one of these studies, Holm and colleagues (Holm, Claésson, Greaker, Karlsson, & Strömberg, 2000) interviewed 41 six-year old Swedish children about their life longings. For most children, life longings were related to joy *and* sadness and directed at a specific target. When the children were asked what they did when they experienced their life longings, the most prominent coping strategy was "doing something actively". The life longings that were mentioned by the children referred to either one of two different time perspectives: something

that happened in the past, and something that was expected to happen in the future. In a sample with 74 4- and 5-year old Norwegian and Swedish preschoolers, Holm, Greaker, and Strömberg (2002) asked participants for their understanding, use, and description of the concept of life longings. The study revealed that especially younger children had difficulties understanding and using the concept of life longings.

Like other forms of mental imagery, life longings are subjective phenomena that are not directly observable and notoriously elusive (Finke, 1989). Therefore, quantitative data is rare. One quantitative study was conducted by Holm (2001), in which 242 Swedish children aged 9, 12, and 15 years responded to a 13-item questionnaire about different dimensions and aspects of their experiences of life longings. Several age and gender differences were found. Girls, especially 15-year-olds, experienced life longings more often and more intensely than boys, which is consistent with the often observed gender difference in the reporting of emotional experiences (e.g., Brody, 1995).

Taken together, initial psychological conceptualizations and mainly qualitative investigations of life longings reveal that life longings evoke a state of tension between an actual situation and an idealized, barely attainable one. This tension is accompanied by feelings of incompleteness and ambivalent emotions. Life longings represent utopian conceptions of life, they symbolize the desire for otherness, and motivate future behavior.

2.2.2 A Developmental Psychology of Life Longings

<u>Definition of Life Longings</u>

More recently, Baltes and colleagues proposed a developmental conceptualization of life longings (Baltes, 2007; Scheibe et al., 2007). This conceptualization was guided by previous writings on life longings and basic assumptions of the humanities and lifespan psychology. In the humanities, one definition of Sehnsucht (life longings) is offered in a comprehensive dictionary by the famous German linguist Grimm (1854-1871/1984). There, Sehnsucht is defined as "a high degree of intense and often painful desire for something, particularly if there is no hope to attain the desired or when its attainment is uncertain, and still far away". Baltes and colleagues used this definition as well as philosophical ideas and literary descriptions of life longings (as briefly outlined above) as a guiding frame for a lifespan psychological conceptualization of life longing.

For the specification of life longings from a lifespan psychological perspective, several theoretical core ideas of lifespan psychological theory (Baltes, 1987; 1997) were applied. One of the central assumptions in lifespan psychology is that human development is characterized by a continuous search for optimization, growth, and perfection. However,

human development does not only include gains but also losses. Therefore the realization of life - especially in its utopian qualities - is inherently incomplete. In addition, individuals constantly evaluate their lives and by this often realize that there is a tension or discrepancy between their actual and ideal life reality. As a consequence, individuals are always searching for strategies to deal with the lifelong gain-loss dynamic and the fact that life will never be complete. The development and implementation of such mental and emotional strategies is assumed to be of central importance for the conduct and meaning of life. As a reaction to the experience of the imperfection of life individuals develop thoughts and feelings about another, better, if not optimal life. This "other life" can be at the objective-behavioral level (such as goals and goal pursuit) but also at the subjective-imaginary level. Drawing from this context, Baltes and colleagues offer a psychological definition of Sehnsucht (life longings) as recurring, intense desires for ideal, alternative realizations and states of life that are remote or unattainable (Scheibe, et al., 2007).

Moving beyond the definition of life longings, Baltes and colleagues specified a family of six structural criteria that characterize the experience of life longings (see Figure 1): (1) utopian conceptions of ideal development, (2) sense of incompleteness and imperfection of life, (3) conjoint focus on the personal past, present, and future (ontogenetic tritime focus), (4) life reflection and evaluation, (5) emotional ambivalence, and (6) symbolic richness. In addition, as will be described in more detail later, life longings can be characterized by their content, salience, controllability, and functionality. In the following, the six structural criteria are explained.

(1) Personal utopias. As already outlined above, one basic assumption of lifespan psychology is that human development is a lifelong, non-ideal, and thus incomplete process (Baltes, 1987; 1997). Given this incompleteness, individuals develop utopian conceptions of an ideal life. It is a unique human ability to imagine alternative, idealized realities of life. Because these "other lives" are not fully attainable, individuals strive to attain these utopian conceptions of life at an imaginary level, i.e., in their life longings. Thus, in their life longings persons make their personal utopias, ideals, or alternative realizations of life a subject of discussion.
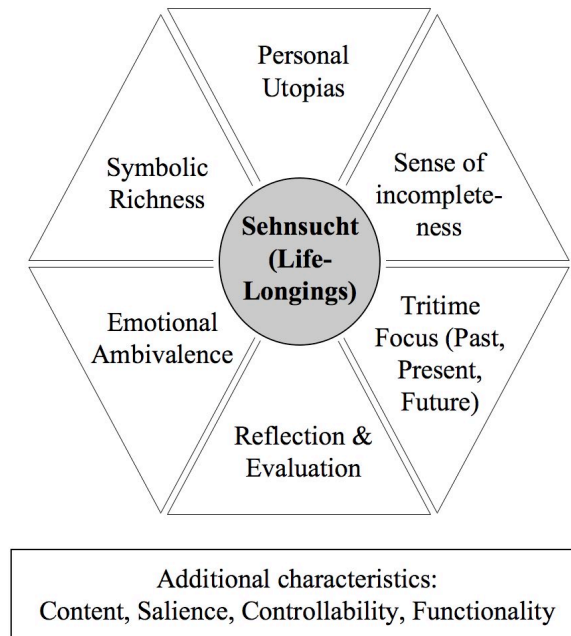
Figure 1. The six structural criteria of *Sehnsucht* (life longings). In addition, life longings can be defined by their content, salience, controllability, and functionality. Adapted from Scheibe, Freund, & Baltes (2007).

(2) Sense of incompleteness. The assumption of lifespan theory that development is a lifelong process that never fully reaches completion is also reflected in the second structural characteristic of life longings. In fact, the second criterion of life longings is necessarily related to the first one. As outlined above, individuals have the ability to imagine alternative realizations of life but they also compare these idealized conceptions of life to their current situation. As a consequence individuals experience a sense of imperfection and incompleteness. In their life longings persons express what they are missing in their lives and what they think would make their lives more complete.

(3) Ontogenetic tritime focus. Being a concept applicable to the whole lifespan, life longings are assumed to extend across the personal past, present, and future. Life longings not only focus on intense emotionally toned experiences, events, or special persons from a person's past but also on anticipated meaningful or peak experiences in the present and future.

(4) Reflection and evaluation. The fourth structural criterion that characterizes the experience of life longings emphasizes a cognitive component. Life longings are likely to activate reflective and evaluative processes that comprise comparisons of a person's actual situation with an ideal one or with others. In addition, life longings deal with the search for an optimal life course and thus include self-critical reflections on the personal past, present, and future.

(5) Emotional ambivalence. One of the most obvious features of life longings is their strong and ambivalent emotional quality. The simultaneous presence of positive and negative emotions characterizes the bittersweet feelings that accompany life longings. Whereas positive emotions are assumed to be a result of positive fantasies and hopes regarding the longed-for object, person, or event, negative emotions may derive from the awareness of the unrealizability of one's life longings and the imperfection of one's life in general. In this regard, the emotional ambivalence of life longings also represents the continuous presence of gains and losses in life and the multi-functionality of human development.

(6) Symbolic richness. Life longings represent more than specific desired objects, persons, or states. Instead they have a special meaning and reflect symbolically rich ideas of an individual's life; something that is not necessarily fulfilled and that is associated with important goals, motives, and needs of the person. It is assumed that persons are not longing for a specific target itself but for the emotional and mental meaning that is associated with this target. In accordance with Boesch (1998), the symbolic meaning of life longings is also reflected in the assumption that ultimately any life longing is a search for happiness and fulfillment.

When reflecting on these six structural characteristics of life longings one recognizes that most aspects (especially personal utopias and their unattainability, ambivalent emotions, and a discrepancy between an ideal and an actual state) have also been addressed in the initial psychological definitions of life longing that were described above. However, the psychological conceptualization by Baltes and colleagues (P. B. Baltes, in press; Scheibe et al., 2007) presents a first holistic psychological conceptualization of life longings. It implies that although individuals' life longings may differ in the degree to which each of the six suggested characteristics is expressed, only phenomena that in general fulfill the six structural criteria can be considered as life longings.

Scheibe et al. (see also Scheibe, 2005; Scheibe et al., 2007) conducted the first empirical study that was based on the developmental conception of life longings. One of the major aims of this study was to empirically test the proposed six-factorial structure of life longings. Therefore, 299 persons who were stratified by age (six age blocks; 19 to 81 years), gender (49% women and 51% men), and education (44% low and 56% high) were asked to list and evaluate their life longings. During a guided mental journey through different phases of their lives, participants were asked to think about whether they had life longings related to these phases and if so to write them down. Afterwards, participants chose their three most important life longings and rated them on the Life Longing Questionnaire (Scheibe, 2005; Scheibe et al., 2007). This questionnaire was developed to measure the six structural criteria

and other characteristics of life longing (such as salience, controllability, and functionality, to be discussed in more detail in the next sections). Confirmatory factor analyses were used to analyze whether participants' actual evaluation of their life longings fit the proposed six-factorial structure of life longing. These analyses confirmed the six factors of life longings and revealed that the six criteria were positively interrelated. There were almost no effects of gender or education on the six-factorial structure of life longings. Except for incompleteness, which was negatively related to age, the structural elaboration of life longings showed mean-level stability across adulthood.

The Scheibe et al. study was conducted with a German sample. This makes sense as the construct has a strong cultural base in Germany. Thus, German participants can be expected to understand the construct and to report on personal life longings. But how about other cultural backgrounds, such as the American? A second study addressed the issue that there is no adequate equivalent of Sehnsucht (life longings) in the English language. This online study (Wiest, 2006) investigated in an intercultural comparison between the USA and Germany whether Sehnsucht is indeed a typically German phenomenon. More specifically, it was tested whether the six-factorial structure of life longings can also be found in an US-American sample and whether it is comparable to a German sample. The complete sample of this study consisted of 666 persons between 18 and 69 years: 155 US-Americans (75% women) and 511 Germans (72% women). As in the study by Scheibe et al. (2007), participants were provided with a definition of life longings and then pursued a guided mental journey through different phases (or domains) of life. Afterwards, they listed up to two life longings and evaluated them on the Life Longing Questionnaire. Indeed the six-factorial structure of life longings was demonstrated in both the German and the US-American samples. A multiple-group comparison confirmed the factorial invariance of the six-factor structure across both samples as indicated by invariance of factor loadings.

Taken together, life longings can be described by six interrelated structural criteria. There is empirical evidence that the six-factorial structure can also be found across cultures.

Contents of Life Longings

In addition to the six structural criteria, life longings can be differentiated and described by their contents. Life longings are frequently encountered in everyday life such as reading books, magazines, or newspapers, watching television, or going to the theatre or art exhibitions. Novels, movies, art pieces, or theatre plays are replete with utopian and idealized conceptions of life and symbolize life longings of all different types (cf. Barthes, 1964). Popular contents dealing with these phenomena include finding true love, homesickness,

being famous and socially recognized, or achieving utopian dreams. In this context, in their most idealized and utopian form, life longings mirror basic human motives (such as intimacy, affiliation, power, or achievement, see McClelland, 1985) or needs for growth (in the terminology of Maslow's hierarchy of needs, see Maslow, 1954). Thus, motives likely do not only manifest themselves in concrete, attainable goals but also in more abstract, unattainable life longings.

The reflection of basic motives in life longings of individuals has been empirically confirmed in several studies conducted in the Life Longing Project at the Max Planck Institute for Human Development (for an overview of the content domains of life longings see Scheibe, Kotter-Grühn, Wiest, & Zurek, in prep.). For instance, when participants in the studies by Scheibe et al. (2007; see also Scheibe, 2005) and Wiest (2006) were asked to list their most important life longings, life longings for love, partnership, or family were mentioned most often in both German and US-American samples. When participants were asked to rate how much their reported life longings were related to each of 13 life domains, family, friendship, and partnership ranked among the top domains. The cultural comparison study by Wiest showed that US-Americans and Germans differed only on few content domains of life longings. Whereas the life longings of German participants dealt more often with mental well-being than those of US-Americans, life longings related to the domains spirituality, work/education, and finances were mentioned more frequently in the US sample than in the German sample.

In addition to human motives, life longings are assumed to be associated with age-related developmental tasks (e.g., Erikson, 1980; Havighurst, 1972). At each stage of a person's life, different themes are of particular relevance. In young adulthood, for instance, finishing education, finding the "right" partner, and starting a family are relatively salient tasks that individuals try to accomplish. In middle adulthood, the management of family and career are prominent topics. In older adulthood, coping with physical changes of aging, adapting to retirement or the death of a spouse become increasingly important. These different developmental tasks are also mirrored in a change of goals that individuals pursue over the life course (Heckhausen, 1997; Nurmi, 1992; Nurmi et al., 1992). Consequently, it can be assumed that not only developmental goals but also the contents of life longings show age-related changes. Scheibe et al. (2007) demonstrated that life longings related to health (e.g., recover from a severe disease), family (e.g., establishing a happy family), and politics (e.g., peace for everybody) increased with age. In contrast, with advancing age life longings were less related to work/education (e.g., getting a PhD title and becoming head of a company) and personality characteristics (e.g., being independent and free from time restrictions). Quadratic

age effects were found for partnership (e.g., getting old with the spouse), finances (e.g., maintaining standard of living until the end of life), and work/education. Partnership and finances were more frequently mentioned in middle adulthood than in young and old adulthood. Education and work-related life longings were listed more often in young and middle adulthood than in old adulthood.

In sum, life longings primarily deal with basic human motives (e.g., affiliation and intimacy motives). The contents of life longings change with age and often reflect topics that are related to developmental tasks. Cultural differences within western cultures for the contents of life longings seem to be rather small.

Salience and Controllability of Life Longings

Besides the structural elaboration and content, life longings can further be defined by their salience and controllability (Scheibe et al., 2007). *Salience* can be quantified in terms of how often a life longing occurs (frequency), how long a life longing episode usually lasts (duration), how intense the life longing is experienced (intensity), and how important the life longing is for a person's self-concept (centrality). It represents the phenotypic expression of life longings and typically shows interindividual differences (across persons) as well as intraindividual variability (within persons: across or even within life longings). In the study by Scheibe et al. (2007; see also Scheibe, 2005) the salience of life longings was found to be unrelated to the two structural characteristics personal utopia and emotional ambivalence but was positively related to incompleteness, reflection/evaluation, tritime focus, and symbolic meaning. This implies that highly salient life longings were experienced as being accompanied by a sense of incompleteness and as symbolically rich. They activated reflective and evaluative thoughts and were related to a person's past, present, and future. However, life longings that were reported to be highly salient were not necessarily utopian and emotionally ambivalent. Frequency, intensity, duration, and centrality of life longings did not change with chronological age of participants (Scheibe, 2005) and did not differ between a German and a US-American sample (Wiest, 2006).

Controllability is a central construct in lifespan developmental psychology (M. M. Baltes & Baltes, 1986; Lachman & Burack, 1993). There is a large body of literature on control beliefs that demonstrates how important and beneficial it can be for individuals to have control over certain aspects of their life (e.g., Lachman & Weaver, 1998; Rodin, 1986; Skinner, 1996) or at least to believe to have control over them (see for instance the work on positive illusions, Taylor & Brown, 1988, 1994). In this context, having a sense of control is also a central component in action-theoretical approaches (Brandtstädter, 2006; Gollwitzer &

Bargh, 1996) in psychology. Individuals are more likely to pursue goals or to invest into life domains they can control than into goals or life domains over which they do not have control. Consequently, control beliefs influence individuals' choice of developmental goals and thus support them to actively shape their development. Based on the importance of controllability for other motivational constructs, it can be assumed that controllability plays a crucial role for life longings as well. Baltes and colleagues (P. B. Baltes, in press; Scheibe et al., 2007) propose two facets of control over life longing. First, persons can have *control over the experience of their life longings* – defined as the ability to influence the onset, course, and ending of life longing episodes. Second, individuals can have *control over the realization of their life longings* – defined as the extent to which persons believe that they know and have access to means for the realization of their life longings.

Life longings are accompanied by ambivalent emotions, which suggests that the experience of life longings can be positive and negative at the same time. Thus, being able to control the onset and ending of these positive and negative emotions and thoughts is thought to be crucial for positive psychological functioning and well-being. Life longings that are predominantly experienced as joyful may be approached or self-initiated by individuals. Life longings that are accompanied by more painful emotions are likely to be avoided. In this context it is assumed that controllability codetermines whether or not life longings have positive functions for personal development and well-being (see section on the functionality of life longings).

Scheibe (2005) showed that with advancing age, individuals perceive the experience of their life longings as more controllable whereas control over the realization of their life longings decreases. The first finding is in accordance with literature on emotion regulation, which states that as individuals get older they report being better able to control and regulate their emotions (e.g., Gross, Carstensen, Pasupathi, Tsai, Skorpen, & Hsu, 1997; Lawton, Kleban, Rajagopal, & Dean, 1992). The second finding on the decrease in control over life longing realization reflects the notion of decreasing resources (e.g., P. B. Baltes & Baltes, 1990; P. B. Baltes & Smith, 2003; P. Martin, Poon, Kim, & Johnson, 1996) and a decline in perceived remaining life time in older age (Carstensen, Isaacowitz, & Charles, 1999). Among other factors, decreasing resources and decreasing future time perspective have been found to influence the choice and orientation of goals (Ebner et al., 2006; Lang & Carstensen, 2002; Riediger & Freund, 2006) and to lower the subjective likelihood of realizing goals (Heckhausen, 1997). A similar effect can be assumed for the realization of life longings. For control over life longing experience cross-cultural differences were found. Germans and US-Americans did not differ with respect to their subjective control over the realization of their

life longings, but American participants reported a stronger control over the experience of their life longings than German participants (Wiest, 2006).

<u>Functionality of Life Longings</u>

Whenever a psychological construct is considered from a developmental perspective, the question for its functionality arises. Baltes and colleagues (P. B. Baltes, in press; Scheibe et al., 2007) suggest two different functions of life longings: *directionality* and *management of nonrealizability and loss*.

Directionality. Life longings have motivational potential and as a consequence may give direction to a person's life. In their life longings persons develop utopian, idealized conceptions of life and these may be translated into overarching ideas or values by which persons try to live. More generally, directionality may result in agentic behavior through which individuals can contribute to their own development that, in turn, is also influenced by biological and environmental forces (see P. B. Baltes, Reuter-Lorenz, & Rösler, 2005; P. B. Baltes & Smith, 2004; Li, 2003 on biocultural co-constructivism). In this context, the development of utopian, idealized conceptions or life trajectories may also be translated into concrete goal pursuit to attain the ideal states. Note that this possible transformation of life longings into goals reflects the opposite of what I investigated in the present dissertation, namely the transformation of goals into life longings as one manifestation of the development of life longings. Thus, both developmental directions are conceivable but each represents a different function of life longings: The transformation of life longings into goals represents the function of directionality, whereas, as will be outlined later, the transformation of goals into life longings represents the function of management of nonrealizability and loss.

Managing nonrealizability and loss. The second function of life longings is that they may help individuals deal with nonrealizability and loss in their lives. If persons cannot have something in reality they can still have it at the level of fantasy in their imagination. Thus, life longings may serve to facilitate the management of losses and unrealizable goals or wishes by being "an imaginary substitute for the things one cannot have in reality" (Scheibe, 2005, p. 25). Taken together, life longings fulfill two basic functions that are indicative of positive psychological development: they help to search for an utopian positivity to experience peaks in life but also to avoid a chronic sense of failure that comes along when something cannot be attained.

The functionality of life longings can be integrated into a broader framework of self-regulatory behavior. In fact, Baltes and colleagues (P. B. Baltes, in press; Scheibe et al., 2007) conceptualized the developmental construct of life longings within the model of selection,

optimization, and compensation (SOC, P. B. Baltes & Baltes, 1990; Freund & Baltes, 2000). In their meta-model Baltes and Baltes (1990) propose three processes of developmental regulation: selection, optimization, and compensation. Selection processes are directed at the choice of goals according to one's preferences and desired states. Life longings can direct and influence goal pursuit to move closer to the utopian conception of life for which he or she is longing. Thus, in the terminology of the SOC theory, the function of directionality can be understood as a selection process. Optimization processes basically refer to goal-relevant means. In order to achieve a specific goal, persons may invest more time and effort, learn new skills, or practice their skills more often. Finally, compensation processes gain importance when persons experience losses in means to achieve specific goals. In such situations persons may substitute the means in order to maintain a certain level of functioning. In this context, the function of life longings to manage nonrealizability and regulate losses at the level of fantasy can be considered a compensatory strategy.

Although there is empirical evidence that the use of SOC-related behavior (assessed via self-report) is positively related to well-being, positive emotions, or health-related outcomes (e.g., Freund & Baltes, 2002; Wiese, Freund, & Baltes, 2002; Ziegelmann & Lippke, 2007), in the study by Scheibe et al. (2007; see also Scheibe, 2005) the functional role of life longings was a two-edged sword. Persons who rated their life longings higher in terms of salience, incompleteness, symbolic meaning, reflection/evaluation, and tritime focus were more likely to report that their life longings give direction to their lives. When persons rated their life longings higher in terms of incompleteness, symbolic meaning, reflection/evaluation, personal utopia, and ambivalence their life longings were more likely to fulfill the function of managing nonrealizability and loss. Further, persons who felt more control over the realization of their life longings also assigned a higher directionality, respectively. Individuals who perceived they had more control over the experience of their life longings were more likely to report that their life longings helped them to manage nonrealizability and loss.

However, individuals who reported a stronger expression of life longings showed lower levels of positive affect, life satisfaction, and psychological functioning. This implies that life longings, if they become too intense, may be dysfunctional as well. One possible explanation could be that persons with more intense and utopian life longings are more critical regarding their self-reflections and thus, experience a more pronounced discrepancy between their actual and an ideal life leading to a decrease in subjective well-being (see Scheibe, 2005 for more possible explanations of two-edged pattern of results). In addition, the relationship between well-being and life longing expression was moderated by control over

the experience of life longings. Persons who reported a stronger sense of control over their life longing experience showed a less negative relationship between life longing expression and well-being than persons who could not control the experience of their life longings well. With respect to age differences in the two functions of life longings it was found that older adults were more likely than younger adults to report that their life longings helped them to deal with unrealizability and loss. This is in accordance with the assumption that as individuals grow older they are confronted more often with losses and constraints. However, age did not play a role for the directionality function of life longings.

So far, I have illustrated features that can be used to define and characterize life longings within a lifespan psychological framework. Drawing from this context, in the next section I want to focus on the development of life longings.

2.3 Development of Life Longings

2.3.1 Emergence and Developmental Trajectory of Life Longings

To date, little is known about the emergence and developmental trajectory of life longings (for first theoretical deliberations see Baltes, in press or Scheibe et al., 2007). In order to understand life longings from a process perspective, several components characterizing the process need to be considered. The first question that needs to be answered is: When do life longings emerge first in life? Therefore, necessary developmental antecedents for the ontogeny of life longings have to be explored. Life longings are highly complex phenomena that represent a joint combination of affective, motivational, and cognitive (most notably comparative and evaluative) elements. This complexity suggests that life longings require abilities and experiences in the domains of self-concept, emotional intelligence, autobiographical reasoning, and remembering that only develop in middle to late adolescence (Saarni, Campos, Camras, & Witherington, 2006; Thompson, 2006). For instance, life longings are assumed to be accompanied by bittersweet emotions. Larsen and colleagues (Larsen, To, & Fireman, 2007) provided empirical evidence that older children (11-12 years) are more likely than young children (5-6 years) to report experiencing positive and negative emotions at the same time. Thus, life longings are assumed to not be fully represented in an individual until adolescence. This assumption is also supported in the previously discussed studies by Holm and colleagues (2001, 2002) who find that preschoolers have difficulties understanding and using the concept of longing whereas adolescents seemed to have access to this concept.

Once individuals have the basic capacity and ability to develop life longings, the question arises: Under which circumstances or conditions do specific life longings evolve?

Scheibe (2005) discusses four possible antecedents for the development of life longings: the permanent incompleteness of human development, development as selective adaptation, age-related and non-normative losses, and the irreversibility of time. Each of them – alone or in combination – is a possible origin or source of life longings. The experience of incompleteness and imperfection that is inherent to human development in general and to each person's life specifically (P. B. Baltes, 1987, 1997), may cause emotionally toned reflections (i.e., life longings) that affect those things that are assumed to make life more complete. Further, as individuals move through life, limited time and resources force them to be selective with respect to life goals and life paths (e.g., P. B. Baltes & Baltes, 1990; Heckhausen, 1999). The awareness of not being able to pursue all plans and projects may result in the compensatory pursuit of unrealized developmental paths at an imaginary level as life longings.

Very similar to developmental selectivity as an origin of life longings is the notion of age-related and (non)-normative losses. Across the whole lifespan, individuals encounter developmental deadlines (e.g., the biological deadline for childbearing in women, see Heckhausen, Wrosch, & Fleeson, 2001; or perceived deadlines related to intimate relationship goals, see Wrosch & Heckhausen, 1999) and have to deal with normative as well as non-normative losses. Passing a deadline and experiencing a loss are similar in that they can render something that is of relevance for a person unattainable. For instance, passing the biological deadline for childbearing excludes the possibility to have children of one's own. And losing a loved person or a relevant skill makes it impossible to reunite with this person or to perform a specific task that is contingent upon this skill. This confrontation with unrealizability and loss may transform unattainable or lost life paths and life goals into life longings. Someone who lost a spouse may develop a life longing for this person and thus keep a connection with him or her in imagination and fantasy. Or a woman who desperately wanted to have children might pursue her wish for a child in her imagination.

Yet another source of life longings is related to the fact that it is not possible for individuals to live in another time period or to relive specific periods of their lives (e.g., the exciting period of young adulthood). Thus, being stuck in the present, individuals may start reflecting about more positive phases of their lives or about how life would have been if they had lived at another time. However, time is irreversible and nobody can go back (or forward) to another time period in reality – but individuals may develop life longings (consisting of idealized memories or imaginations) related to these times. In sum, these developmental antecedents proposed by Scheibe (2005) have a common thread in that they all deal with nonrealizability and loss.

The present dissertation focuses on *one* developmental manifestation that is especially related to selective adaptation and regulation of losses. Specifically, the possible transformation of an unattainable goal into a life longing was investigated. Individuals are regularly confronted with the fact that not all of their goals are attainable. Reasons for this unattainability may be limited biological resources, developmental deadlines, a given genetic potential, a restricted lifespan, socio-structural constraints, age-graded norms, and chosen biographical tracks (for an overview see for instance Wrosch et al., 2003a). As a consequence, individuals have to give up the goals they cannot attain. However, giving up goals is especially difficult with respect to those goals that are considered very important for a person's self-definition and/or have existed for a long time. In such cases, individuals may not be able to completely let go of a specific goal target (Brandtstädter & Lerner, 1999; Brandtstädter & Rothermund, 2002). They may continue pursuing this target at the level of fantasy as a life longing, that is, they *transform their unattainable goal into a life longing*.

The transformation of an unattainable goal into a life longing can be understood as a transition process. Transitions represent a more or less gradual change in state (in contrast to an event, which is conceptualized more in terms of an abrupt change) and are embedded within larger trajectories (Elder & Kirkpatrick Johnson, 2003; Settersten, 2003). In this case, the change in state refers to a change in representation of a desired goal to a representation as a life longing. This transition from goal to life longing can be seen as the starting point of the developmental trajectory of life longings.

The idea that former goal targets live on at another level of representation as life longings is similar to a theoretical approach proposed in the bereavement literature, namely the continuing bonds approach. Several researchers in this area suggest that during the process of grieving for a loved person the relationship to this person is elaborated, reorganized, and gradually redefined. This leads to changes in the representation of the lost relationship, through which a continued bond to the deceased person can be remained (Boerner & Heckhausen, 2003; Bonanno & Kaltman, 1999; Shuchter & Zisook, 1993). The continuing bond to the deceased is based on already existing mental representations of the loved one (basically in form of memories) as well as representations that are newly constructed through imagination. These mental representations can serve as mental substitutes for the lost person. Similarly, life longings are proposed to be mental substitutes for lost (that is, unattainable) goals.

The study of trajectories (including transition processes) and changes is one of the major aims of lifespan developmental psychology (e.g., P. B. Baltes, 1987; P. B. Baltes et al., 2006; P. B. Baltes et al., 1980) and life course sociology (e.g., Elder & Shanahan, 2006). In

order to explore the developmental trajectory of life longings, data from longitudinal studies would be necessary. Since, unfortunately, this type of data is not available yet, a careful look at age-related differences in characteristics of life longings (such as the structural elaboration, salience, contents, controllability, or functionality) could provide a first glimpse of changes and variation in life longings over time. Age-related differences in these characteristics have already been illustrated in the previous sections. To summarize them very briefly: except for incompleteness no age effects have been found for the six-factorial structure and salience of life longing while age had an effect on the contents and controllability of life longings. The contents of life longings were found to reflect typical developmental tasks and themes in life that change as a function of age-graded, history-graded, and/or idiosyncratic (non-normative) influences (e.g., P. B. Baltes, 1987; P. B. Baltes et al., 1980). With advancing age, individuals reported to have more control over the experience and less control over the realization of their life longings. Further, the function of life longings to manage nonrealizability and loss was more pronounced in older adults than in younger adults .

In sum, life longings are assumed not to develop before adolescence. They most notably emerge when individuals are faced with nonrealizability or loss. I propose that one source of life longings is the transformation of an unattainable goal into a life longing.

2.3.2 Functionality of Transforming Unattainable Goals Into Life Longings in the Context of Developmental Regulation and Successful Development

In the previous section I have proposed that life longings may develop out of unattainable goals. Next, the question arises *why* an unattainable goal should be transformed into a life longing? In order to answer this question, we need to look again at the functionality of life longings. As described in more detail above, life longings have two functions: they give direction to a person's life and they help individuals to deal with nonrealizability and loss in life. One prominent example of experiencing nonrealizability and loss is the case of unattainable/blocked goals. In this sense, the development of life longings can be linked directly to the functionality of life longings: life longings develop out of unattainable goals because it is their function to deal with nonrealizability.

Goals have important functions for an individual's development and their attainment influences well-being (Brandtstädter & Renner, 1990; Brunstein et al., 2007; Palys & Little, 1983). However, due to limited time, resources, and external barriers, persons cannot pursue and attain all of their goals (e.g., Wrosch et al., 2003a). Not being able to attain an important goal is often related to lower well-being. As Klinger (2004, p. 11) states: "[…] the goal cannot be relinquished without a psychological cost, such as disappointment or depression."

Several studies have revealed that the confrontation with unattainable goals may result in the experience of failure and lost control over an important domain in life and that this may come along with frustration, psychological distress, and a decline in well-being (e.g., Brunstein, 1993; Carver & Scheier, 1990; Klinger, 1975; Wrosch et al., 2003b). In addition, adherence to goals one cannot achieve consumes resources that could be used in other domains. When a person realizes that he or she is not (or no longer) able to attain a goal, self-regulation efforts are required. Self-regulation processes include strategies that persons apply to control, influence, or change their behavior and thus are crucial correlates of successful development. The most often discussed self-regulatory strategy to deal with unattainable goals and to avoid negative consequences is goal disengagement (Klinger, 1975; Nesse, 2000; Wrosch et al., 2003a; Wrosch et al., 2003b).

Klinger (1975, 1977) proposed an incentive-disengagement cycle that segments reactions to blocked goals into five stages. It starts with a stage of increased effort to overcome the blockage of the goal. If persons realize that this behavior is not successful they react with aggression. The stage of aggression is followed by a stage in which persons give up, which, in turn, leads to increased depression. After some time, persons are finally able to disengage from the goal and invest into new incentives.

Similarly, Wrosch and colleagues (2003a) define goal disengagement as a process that comprises the withdrawal of effort *and* commitment from goals one cannot attain. *Withdrawal of effort* includes a reduction or total cessation of goal-directed energy and activity at the behavioral level of goal representation. *Withdrawal of commitment* denotes a reduction in the importance of a goal and its redefinition for one's own self-concept at the cognitive-emotional level of goal representation. There is empirical evidence that the withdrawal of effort *and* commitment from an unattainable goal (i.e., successful disengagement) is associated with positive outcomes (see first path in Figure 2 illustrating the potential outcomes of blocked goals), especially when the disengagement process is accompanied by one of the following activities: (1) rescaling of standards and choice of a less demanding goal in the same domain, (2) choice of an alternative path to the same higher-order goal, or (3) goal reengagement, that is, the formulation of new (higher-order) goals in another domain (e.g., Heckhausen et al., 2001; Wrosch & Heckhausen, 1999; for an overview see Wrosch et al., 2003a; Wrosch et al., 2003b).
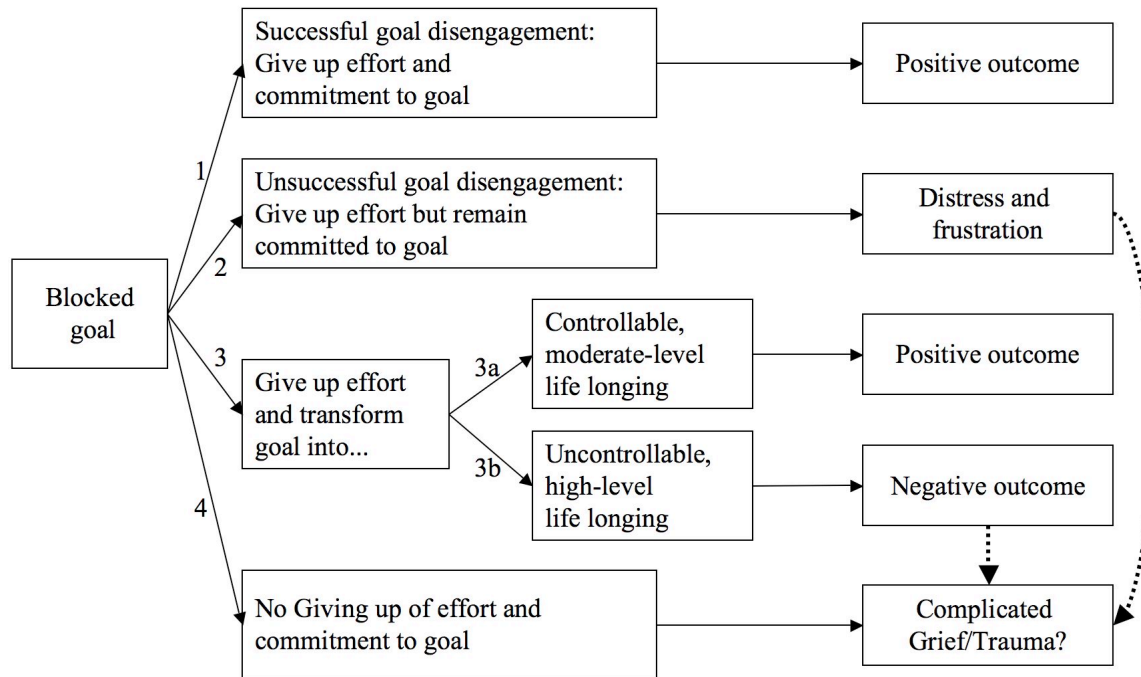
Figure 2. Potential reactions to the confrontation with blocked goals and their potential outcomes (adapted from Wrosch et al., 2003a). Positive outcomes might be expected when individuals withdraw both effort and commitment from a blocked goal (path 1) but also when individuals withdraw effort and transform the blocked goal into a controllable, moderately expressed life longing (path 3a). Negative outcomes (e.g., in the form of distress, frustration, complicated grief) might be expected when individuals give up effort but remain committed to the goal (path 2), when they give up effort and transform their goal into an uncontrollable, strongly expressed life longing (path 3b), or when they neither give up effort nor commitment to the goal (path 4). In this model, controllability refers to the control that a person has over the experience (but not over the realization) of this life longing.

However, completely disengaging from a specific target may be especially difficult when it comes to personal goals that are crucial for a person's self-definition. In cases when persons have already invested many resources, when they have pursued a goal for a long time, or when the pursuit of a goal is seen as normative (e.g., childbearing in women at a certain age) disengagement from these goals can be more difficult. Even if the behavioral effort to attain the goal is stopped, a mental representation of and an emotional bonding to this target remains. Klinger (2004) argues in this context that goal disengagement is characterized by inhibiting responses to cues that are associated with the goal but not by completely forgetting or deleting the goal.

So far, it has been proposed that a withdrawal of effort without a simultaneous withdrawal of commitment is related to distress and frustration (see second path in Figure 2). In the present dissertation, though, I propose that withdrawing effort while remaining committed to the goal is exactly the type of self-regulatory situation where another strategy

aimed at unrealizable goals is adaptive: the transformation of the unattainable goal into a life longing. Specifically, when individuals realize that their goal is not attainable at the behavioral level, they begin a goal disengagement process. However, because the goal target is of very high personal relevance, they remain cognitively and emotionally committed to the goal target. Since the goal can no longer be pursued as well as not be relinquished it is finally transformed into a life longing. As a life longing the goal target lives on in imaginary scenarios. Thus, the transformation of an unattainable goal into a life longing is not only one manifestation of the development of life longings. It may also be a functional reaction to the confrontation with nonrealizability. As can be seen in the third path of Figure 2, I suggest that giving up effort and transforming the unattainable goal into a controllable life longing (note that controllability in this case refers to the control over life longing experience) of moderate expression should be related to positive outcomes (e.g., higher well-being, less frustration). In contrast, negative outcomes are likely if the unattainable goal is transformed into an uncontrollable life longing that is very strong in its expression.[2]

As described above, the functionality of life longings can be integrated into the SOC theory. Transforming an unattainable goal into a life longing reflects the function of life longings to manage nonrealizability and loss. Thus, it can be considered a compensatory strategy to regulate losses at the level of fantasy. Besides its integration into the SOC theory, the transformation of unattainable goals into life longings can also be embedded within other overarching theories of self-regulation such as the dual-process model of self-regulation (Brandtstädter & Renner, 1990; Brandtstädter & Rothermund, 2002) or the model of optimization in primary and secondary control (Heckhausen, 1999; Heckhausen & Schulz, 1993, 1995). Similar to the SOC theory, both theories propose strategies that individuals use in order to attain or maintain high levels of functioning and that help to maximize gains and minimize losses across the lifespan (see Boerner & Jopp, 2007 for a comparison of SOC, OPS, and the dual-process model; see also commentaries on this comparison by Greve & Wentura, 2007; Riediger & Ebner, 2007).

In the terminology of Brandtstädter and Renner's dual-process model of self-regulation (1990), the transformation of an unattainable goal into a life longing might be considered an accommodative mode of coping (i.e., persons adapt their goals or preferences to constraints and changes in resources). In the terminology of the model of optimization in

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[2] Negative outcomes are also likely when persons do not withdraw effort and commitment from an unattainable goal at all. It can be speculated that in the long run, this might be related to complicated grief (e.g., Shuchter & Zisook, 1993) or even trauma experiences.

primary and secondary control (OPS) by Heckhausen and Schulz (1993), transforming a blocked goal into a life longing could be considered a compensatory secondary control process (i.e., when goal attainment becomes difficult, individuals put effort into changing his or her own emotions, motivations, or cognitive representations).

In addition to the self-regulation approaches described above, the self-completion theory by Wicklund and Gollwitzer (1982) might offer an explanation for the question why individuals transform their unattainable goals into life longings. Self-completion theory states that if the sense of the self is damaged or incomplete, individuals try to make up for incompleteness by creating symbolic manifestations of what is missing in their lives. In this sense, life longings could be understood as symbolic manifestations of unattainable goals. With their life longings individuals try to maintain a complete sense of their selves.

Taken together, when confronted with blocked goals, self-regulation efforts (as they are discussed in several theories of developmental regulation, e.g., the SOC theory) are required. In this thesis I propose that the process of transforming a blocked goal into a life longing is a self-regulatory strategy that should help individuals cope with the unattainability of an identity-relevant goal.

In the present chapter, it was suggested that life longings may develop out of unattainable goals. This implies that life longings and goals are different from each other. In the next chapter, I will elaborate on the conceptual and structural similarities and differences between goals and life longings.

2.4 Differentiation of Life Longings From Goals

An important challenge in defining new constructs like life longings is the examination of their convergent and divergent validity, that is, to determine theoretically and empirically what this new construct can offer that is not already captured by other constructs. Although constructs such as goals, dreams, wishes, regrets, or possible selves may have similar characteristics to life longings, they are not synonymous. This chapter aims at differentiating those constructs that are of main importance in the present study: goals and life longings (for an overview of the differentiation of life longings from other constructs, see Scheibe, 2005; Scheibe & Freund, subm.).

In contrast to the psychological literature on life longings, the literature on goals is comprehensive and subsumes a variety of goal constructs (for summaries, see for instance Brunstein et al., 2007; Carver & Scheier, 1998) such as current concerns (Klinger, 1975; Klinger & Cox, 2004), personal projects (Little, 1983), personal strivings (Emmons, 1986, 1989), possible selves (Markus & Nurius, 1986; Markus & Ruvolo, 1989), or developmental

goals (Freund, 2003; Freund & Riediger, 2006; Heckhausen, 1999; Riediger, Freund, & Baltes, 2005). In general, goals are defined as internal representations of desired states (Austin & Vancouver, 1996). These can be states that one wants to achieve or avoid (Emmons, 1996). In comparison to life longings both constructs deal with personal desires. However, the definition of life longings also includes desired states or realizations of life that are by definition remote or unattainable. No explicit assumption about attainability is made in the definition of goals. In fact goals are understood as theoretically attainable. This distinction was supported by results in a study by Mayser, Scheibe, and Riediger (in press). When participants were asked to rate their most important goals and life longings with respect to cognitive, emotional, and action-related characteristics, goals were evaluated as more attainable and more controllable than life longings. Along these lines, it might also be the case that goals do not have the utopian quality that is typical of life longings.

Another structural characteristic that is supposed to differentiate goals from life longings is that life longings are related to a person's past, present, and future (tritime focus). Although Mayser and colleagues (in press) did not find a difference between the tritime focus ratings of goals and life longings, they demonstrated that goals were more strongly related to the future than life longings whereas life longings dealt more with a person's past than goals did. In addition, when persons were asked for their subjective conceptions of life longings and goals, they assigned different developmental trajectories to both concepts (Scheibe & Freund, subm.). According to these subjective conceptions, the saliency of life longings increases from childhood to young adolescence and then remains stable in adulthood. In comparison, an inverted U-shaped trajectory characterized goals, with an increase in saliency until young adulthood and a decrease from middle adulthood to old age.

Further, it can be assumed that in contrast to life longings, goals are not necessarily as symbolically rich and they do not necessarily activate reflective and evaluative thoughts about one's life. Goals are hierarchically organized with higher-order goals informing lower-order goals (e.g., Austin & Vancouver, 1996; Carver & Scheier, 1998; Sheldon & Emmons, 1995). Each lower-order goal may have further subgoals. Thus, in order to attain a higher-order goal, subgoals on several levels in the hierarchy have to be attained first. Higher-order goals are more abstract and thus may be (but do not have to be!) symbolically meaningful and may activate reflection and evaluation processes. Subgoals are often relatively concrete means to achieve the higher-order goals and do not have a symbolic meaning (except that they stand for their higher-order goals) and reflection or evaluation potential. In the study by Mayser et al. (in press) higher-order goals and life longings did not differ from each other with respect to symbolic meaning. However, in this study no comparison was made between less abstract

(lower-order) goals and life longings. In the literature, no hierarchical order of life longings is assumed but if one aims at integrating the concept of life longing into a broader motivational framework, life longings might be understood as relatively abstract meta goals (Scheibe, 2005).

One typical characteristic of life longings that is not found in goals is their emotional ambivalence (Mayser et al., in press; Scheibe & Freund, subm.). Goals are assumed to be primarily accompanied by or evoke positive rather than negative emotions. Life longings are assumed to be associated with positive and negative feelings at the same time. In fact, when participants in the study by Scheibe and Freund were asked to rate how typical specific emotional states were for a person who experiences or thinks about life longings (or goals), positive and negative states were equally typical for life longings whereas for goals positive states were more typical than negative states. In the same study the ambivalence of life longings in comparison to goals was also supported by differences at the trait level. Positive traits (e.g., high openness, high agreeableness) *and* negative traits (e.g., low sense of environmental mastery or low self-acceptance) were judged to be typical for persons who often experience life longings. In contrast, only positive traits were assigned to persons often thinking about their goals.

One of the core defining characteristics and sources of life longings is the sense of incompleteness and imperfection of life. Persons are always longing for something that they are missing and that would make their lives more complete. This is not necessarily true for goals (Mayser et al., in press), especially lower-order goals. Goals – particularly if we consider the differentiation of approach–avoidance motivation (e.g., Elliot & Covington, 2001; Higgins, 1997) or growth, maintenance, and prevention of loss orientation (Ebner et al., 2006) – do not always represent a lack of something. Moreover, in contrast to life longings, goals can also focus on avoiding negative outcomes or undesired states (Elliot & Sheldon, 1997; Elliot, Sheldon, & Church, 1997).

Life longings and goals can also be compared to each other with respect to their functionality. Whereas the function to manage nonrealizability and loss is unique to life longings, the function to give direction to a person's life is not just specific of life longings but also characteristic for goals. For instance Brunstein and colleagues (2007) summarize the functional roles of goals as giving structure and meaning to everyday life, stimulating activities, and an antecedent for self-determined actions. Freund (2003) similarly points out that goals motivate and organize behavior in sequences of actions. Thus, both life longings and goals share the function of directionality. However, the directionality of life longings may operate at a higher, more abstract level than the directionality of goals. In addition, the

directionality of life longings (mostly) refers to states one wants to attain, whereas goals have the additional function to direct persons' actions in a way to avoid or maintain a certain state.

Another finding in the study by Mayser et al. (in press) on the proximity of goals versus life longings to action and the availability as well as knowledge of means to attain a goal or life longing leads to a next important differentiation between both constructs. Goals were found to be more strongly related to behavior than life longings. In addition, participants reported that they had more knowledge about the means to attain their goals and these means were more available than the means to attain their life longings. These findings support the basic assumption that life longings are expressed in imaginations and fantasies (Boesch, 1991, 1998; Scheibe et al., 2007) whereas goals are primarily expressed in behavior by translating noncommittal desires into implementation intentions and eventually into actions (Gollwitzer, 1999). Thus, goals are represented at three levels, namely a cognitive, emotional, *and* behavioral level (e.g., Brunstein et al., 2007), whereas life longings are represented at the level of cognition and emotion, but not at the level of behavior.

Coming back to the deliberations on the possible development of life longings, imagine the following scenario: A person may have a strong commitment to a goal (cognitive and emotional level of representation) and he or she puts much effort into attaining this goal (behavioral level). As soon as this person realizes that the goal cannot be attained, he or she gives up effort (i.e., the behavioral level of representation disappears), but continues to pursue the goal target at an imaginary level (i.e., cognitive-emotional representation) as a life longing. Bandura (1997) describes goals as the interplay between discrepancy-producing and discrepancy-reducing processes in which goal setting goes along with generating a discrepancy between the present and an ideal situation and then actions are planned and initiated that aim at reducing this discrepancy. For life longings this last step of planning and initiating actions does not apply. The discrepancy that is experienced between the actual and desired situation is only reduced by "actions" that take place in the imagination.

Similar to life longings, goals are reflections of developmental contexts, developmental tasks, and basic human motives (e.g., Brunstein, Schultheiss, & Grässmann, 1998; Klinger & Cox, 2004). They are inherent components of development, and represent social, personal, and societal demands (P. B. Baltes et al., 2006; Brunstein et al., 2007; Freund, 2003; Freund & Riediger, 2006). Thus, the contents of (higher-order) goals and life longings may overlap. But what is a goal for one person may be a life longing for another. A variety of contextual information such as opportunity structures (including attainability and controllability), valence, or underlying motives need to be taken into account for each person's wishes in order to find out whether it manifests itself as a goal or life longing.

In sum, although goals and life longings share some similarities, they represent distinguishable concepts. Within a larger motivational framework, life longings bear similarity with higher-order goals as they are relatively abstract and reflect basic human motives and developmental tasks. Both life longings and goals give direction to a person's life but only life longings help to deal with nonrealizability and losses. In contrast to goals, life longings are remote or unattainable, they are directed toward a person's past, present, and future, they have more symbolic meaning and involve both positive and negative emotions at the same time, they deal more with incompleteness and personal utopias, and they activate more evaluative and reflective thoughts about life. Most notably, life longings are only represented at a cognitive-emotional level, whereas goals are characterized by cognitive, emotional, *and* behavioral manifestations.

As described above, the main goals of this dissertation were to investigate the possible transformation of an unattainable goal into a life longing and the functionality of this transformation. For methodological reasons that will be outlined later , I decided to examine one specific goal that is shared by a majority of persons in our society but cannot be attained by all, namely the goal to have children. To set the frame, the following chapter will shed some light on childlessness and its consequences.

2.5 Sociological and Psychological Perspectives on the Wish for Children

The aim of the present chapter is to provide general information about the population that was studied in the present dissertation, namely childless women. Furthermore, this chapter will point out why the sample case of wish for children is an appropriate subject for studying the transformation of unattainable goals into life longings.

When presenting the following data, it is important to recognize that most of them are based on cross-sectional evidence, and that there is little work that has been explicitly designed to assess historical changes. Therefore, the data cannot be seen as representative of intra-individual changes as a function of a person's age. Instead inter-individual age differences can be due to a variety of alternative interpretations; most notably that of differences between cohorts, migration, and response set differences.

2.5.1 Demographical Trends of Parenthood in Germany

Currently in Germany childlessness is one of the most prominent political and societal topics of debate. A reason for this debate is that in Germany (but also in other developed countries), more and more persons remain childless or only have one child. With the current

rate of 1.4 children per woman, Germany has one of the lowest total fertility rates[3] worldwide (e.g., Engstler, 1998; Federal Statistical Office Germany, 2002, 2003). In comparison, French women today have 1.9 children on average. In the United States of America the total fertility rate of 2.1 children per woman reaches the level that is necessary to maintain the current population. Over the last decades the total fertility rate in Germany has been changing. Whereas at the beginning of the 1960s, women of the baby boomer generation still gave birth to 2.5 children on average, this rate has been declining since the end of the 1960s.

At least two factors influence the low total fertility rate: (1) a *change in family size* with a trend for one-child-families (Dorbritz, Lengerer, & Ruckdeschel, 2005) and (2) a general *increase in childlessness* from 10% for women born in 1940 to estimated 32% for women born in 1965 (Dorbritz & Schwarz, 1996; Federal Institute for Population Research, 2004; Wischmann, 2006). The increasing level of childlessness or one-child-families can be explained mainly by women's *increasing age at marriage and age at birth of the first child* (e.g., Dorbritz et al., 2005; Federal Statistical Office Germany, 2002). It has been shown that the likelihood to remain childless increases with the age at marriage (Klomann & Nyssen, 1994; but see also Schneider, 1996; Schwarz, 1988). Further, given that persons wait longer until they have their first child and that (at least for women) there is a biological deadline for childbearing, the reproductive phase of women is shortened and the likelihood to remain childless or to have one child only increases. Theoretically, the biological deadline for childbearing is met as soon as women enter menopause, which is on average at the age of 51 (e.g., National Institute on Aging, 2005). However, it has to be taken into account that the probability of getting pregnant decreases already before entering menopause. At age 40, the probability of getting pregnant is 2% and only 0.2% at age 45 and above (e.g., MedizInfo, 2007).

2.5.2 The Wish for Children

In contrast to the decreasing family size, the wish for children is higher than the actual birth rate (Testa & Grilli, 2005). About 77% to 80% of all childless persons want to have children (e.g., Dorbritz et al., 2005; Institute for Opinion Survey Allensbach, 2004). Surveys reveal that women aged 20 to 34 years want to have 1.7 children on average and men desire 1.5 children (Lutz & Milewski, 2004; Testa & Grilli, 2005).

It is interesting to note that among younger adults (18 to 23 years) the wish for children is more frequent and more intense than among 30 to 44 year old persons (Institute for

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[3] The total fertility rate is an average value for the number of children a woman bears in her life.

Opinion Survey Allensbach, 2004; Pohl, 1995). There is inconsistent evidence for a change in the wish for children within the last decades. A comparison of a 1981 sample (Schumacher, 1982) with a 2003 sample of young adults (Kemkes-Grottenthaler, 2004) reveals that over the last 20 years the wish for children in young adults has decreased. Rost (2005) compared several studies and also found that the wish for children in childless persons between 18 and 35 years decreased. However, data from two other surveys (Institute for Opinion Survey Allensbach, 2004; Institute for Practical Social Research, 2004) show an increase rather than a decrease in the wish for children compared to 1981.

Different sociodemographic factors influence the wish for children. Schumacher (1982) shows that education, social background, and number of siblings play a role in the wish for children in young adults. Whereas 26% of the more highly qualified persons do not want to have children, only 8% of the lower educated persons want to remain childless (see also Rupp, 2005). Similarly, the higher a person's social class, the lower is the desire for children. In addition, the wish for children is higher in persons who grew up in families with two or more children than in individuals without siblings.

Why do individuals want to have children? Many persons believe that children are necessary to make their family complete. Persons with an intense wish for children are convinced that they need a family to be happy (Institute for Opinion Survey Allensbach, 2004). Having children is strongly associated with social and personal values. Children give sense to a person's life and represent hopes for the future (e.g., Gloger-Tippelt, Gomille, & Grimmig, 1993). They provide new experiences for parents and give them the possibility for personal development, acceptance of responsibility, and generativity (e.g., Pohl, 1995). Pregnancy and having children is especially important for women's identity and self-worth and give them the feeling of being a "real woman". Children are considered a source of joy, love, tenderness, warmness, and emotional satisfaction (e.g., Pohl, 1995). They are also seen as giving social and emotional support and protecting oneself from loneliness in old age. These reasons for having children highlight that for many persons children have a symbolic meaning (see also Nock, 1987). Consequently, by being symbolically meaningful the wish for children inherently fulfills one of the characteristics of life longings and is therefore well suited for the investigation of the life longing process.

2.5.3 Voluntary and Involuntary Childlessness

The group of childless persons is a very heterogeneous one. Schneewind (1997; see also Veevers, 1980) proposes a differentiation of four subgroups of childless persons: (1) *"rejecters"* (individuals who do not want to have children), (2) *"postponers"*, (persons who

actually want to have children but who postpone pregnancy), (3) persons who are *ambivalent* in their attitude towards having children, and (4) *involuntarily childless* persons (persons who have an intense wish for children but for different reasons cannot have children of their own). Little is known about the percentage distribution of childless persons across the four subgroups. Most percentages given are more or less estimations. Moreover, the individual reasons for childlessness (i.e., subgroup membership) can change over time. For example, someone who decided not to have children may some years later develop a wish for children and might possibly not be able to fulfill this desire.

A less complex and more common way to distinguish between childless persons is to differentiate between two groups, namely the *voluntarily and involuntarily childless* (e.g., Veevers, 1979). In my dissertation study both voluntarily and involuntarily childless women are studied. Therefore, I will now describe some statistics, reasons for, and consequences of childlessness in both groups.

Voluntary childlessness. Theoretically, voluntary childlessness is the result of a rejection or continuous postponement of pregnancy and parenthood. It needs to be noted that not all persons who call themselves voluntarily childless reject parenthood in principle. Some persons may have been involuntarily childless in former times but as a consequence of a self-regulatory strategy (e.g., disengagement from the unattainable goal to have children) they consider themselves as voluntarily childless.

The majority of childless persons are voluntarily childless. Although there is a slight difference between the self-reported reasons why people do not *have* children and why they do not *want* children, these reasons overlap. Schneider (1996) asked 185 voluntarily childless persons what motivated their intentional childlessness. Responses were aggregated into four categories: (1) "adult-centered lifestyle" (focusing on one's own independence and flexibility that could not be sustained with children), (2) career orientation, (3) unwillingness to take on responsibility for children, and (4) "partner orientation" (fear that children would affect their romantic relationship). Surveys by Pohl (1995), Gillespie (2003), or the Institute for Opinion Survey Allensbach (2004) yielded similar results. Lifestyle, occupational, financial, and partner related reasons were among the most frequently mentioned motives for voluntary childlessness.

Regarding consequences of voluntary childlessness, Feldman (1981) found that intentional parents and intentionally childless persons showed an equally high level of marital satisfaction and that they did not differ in the frequency of negative feelings about marriage. Furthermore, childless couples were shown to have more positive marital interactions than

parents (Feldman, 1981). In addition, compared to women with children, voluntarily childless women reported a higher level of subjective well-being (Jeffries & Konnert, 2002).

Involuntary childlessness. The group that is of particular interest in my dissertation is involuntarily childless women. They have or had the goal to have children but cannot or could not realize it. Thus, in this group one could expect a transformation of the unattainable goal to have children into a life longing. Involuntary childlessness is typically caused by infertility or other circumstances that keep a person who has a wish for children from having children of one's own (e.g., lack of partner, decision against pregnancy because of being HIV-positive or having a genetically inherited disease). Infertility is defined as the state of being unable to produce offspring. In women, it is the failure to conceive after one year of regular sexual intercourse without the use of contraceptives (e.g., Benson, 1983). In men, it is the inability to impregnate.

In comparison to voluntary childlessness, involuntary childlessness is less frequent. Unfortunately, in Germany there are no representative studies regarding the epidemiology and causes of infertility. Only about 8% to 15% of all childless (married) couples are involuntarily childless (Clay, 2006; Gloger-Tippelt et al., 1993; Nave-Herz, 1988; Woollett, 1985). As seen in Table 1, involuntary childlessness is strongly influenced by chronological age. The older a person is, the higher is the probability of remaining childless even if the wish for children exists.

Table 1
Proportion of Involuntarily Childless Persons in East and West Germany by Age and Gender

Gender	Age	West Germany	East Germany
Women	20-29	2.3	3.2
	30-39	14.8	26.8
Men	20-29	2.5	3.5
	30-39	9.1	13.5

Note. Reference group: childless persons.

2.5.4 Psychological Consequences of Involuntary Childlessness

Persons who are involuntarily childless are unable to realize one of their important life goals. As outlined above, being faced with blocked goals often entails negative consequences and should therefore activate self-regulatory behavior. A large number of empirical studies have dealt with the psychological correlates, possible consequences of, and coping strategies for involuntary childlessness. Findings suggest that because of its negative effects, involuntary childlessness is a psychologically and socially relevant topic. As the sample of

my dissertation study included women only, my focus will be primarily on data regarding women.

There are four categories of psychological reactions to infertility: effects on self-esteem and identity, emotional effects, loss of control, and social effects (Dunkel-Schetter & Lobel, 1991).

Effects on self-esteem and identity. According to Havighurst (1972), the experience of parenthood is an important developmental task for men and women. Even today, motherhood is still perceived as a central role for women, whereas paid employment is the traditional role for men (Abbey, Andrews, & Halman, 1992). Thus, having children of one's own is assumed to be more important for women's identity than for men's identity (Letherby, 2002a, 2002b). The inability to attain a desired identity and to fulfill role expectations (in fact, among parents parenthood is the most salient identity) causes distress (McQuillan, Greil, White, & Jacob, 2003). Many infertile couples experience a discrepancy between their present selves and ideal selves and they tend to think that failure to reproduce was synonymous with failure to fulfill one's biological role (e.g., Seibel & Taymor, 1982).

Emotional effects. Childbearing is a normative event for women. Realizing that it could be difficult or impossible to have one's own child may have proximal (i.e., short-term) and distal (i.e., long-term) emotional effects for involuntarily childless persons. Regarding proximal consequences of infertility, involuntarily childless couples report lower subjective well-being and worse health than parents (e.g., McQuillan et al., 2003; Stauber, 1988). Several studies on the emotional status of couples (e.g., Domar, Broome, Zuttermeister, Seibel, & Friedman, 1992; Wischmann, Stammer, Scherg, Gerhard, & Verres, 2001) indicate that infertile couples experience negative emotions such as depression, frustration, isolation, or fear quite frequently (for overviews see also Greil, 1997; Wischmann, 2006). It can be assumed that with an increasing perception of difficulties in attaining the desired outcome (pregnancy) the wish for it becomes more intense and more frequent. Heckhausen, Wrosch, and Fleeson (2001) showed that women who approached the deadline of childbearing reported more goals regarding childbearing and recalled more baby-relevant sentences than mothers and childless women who already passed the deadline.

From a long-term perspective (distal consequences), involuntary childlessness may have consequences in older age as well. In a study by Alexander, Rubinstein, Goodman, and Luborsky (1992), many older involuntarily childless women (M_{age} = 74.7 years) reported an age-related increase in their regret about their childlessness. These regrets were most often formed in the context of a retrospective evaluation of life and a reappraisal of the paths not taken. However, in general, there seem to be no major differences in life quality in

involuntarily childless couples and parents (Wischmann, 2006), although childlessness by itself is associated with lower distress (McQuillan et al., 2003).

Loss of control. One frequently mentioned effect of being faced with infertility is loss of control. On the one hand, this can include loss of control over one's own body or bodily functions, over one's daily activities but also over one's sexual activities. The latter is especially a consequence of infertility treatment which often "dictates" when to have sexual intercourse, but also influences scheduling of work-related and social activities. On the other hand, infertile persons experience a loss of control over their life plans and life goals (Dunkel-Schetter & Lobel, 1991; Woollett, 1985). In a study by Seibel and Taymor (1982), involuntarily childless women reported feelings of helplessness because they could not control an important component of their lives. Jeffries and Konnert (2002) showed that involuntarily childless women rated their present selves as less autonomous with less environmental mastery and less purpose in life than voluntarily childless women.

Social effects. Infertility can affect the relationship to one's own partner as well as to other persons in the social network. Dunkel-Schetter and Lobel (1991) summarize several effects of infertility on marital interactions and satisfaction. Partners may have negative emotions for each other, they may be anxious about the future of their relationship, or they may be unable to disclose their feelings to each other. However, there are also studies which report positive effects, such as increased love, support, and closeness (e.g., Menning, 1980; Woollett, 1985). Regarding the social network of infertile persons, some couples report feeling isolated and alienated, especially if most other couples in their network have children (e.g., Miall, 1986; Woollett, 1985).

From a long-term perspective, childlessness can have consequences on social relationships as well and influence well-being. McMullin and Marshall (1996) found that older parents were more likely to have at least one close family member and more close family ties than non-parents (see also Bengel et al., 2000). Having more family ties is associated with better social integration and may protect older individuals against depression and loneliness (e.g., Antonucci, 1990; Bengtson, Rosenthal, & Burton, 1990). In fact, it has been shown that older childless men (but not women) report higher levels of depression and loneliness than parents (Koropeckyi-Cox, 1998). Compared to voluntarily childless women and mothers with close ties to their children, involuntarily childless women and women with distant ties to their children have the lowest level of psychological well-being (but also Bengel et al., 2000; Connidis & McMullin, 1996; see also Jeffries & Konnert, 2002; McMullin & Marshall, 1996).

Coping with involuntary childlessness. Given the negative consequences that infertility can bring about, it is essential that persons engage in self-regulatory strategies. Persons differ in the way they deal with infertility. While some accept their childless life and focus on the future rather than on lost opportunities, others are not able to distance themselves from this topic (Jeffries & Konnert, 2002). For most couples, coping with the fact that they will never be parents, requires processes such as reality reconstruction, identity transformation, and role readjustment (Matthews & Matthews, 1986).

First reactions to infertility include searching for reasons for infertility, dealing with the negative identity of childlessness, and coping with loss. Initial ways of taking control over infertility often consist of asking for medical help and becoming an infertility expert. In a study by van Balen, Verdurmen, and Ketting (1997) 86% of all involuntarily childless couples in a Dutch sample decided to seek medical help in reaction to infertility[4]. Most larger (German) cities have medical centers that specialize in the treatment of infertility using techniques such as in-vitro-fertilization. However, modern reproductive medicine is no guarantee for giving birth to a child. In 60% to 90% of all cases, reproductive techniques are not successful (e.g., Rjosk, Haeske-Seeberg, Seeberg, & Kreuzer, 1994; Wischmann, 2006). Moreover, infertility treatment may have a variety of negative consequences, such as loss of control over one of the couples' most private domains, namely their sexual relationship (Matthews & Matthews, 1986). Struggling with hope, frustration, acceptance, and adaptation, couples have to decide when to stop infertility treatment. At this point, infertility forces individuals to reconsider their reasons and desires for parenthood and possibly change their life plans (Woollett, 1985).

Other reactions to infertility include adoption or foster care. In the van Balen et al. study (1997), 5% of the infertile participants chose adoption and 5% decided on foster care. However, adopting a child is a rather difficult and long-winded process. In Germany, about 24,000 couples per year apply for adoption. But for only 4,000 of them the wish for a child can be fulfilled (e.g., Engstler, 1998). This difficult situation is also reflected in the discrepancy between persons who say they would consider adoption (35% of the couples in the described Dutch sample) and those who in fact adopt a child (5%). Kemkes-Grottenthaler (2004) asked students who had a wish for children what they would do if they realized that

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[4] Note that this number is lower for other countries. Van Balen et al. (1997) report that in the United Kingdom 72% to 95% of all infertile couples seek medical help; in the US about 50% seek medical help (see also White, McQuillan, Greil, & Johnson, 2006).

they were infertile. 47.6% of them stated that they would adopt a child (whereas only 22.5% would ask for fertility treatment and 17.1% would accept being childless).

Seeking medical treatment and adopting a child represent active attempts to achieve the goal to have children. However, these pathways are typically not very successful. In these cases, goal disengagement becomes increasingly important. Goal disengagement includes, as described above, the withdrawal of effort to attain the goal to have children. Further, it includes the withdrawal of commitment to the goal to have children, which however may be very difficult. Several other self-regulatory strategies may be helpful in reducing focus on the unattainable goal to have children. One is to focus on alternative life goals. This may include changing one's lifestyle so that motherhood is no longer central (Letherby, 2002a) and looking for other life-domains to invest energy and resources. Van Balen et al. (1997) report that about 8% of all infertile couples decided upon these options. However, it was chosen only 72 months after actively starting to try to have a child, whereas for instance seeking medical help was already chosen after 12 months. Yet another way to react to infertility - although it can simultaneously exist with goal reengagement - may be the pursuit of the goal to have children at an imaginary level as a life longing.

2.5.5 Is the Wish for Children an Appropriate Subject for Studying the Transformation of Unattainable Goals Into Life Longings?

What qualifies the wish for children for an investigation of the proposed transformation process? The wish for children in childless women was used because the biological deadline for childbearing represents a naturally occurring blockage that renders the attainability of the goal to have children impossible. Unattainability of an identity-relevant goal was suggested to be one of the core antecedents for the development of life longings (see also Scheibe, 2005).

Theoretically, the wish for children can be seen as a life longing if it fulfills the six structural characteristics of life longings. Empirical findings in the literature on infertility support the idea that the wish for children is likely to be experienced as a life longing. As outlined above, studies by Alexander and colleagues (1992) and Connidis and McMullin (1999) showed that as a result of their childlessness women are likely to report *feelings of incompleteness* with respect to their lives and their identities and that they are missing something that would make their lives more complete - even if they did not want to have children in their past. The wish for children gains its *symbolic meaning* by the facts that motherhood is still an essential component of the female identity (Letherby, 2002a) and that having children is associated with highly valued aspects like love, sense of life, personal

growth, generativity, or support in old age (Gloger-Tippelt et al., 1993; Nock, 1987; Pohl, 1995). The wish for children, especially if it is unrealizable can be assumed to be accompanied by *ambivalent emotions*. Positive emotions may result from overly positive fantasies about having children. Negative emotions may reflect the women's awareness that their wish for children is not attainable. The wish for children may also be related to a person's past, present, and future *(tritime focus)* by linking for instance imaginations of present- and future-directed scenarios (How would it be to have a child now and in the future?) with positive memories about one's own childhood and the resulting early onset of the own wish for children. When the wish for children is found to be unattainable it activates *reflective and evaluative processes*. These may include comparisons between the ideal and actual life (with vs. without a child), thoughts about how to overcome barriers to this goal, but also processes of reality reconstruction, identity transformation, and role readjustment (Matthews & Matthews, 1986). Finally, when women are faced with the fact that they cannot have children they are likely to develop *utopian, idealized conceptions* of an alternative life, namely a life with children.

2.5.6 Summary

Taken together, low birth rates in Germany are caused by an increasing level of childlessness and one-child-families. Both factors are related to demographic variables such as high education, low income, and fulltime employment. Changes in today's age of marriage and birth of the first child often lead to a temporal postponement of childbearing until it is sometimes too late to have children of one's own. Despite high levels of childlessness, the majority of younger adults in Germany still want to have children. Childlessness can be voluntarily or involuntarily. Personal reasons for childlessness are diverse, including worries about financial, occupational, and personal restrictions. Involuntary childlessness may have short-term and long-term psychological consequences on well-being, self-esteem, social relationships, and control beliefs. Being confronted with a normative, self-relevant, but unattainable goal to have children therefore demands coping strategies for the management of incompleteness and non-fulfillment. The topic of childlessness is therefore well suited to investigate the role of life longings for the management of unattainable developmental goals.

2.6 The Present Study

2.6.1 Aims and Research Questions

The purpose of the present study was to investigate the development and functionality of life longings. As outlined in Chapter 2.3.1 on the emergence and development of life longings, it is assumed that *one* manifestation of the developmental trajectory of life longings is the transformation of an unattainable goal into a life longing. As described in Chapter 2.3.2, this transformation process is assumed to be a compensatory strategy that may help individuals deal with the nonrealizability of identity-relevant life goals and thus represents an important building block towards positive psychological development. The ideal way to examine the proposed transformation process and its functions is with longitudinal data. The aim of this research project was to obtain a first glimpse of the emergence and developmental trajectory of life longings by comparing persons who are assumed to be at different stages of the transformation process from goal to life longing.

Another challenge of the present design was the heterogeneity of (blocked) goals that participants would mention making it difficult to equate persons with each other. Therefore, as already pointed out above, I decided to focus on a common goal across persons, namely the goal to have children in middle-aged (35 to 55 years) childless women. There are two basic reasons for recruiting only women to investigate this specific goal. First, the blockage of a goal is an essential antecedent for (or at least an important correlate of) the development of life longings. For other goals there is often no clear or objective criterion that defines when the goal becomes unrealizable. An objective criterion exists for having children, namely the naturally occurring biological deadline for childbearing. The goal to have children is automatically blocked as soon as women reach menopause (see Chapter 2.5.1). For men, in contrast, fatherhood is not as much dependent upon age. Thus, middle-aged women represent a relatively homogeneous group of participants to study the transitional process from perceiving a desired goal as blocked into a life longing. Second, in our society parenthood is considered to be more important for women's identity than for men's identity (e.g., Letherby, 2002a, 2002b). Therefore it can be assumed that women are more likely than men to develop a life longing to have children if they cannot fulfill their wish for children.

The present study was a quasi-experimental design because women were not randomly assigned to specific experimental groups. Rather, women were categorized into groups according to naturally occurring variables. Women were assigned to four groups according to their assumed position in the transformation: women before, in, and after the transition from goal to life longing and women who neither expressed a goal nor a life longing to have children ("control group"). An additional categorization variable was created that involved the

duration of the wish for children. Women who never had a wish for children were assigned to one group and women who currently or previously had a wish for children were assigned to a second group. As will be described in more detail in the Results chapter, some analyses were conducted only for women who currently or previously had a wish for children.

Guided by the theoretical propositions on the development and functionality of life longings that are primarily based on central assumptions of lifespan developmental psychology, this dissertation examined two main research questions:

1. *Do life longings develop out of unattainable goals?*
2. *Is it beneficial for subjective well-being to continue pursuing an unattainable goal at an imaginary level as a life longing?*

2.6.2 Working Models

Figures 3 and 4 illustrate two working models of the present study. Each working model includes predictions that are part of both the first and the second research question. In the following brief descriptions of the working models it will not be specified whether associations between variables are positive or negative. These specifications will only be made later in the formulation of the hypotheses.

In the first model (Figure 3) the expressions of a goal and a life longing to have children are influenced by intensity, duration, and attainability of the wish for children. The arrow between goal expression and life longing expression denotes that the goal to have children is transformed into a life longing to have children. Both goal expression and life longing expression are related to well-being. The relationship between well-being and goal expression is moderated by attainability of the wish for children. The relationship between well-being and life longing expression is moderated by control over life longing experience, flexible goal adjustment, disengagement from the goal to have children, and reengagement into alternative life goals.
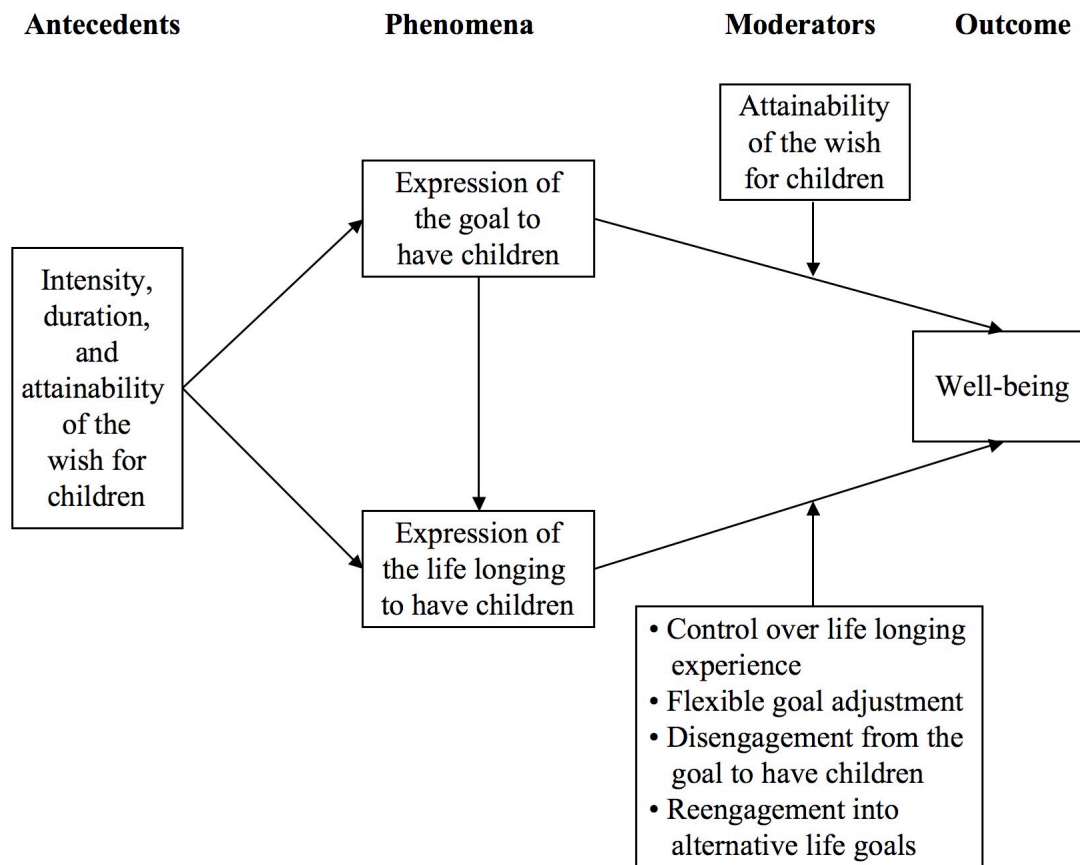
Figure 3. First working model of the present study illustrating the associations between antecedents for the development of goals and life longings (intensity, duration, attainability of the wish for children) and potential outcomes (well-being) including variables that moderate the relationship between well-being and goal expression or life longing expression. Note that attainability of the wish for children has a double function as an antecedent of goal and life longing expression (first research question) and as a potential moderator for the relationship between goal expression and well-being (second research question).

The second working model (Figure 4) takes into account that women in the present study may be at different stages of the transformation process from goal to life longing. Women can be in the "before transition stage" (i.e., they have only a goal but no life longing to have children), in the "in transition stage" (i.e., they have a goal and a life longing to have children at the same time), and in the "after transition stage" (i.e., they have only a life longing but no goal to have children). In addition, there is a group of women (not depicted in the model) who currently neither expressed a goal nor a life longing to have children. Based on the assumption that the groups represent stages of the transformation process, differences between groups can be expressed as trajectories: Whereas intensity of the wish for children remains stable over the transformation process, duration of the wish for children increases, attainability of the wish for children decreases, and well-being shows an U-shaped trajectory.
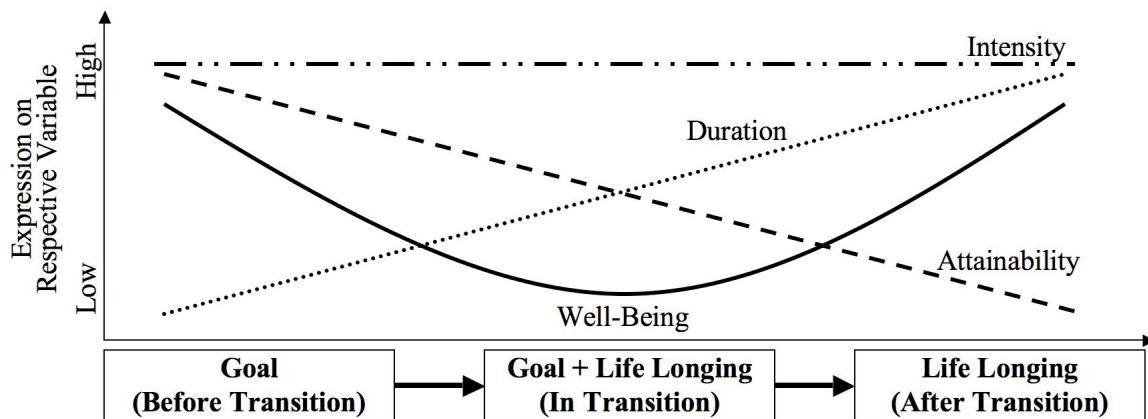
Figure 4. Second working model of the present study illustrating the stages of the transformation process from goals to life longings and the trajectories of intensity, duration, attainability of the wish for children as well as well-being over these stages.

In the following, concrete hypotheses shall specify the predictions that are made in the simplified working models.

2.6.3 Do Life Longings Develop Out of Unattainable Goals?

It is proposed that life longings might develop out of unattainable identity-relevant goals. In order to investigate this developmental process it was examined whether the goal to have children in childless middle-aged women has been transformed into a life longing. The goal to have children is an age-normative goal that is often considered essential for a woman's identity and for most women it should be difficult to completely disengage from this goal when it cannot be attained. Therefore, women might continue to pursue this goal at the level of fantasy as a life longing. Specifically, the first research question asked under which conditions the wish for children is expressed as a goal or life longing and how women who are at different stages of the transformation process from the unattainable goal to have children into the life longing to have children (i.e., before, in, after transition, and "control group") differ from each other. I assumed that the child-wish-related variables intensity, duration, and attainability play a crucial role in this context. Since goals and life longings represent distinguishable concepts, these child-wish-related variables should show differential patterns in predicting the goal or life longing to have children. Furthermore, they should predict in which stage of the transformation process from goal to life longing a person is.

The intensity of the wish for children reflects the importance and relevance that this wish has in a woman's life. One assumption is that only women for whom the wish for children is currently very important are likely to report a strong expression of the goal to have

children and/or a strong expression of the life longing to have children. Whether the wish for children is expressed as a goal is likely to be influenced by the current intensity of this wish. Because goals represent current intentions, past and future intensity of the wish for children should not affect goal expression. In contrast, life longings are assumed to be related to different times in a person's life (tritime focus). Further, it is proposed that life longings are likely to address former wishes and goals. Therefore, the expression of the life longing to have children should not only be predicted by current intensity of the wish for children but also by past and future intensity. Similarly, because goals are basically driven by concurrent intentions, duration of the wish for children should not be predictive of goal expression. However, the longer a person desires something (without attaining it) the more likely it is that the person develops a life longing for it. Therefore, duration of the wish for children should be a predictor of life longing expression. Finally, attainability is assumed to distinguish between goals and life longings (e.g., Mayser et al., in press). Goals are characterized by high attainability whereas life longings are proposed to occur when something is not attainable anymore. Thus, high attainability should predict higher goal expression whereas low attainability should predict higher life longing expression. Based on these assumptions, the following first hypothesis was formulated:

I. *The extent to which the wish for children is expressed as a goal or life longing, respectively, can be predicted by intensity (current, past, and future), duration, and attainability of the wish for children.*

   (a) High current intensity and high attainability of the wish for children will be related to a stronger expression of the goal to have children.

   (b) High past, current, and future intensity, long duration, and low attainability of the wish for children will be related to a stronger expression of the life longing to have children.

The second hypothesis for the first research question examines how women who are at different stages of the transformation process can be characterized in terms of the intensity, duration, and attainability of their wish for children. As outlined above, the intensity (i.e., the importance or relevance) of the wish for children should be comparably high for all women who have either a goal and/or a life longing to have children. If the wish for children was not relevant for their lives they would not express it as a goal and/or life longing. The duration of the wish for children is likely to increase over the stages of the transformation process while attainability of this wish simultaneously decreases. Women who presumably are in the

"before transition stage", that is, women who only have a goal to have children and no life longing (yet) are likely to have the wish for children for the shortest period as compared to women in the "in transition" and "after transition stage". In addition, they should perceive it as attainable. When women have the wish for children for a longer period of time without being able to attain it, they are likely to transform their goal to have children into a life longing, that is, women in the "in transition stage" should be characterized by a longer duration and lower attainability as compared to women in the "before transition stage". For women who only have a life longing but no goal to have children anymore, that is, women who are presumably in the "after transition stage", the wish for children should be even less attainable and of longer duration as compared to women in transition. In addition to the three groups of women, a fourth group included women who neither expressed their wish for children as a goal nor a life longing. This group was used as a "control group" and compared to the other three groups. The following hypothesis was tested:

II. *The child-wish-related variables intensity, duration, and attainability of the wish for children can be used to differentiate between women who are before, in, and after the transition from goal to life longing.*

   (a) The intensity of the wish for children is likely to be the same for women before, in, and after the transition from goal to life longing.

   (b) The duration of the wish for children is shortest in women before the transition; it is longer for women in the transition, and is longest in women after the transition from goal to life longing.

   (c) The attainability of the wish for children is highest in women before the transition; it is lower for women in the transition, and is lowest for women after the transition from goal to life longing.

2.6.4 Is it Beneficial for Subjective Well-being to Continue Pursuing an Unattainable Goal at an Imaginary Level as a Life Longing?

Based on the assumption that life longings might develop out of unattainable goals the question arises as to how beneficial this transformation process is for subjective well-being. In order to answer this question, one has to look separately at the relationship between well-being and the goal to have children as well as well-being and the life longing to have children. Further, it shall be investigated how persons in the different stages of the transformation process from goal to life longing differ in well-being. All analyses for this second research question were run only with those women who at one time had a wish for children ($n = 133$)

because the functionality of a possible transformation of an unattainable goal into a life longing is only relevant to those women and not to women who never had a wish for children ($n = 32$).

Goals are important driving forces for human development and their attainment is an important correlate of well-being. Previous studies showed that persons who are not able to attain their goals report lower well-being and higher frustration (e.g., Klinger, 1975; Wrosch, Miller, Scheier, & Brun de Pontet, 2007). In line with these results, I assumed that women in the present study who had the goal to have children but could not attain it should show lower levels of well-being. The following hypothesis was tested:

III. Women who perceive their wish for children as unattainable will show a negative relationship between goal expression and well-being, whereas women who perceive their wish for children as highly attainable will show a positive relationship between goal expression and well-being.

In Section 2.3.2 it was argued that a transformation of an unattainable goal into a life longing takes place when a complete disengagement from an identity-relevant goal (like childbearing) is very difficult and that this transformation can be considered a compensatory strategy to deal with the nonrealizability of an important life goal. Thus, if the transformation of the unattainable goal to have children into a life longing represents a compensatory strategy, life longings should have positive effects on well-being. That is, persons who report a life longing should show higher well-being scores than those who do not report a life longing. However, it can be assumed that only a moderate level of life longing is related to high well-being, whereas an extremely strong expression of life longing might have negative effects on well-being. This assumption is based on findings from Scheibe et al. (2007) who showed that a high expression of life longing is related to lower well-being. Further, Klinger (1975, 1977) proposed that if individuals are too strongly committed to an unattainable goal (as indicated in the present study by a very strong expression of life longing), that is, if they are not able at all to disengage this is likely to be negatively related to well-being.

As has also been described in Section 2.3.2, flexible goal adjustment, goal disengagement, and engagement in alternative life goals were found to be indicative of higher well-being when persons are confronted with nonrealizability or loss (see also Brandtstädter & Renner, 1990; Duke, Leventhal, Brownlee, & Leventhal, 2002; Heckhausen et al., 2001; Wrosch, Bauer, & Scheier, 2005; Wrosch et al., 2003b). Therefore, one assumption was that women who make use of these strategies of self-regulation show a more positive relationship

between well-being and the expression of their life longing to have children than women who do not report the use of self-regulatory strategies. In addition, based on the finding by Scheibe et al. (2007) that persons who reported higher control over the experience of their life longings showed a reduced negative relationship between life longing expression and well-being, another assumption was that control over the experience of the life longing to have children would moderate the relationship between well-being and life longing expression. My hypothesis was the following:

IV. *There is a quadratic relationship between the expression of the life longing to have children and well-being, and this relationship is moderated by the use of other self-regulatory strategies.*

    (a) Childless women who experience a moderate expression of the life longing to have children report higher well-being than women with a high or low expression of life longing.

    (b) The association between the expression of life longing to have children and well-being will be more positive when women have more control over the experience of their life longing and when they also make use of other self-regulatory strategies such as general flexible goal adjustment, disengagement from the goal to have children, and investment in alternative goals as a reaction to the unattainable goal to have children.

Finally, it can be assumed that women in the different stages of the transformation process from goal to life longing differ from each other with respect to well-being. While women in the "before transition stage" do not have to deal with the unattainability of their goal to have children (yet), women who are in the "in transition stage" probably began to transform the goal into a life longing because they already recognized difficulties in attaining their goal to have children. As they experience barriers in attaining an important life goal, their well-being should be lower than the well-being of person who are in the "before transition stage" and who are not confronted (yet) with difficulties in goal attainment. Persons in the "after transition stage" have already gone through this process and are more likely to have adapted to the fact that they cannot attain their goal to have children. If they pursue their former goal at an imaginary level as a life longing they should show higher well-being than women who are still in the transition process. Similarly, women who no longer express their wish for children as a goal or life longing are likely to have successfully coped with the unrealizability of their goal to have children and should therefore also show higher well-being

than women in the transformation process. The following hypothesis was derived from these assumptions:

V.   Women who are in the process of transforming their goal to have children into a life longing are likely to report lower well-being than women who are before or after the transition from goal to life longing and women who report low expressions of the goal and the life longing to have children.