Chapter 6

CONSIDERATIONS AND CONCLUSION

6.1 Introduction

In the present study autobiographical memory (AM) was studied with respect to the stability and change in number, affect and content of important life events. Respondents of three age groups reported events which they recalled from their past and expected for their future over periods of two and five years by means of the Life-line Interview Method (LIM). Due to an explorative approach the study has yielded rich information about the dynamics of AM and the subjective life course. Some of the results can be considered as robust as they are found in all three waves and also in other studies, such as our findings with respect to the bump phenomenon. Other results are found in the present study, but are not (yet) observed in other studies. They are hypothetical and need to be tested in follow-up studies. An example of such a hypothesis is the finding that one third of all events mentioned in the life story (past and future) is stable over a period of five years, i.e. is mentioned at all three waves. Finally, some results show a trend in a certain direction. An example of such a trend is the finding that ‘very positive’ events when expected in the future are more stable than ‘very negative’ events. These trends also have to be tested in follow-up studies on larger samples.

Below, first some general methodological aspects of the present study will be discussed. Then, the contribution of the present study to the body of knowledge about AM will be determined. Three effects that underlie the structure of AM - bump, recency effect and proximity effect – will be taken as point of departure. Implications and recommendations on the basis of results of this study will be formulated. This study has also contributed to the knowledge of the human life course, since autobiographical memory was studied from a lifespan perspective. Implications of the findings of this study for lifespan psychology will be discussed. Next, possibilities for future research based on the full LIM-data set will be outlined. The chapter ends with a general conclusion on the basis of the main results of this study.
6.2 Methodological issues

Type of study

Since AM is a relatively new area of research and since no comprehensive theoretical framework covering the diversity of AM research is available as yet (Conway & Pleydell-Pearce, 2000), it is not feasible to study AM by testing specific hypotheses. In hypothesis testing the null hypothesis is either rejected or accepted. The disadvantage of this type of research is that the researcher does not utilise the data to its full maximum. Van Zuuren (2002) points out that in addition to the more deductive empirical-analytical research also other types of research exist such as the more inductive theoretical-interpretative, descriptive and explorative forms. On the basis of the collected data, hypotheses are generated which may contribute to the development of a theory. In the present study such an explorative approach was followed; no specific expectations or hypotheses were formulated on beforehand. The study yielded many results which would not have been found when only a strict hypothesis testing procedure had been followed. These results, then, can be tested in future research on larger samples and as such can contribute to the development of a theory about AM.

According to Van Zuuren (2002) a more qualitative type of research is more suitable for the generation of hypotheses and theory building in new areas of research. Through qualitative research the researcher may gain insight in the domain of research on the basis of a proper and elaborate description of the respondents’ experiences. Interpretation and categorization of these subjective experiences and the explanation of relationships may further contribute to the development of theories. Faltermayer (1997) argues that qualitative methods are in particular suitable to the analysis of the life course and other kinds of biographical processes. As theories in this field become more and more complex, it is unsatisfactory to apply only models and to use only variables that can be tested statistically, even when using rather large samples. Also, in the study of the life course one has to deal with the passage of time and the process character of different phenomena which are difficult to put in statistical models, even operationalized in the form of a longitudinal design (Faltermayer, 1997). Drenth and Heller (2004) state that using a combination of different methods, qualitative as well as quantitative, often gives better results than using only a single method.

The present study can be seen as a combination of qualitative and quantitative research. The Life-line Interview Method yields a rich variety of qualitative data of which only the life events were analyzed in the present study. As far as possible these data were analyzed
quantitatively and statistical relationships between different variables were determined. The life story, however, can give more insight in the feelings and experiences of respondents and in the dynamic processes underlying changes of autobiographical memory over the lifespan. For instance, inspection of the life story showed that over time events are sometimes reorganized by combining different events into one event. This way quantitative and qualitative analysis of the LIM-data can complement each other and the combination can be very productive.

The point of departure in this study was the construction of individual life stories by administering the LIM. These individual life stories were deconstructed at the event level. Next, modal life stories were reconstructed at the aggregate level for men and women of a young, middle and older age group. These modal life stories were analyzed as the result of which general patterns became visible. In this way an idiothetic approach was followed in the present study (Hooker, 2002); an idiothetic approach combines the idiographic approach to describe individual trajectories with the nomothetic approach to generalize such trajectories about individuals. It was Allport (1937), one of the founding fathers of personality psychology, who pleaded for an idiographic approach to personality, which, in contrast to the nomothetic approach, would discern the specific and individual patternings of particular lives (McAdams, 2000). On the basis of Kluckhohn and Murray’s (1953, p. 53) classic dictum ‘Every man is in certain respects (a) like all other men, (b) like some other men, (c) like no other man’ Runyan (1983) posed that the purpose of personality psychology is three-fold, namely to discover: (1) what is true for all human beings, (2) what is true for groups of human beings, and (3) what is true for individual human beings. For instance, the bump is found in different samples from different cultures (e.g. Conway & Haque, 1999) and can be considered to be a universal phenomenon. The finding in the LIM-study that young respondents expect to finish their studies in the third decade of life is true for a specific group (students). An example of what is true for individual human beings is the memory of an older respondent that he received a puppet theatre at his fifth birthday. For many patterns it is not clear whether the patterns are specific for this group of respondents or whether they can be generalized to other populations. For instance, Moving turned out to be an important event in the past for young men but not for young women. Further research can show whether the revealed patterns are also true for other groups of respondents.

**Managing autobiographical data**

When studying (auto)biographical material many methodological problems have to be faced
(Schroots & Birren, 2002). These problems concern, first of all, the question how to bring order into the large quantity of unstructured qualitative data. Thanks to the self-structuring quality of the LIM the respondent himself structures the data into a chronologically ordered life story of which the unit of analysis consists of the age at which the event took place, a short description of the event and an explanation of the event. These units of analysis can than be categorized into meaningful categories. In this study a systematic category list was constructed, consisting of 40 subcategories divided over 9 categories, in which all events could be classified.

A second problem with autobiographical data concerns the analysis of categorical data. In this study the percentage of events per (sub)category was established. Where possible the effect of age-group, gender and time perspective on the frequency of events per (sub)category was determined. In case this was not possible, rules were generated in order to determine whether differences between subgroups could be established.

The third problem concerns the representation of the large quantity of categorical data in a clear and convenient way. In this study the most frequently mentioned (sub)categories or the most stable (sub)categories per decade were selected, resulting in an orderly description of the modal life course for different subgroups. A disadvantage of this method is some loss of information, but this is outweighed by the transparency of the presented information and the patterns found.

As was mentioned in Chapter 1 researchers vary with respect to their methods to study AM and life stories. Therefore, it is difficult to compare results of different studies with each other (Schroots & Assink, 2004). In this LIM-study a method is presented to gather, classify, analyze and present autobiographical data in an efficient, systematic way. This method is described in detail and can be replicated in other studies. In this way we trust to have contributed to the development of an efficient, well-organized and univocal method to deal with autobiographical material.

6.3 Autobiographical memory effects

Until now it was not clear to what extent (patterns of) memories and expectations change with time, which variables have an effect on stability and change, and whether there are specific patterns underlying the dynamics of AM. An important contribution of this study to the
knowledge about AM, then, is the fact that it is a longitudinal study. Over a period of five years the LIM was administered three times to the same men and women of three age groups. This resulted in information about stability at the group level and about stability of life events at an individual level. Since studies on AM are nearly exclusively focused on retrospective AM another important contribution of this study is the inclusion of prospective AM. As this study has a longitudinal nature, it was possible to examine the development of both retro- and prospective memory over the lifespan. Three specific effects of AM were found - bump, recency and proximity effect - which will be discussed in more detail below.

**Bump effect**

All studies about AM show that the period of about 10 to 30 years of age is, quantitatively as well as qualitatively, a very special period in the life of (older) respondents. The reported number of memories from this period is larger than expected and most events which are mentioned in the period of 20 to 30 years of age are positive events and are relatively stable in the life story. At the first wave 28 percent of all past events that were mentioned by older respondents, were situated in the period of 20 to 30 years of age. At the second and third wave these percentages were 22 and 23, respectively. These percentages were higher than the percentages of reported events from the most recent decade. At the first wave 10 percent of all past events mentioned by older respondents were situated in the ten years preceding the present age of the respondents, at the second wave 19 percent and at the third wave 15 percent. Therefore, it can be concluded that the bump effect is stronger than the recency effect.

Although the bump effect can only be clearly distinguished for older adults, Schroots and van Dijkum (2004) have shown that for young adults the bump is hidden under the recency/proximity effect and that for middle-aged respondents the bump emerges and is partly confounded with the recency effect. Over the lifespan bump and recency/proximity effect increasingly separate from each other. The older people are, the longer the period between bump and recency effect, a period of low recall of events.

The precise location of the bump varies in different studies and depends on the method used to gather autobiographical information as well as on the type of event the respondent is asked to recall. For instance, when Rubin and Schulkind (1997) gave respondents a cue-word and asked to describe for each word a personal event, they found a peak in the second decade. When they asked respondents to describe the five most important events of their life they found a peak in the third decade. Janssen, Chessa and Murre (2005) asked almost 2000
respondents between the age of 11 and 70 years through the internet to recall and date autobiographical memories using the cue-word method, and observed a bump with peaks at ages 15–18 for men and 13–14 for women. Holmes and Conway (1999) found a bump for public events between 10 and 19 years of age. Sehulster (1996) reported an average age of 27.6 years at which participants had watched their favourite movie. Holbrook and Schindler (1989) found that participants gave the highest preference ratings to music hits that had come out when they were 24 years old (see also: Rubin, Rahhal & Poon, 1998). In the present LIM-study and in the studies of deVries and Watt (1996) and Holmes and Conway (1999) a peak for autobiographical memories is found between 20 and 30 years of age. In this LIM-study for the older age group a peak was found between the ages of 20 to 30 years in case the number of events per decade was determined and when results of three waves were combined. An interesting question is why the word-cue method results in an earlier bump than a method in which respondents are asked to recall important life events. As was hypothesized in the previous chapter, in adolescence a network of associated events is formed, but people are only aware of the “knots” in this network at a later age. The word-cue method probably elicits more different, isolated memories whereas methods which ask the respondent to generate important life events themselves appeal more to the “knots” in the network which are formed (encoded) at a later age (see also Schroots & van Dijkum, 2004). Follow-up studies on larger samples and using different methods can result in a more precise location of the bump for important life events in a lifespan perspective.

Individuals experience the bump period as the time of their life (Sehulster, 1996). The bump is the mental frame of reference for the rest of life. Preferences for different kinds of music, literature and film date from this period. It is possible, for instance, to predict on the basis of age what type of music an individual will like. Things people have learned and experiences they have had in this period are remembered best later (Rubin, Rahhal & Poon, 1998). The bump period is the best period to encode information and knowledge into memory. It is easier to learn things by heart in this period of life than later in life. The difference in frame of reference can give rise to problems between different generations, for instance in work situations (Schroots, 2003a) or in family life (e.g. generation conflict in the sixties). The phenomenon of the bump is also responsible for a feeling of nostalgia, the feeling that “it is not like in the good old days in our time of life”!

The LIM-study showed that respondents mention relatively few events from childhood but at the same time that these events are rather stable. From the bump period relatively many events are reported and these events are also rather stable, at least with respect to the period of
20 to 30 years of age. The question is, then, how childhood and bump are related to each other and to the rest of the life course. Is a problematic childhood followed by a difficult bump period, in which negative events overrule positive events? And what effect does the fact that an individual has experienced traumatic events during the bump have on the rest of the life course? A more detailed content analysis of the LIM-data can help to provide answers to these questions.

Recency effect

In the present study a period of five years was taken for the length of the recency effect. It was expected that memories from the recent past fade away when the recent past (0-5 yrs) turns into the more distant past (5-10 yrs), but this could only be confirmed for the young age group. As there is no clear definition of the recency effect it is difficult to determine the length of the recency effect. It seems, however, that the recency effect covers a longer period for older adults than for younger adults. It should also be noted that a period of five years is relatively a longer period for younger respondents than for older respondents. For the young age group five years cover about 20 percent of their life lived, while for older respondents five years cover only about seven percent of their life lived.

When distinguishing between positive and negative events it turned out that there is a strong recency effect for negative events. For positive events there is not always a recency effect and when there is such an effect it is only modest. Traumatic events, such as the Second World War, have the power to disturb the normal pattern and show a small negative bump. Traumatic events such as a war (Conway & Haque, 1999) or immigration (Schrauf & Rubin, 2001) can also extend the bump period. The question was raised whether very positive events can also disturb the normal pattern. The effect of very negative events can be studied on a group level since some negative events affect a whole group of people (e.g., war, economic depression, natural disasters) while very positive events, mostly, do not occur at the group level and their influence can therefore be studied only at the individual level. Besides, it is more difficult to adjust to negative events than to positive events. For instance, almost all older respondents mention the Second World War, a very negative event, in their life story. Only a few respondents mention the liberation, a very positive event, although all older respondents have experienced this event. It seems likely that very positive events do not affect a group of people as strongly as very negative events do, and, consequently, it is likely that very positive events do not have the power to change the normal pattern of distribution of positive events.
Apart from the length of the recency period it can be concluded that many events that are important at a certain moment in life fade away as time is passing by. Most of these events are negative events since events mentioned with respect to the recent past are mostly negative events. This implies that when people have experienced a negative event they need time to come into terms with this. Research shows that most individuals who have experienced a traumatic event are able to continue their life after some time without professional assistance. Other studies have even found that individual psychological debriefing soon after a traumatic event is not useful in reducing symptoms of Post Traumatic Stress Disorder (PTSD) and in some cases can even worsen psychological problems (Sijbrandij, Olff, Reitsma, Carlier, & Gersons, 2006). Only a small part of individuals who have experienced traumatic events develop a PTSD. In that case memories of the traumatic event do not fade away but keep dominating the individual’s life. Apart from this, it can be concluded that time is the great healer.

**Proximity effect**

Analogous to the recency effect a proximity effect was found for the future; respondents expect more events in the near future than in a more distant future. Respondents are also positive about the near future; for instance, young adults expect to finish their studies in the near future and do not expect problems concerning their studies. Respondents do not look very far ahead and have a prototypical image of their future, a so-called life script (Rubin & Berntsen, 2003). Besides, the perceptions respondents have of their future is rather instable, especially for the young age group. At each wave other events are mentioned in the future or similar events are mentioned but at another age. The fact that individuals do not look far ahead into the future has different consequences. For instance, it is difficult to motivate (young) adults to make arrangements for their pension plan, to change an unhealthy lifestyle, to save money instead of making debts, to finish school instead of leaving school without a certificate; mostly, it is only after a longer time that people are confronted with the consequences of their careless behaviour. “Let tomorrow take care of itself”, they seem to think. Policymakers have to take this short-term thinking into account when setting out a policy, for instance with respect to health care and life course arrangements. Since most people are not inclined to change an unhealthy lifestyle, a policy of behavioural control is expected to be more effective than an appeal to people’s own responsibility. Life course arrangements are not attractive for (younger) adults because they have to invest in something that can provide benefits only somewhere in the remote future.
The LIM-study shows that actually more events happen than have been expected before. In most cases these events are negative. For instance, only one respondent of the young age group expects the end of a relationship in the near future but five years later it turns out that five respondents of the young age group had to face this event. On the basis of these results it can be recommended to build in extra time when planning for the future. Often, unanticipated, unusual events occur. Musgrove (1985) stated that projects last at least twice as long as has been planned, depending on the number of steps that have to be taken within the project. The present study shows that the same happens at the individual level. People have an ideal, abstract picture of their future in mind, while in practice all kinds of unexpected events take place, causing delays or even a complete change of the course of life.

A more detailed analysis of the life story is necessary to answer the question to what extent expectations for the (near) future come true and to what extent expectations change when time is passing by. In the present analysis different explanations can be given in case respondents expect a specific event in the near future and this event is not mentioned when the future has become the recent past. It is possible that the event has taken place and is not mentioned anymore. It is also possible that the event has not taken place and is postponed or omitted because it is not important anymore. For instance, when a young adult expects to finish his studies in the near future and he does not mention this event in the recent past after five years he could have left university without graduation, he could have finished his studies without mentioning this event or his study progress could have been delayed and he still intends to finish his studies in the (near) future.

6.4 Autobiographical memory over the lifespan

Exploration of autobiographical memory from a lifespan perspective also generates knowledge of the human life course as experienced by individuals. As was mentioned in previous chapters, many different theories divide the life course in successive stages from birth till death (cf. Erikson, 1950; Levinson, 1986; Lowenthal, Thurner & Chiriboga, 1975). A few comments on these models can be given. First of all, the study of AM shows that not all stages in life are equal with respect to the number of events that are recalled or expected for that specific stage. As Kelly and McGrath (1988, p. 55) claim, people “do not experience time as a smooth linear flow of undifferentiated moments. Rather, they experience time as epochal
and phasic in its flow. Different points in time and different periods of time seem to be qualitatively different from one another”. Second, in the traditional stage models it is not clear from which perspective the life course is described. The stages are all described in an objective way but the LIM-study shows that the question how respondents experience a certain period in life depends on age, gender and time perspective. For instance, young women have very high expectations for the period of 30 to 40 years of age which is the (near) future for them, while middle-aged women who look back on this period are less positive about the same period of life. In the present study the life course is described from the perspective of men and women of three age groups. Their time perspective is changing as they grow older and, consequently, their perception of life, of past and future, changes.

Age

This LIM-study shows that age plays an important role in how an individual evaluates his life, on which domains of life he is focused, how he views his past, what he expects from the future, how far he looks ahead and so on. An ageless life course, i.e., a life course in which age does not play a role, then, is unthinkable. The concept ‘ageless life course’ was introduced by Smolenaars (2005) who states that age should not be decisive for activities one performs; learning, working, caring and leisure activities are combined and alternated in different periods in life. But when planning the life course one has to take into account the biological peak of all kinds of physical and physiological functions, the period of fertility, the risks of illness and dying, the future time perspective and the life expectancy. For instance, losing a parent will have more impact when it occurs at a younger age than when it occurs at middle-age when this event is anticipated (see also Neugarten, 1977). It is more likely for a middle-aged adult to take care of old, fragile parents than for a young adult. Age gives structure to the life course and is the most important singular predictor of all kinds of psychological phenomena in different areas of life (Schroots & Birren, 1990).

Gender

In this study clear differences were found between the subjective life course of men and women. This is not surprising for the oldest age group because most men of this generation worked outside the house, while most women stayed home and took care of the children. However, a difference between the life course of men and women was also found for the youngest age group. Young women are focused on the near future in which they want to finish their studies and look forward to having a steady relationship and children. They have
very high expectations of these events while young men seem to be more sober and mention
more different events. Middle-aged men are focused more on Work than middle-aged women.
Even though men and women get the same opportunities and have the same possibilities these
days concerning education, work, making a career, taking care of children, working part-time,
and even though women are encouraged to work more hours, in practice this policy does not
always corresponds with the subjective experiences and expectations of men and women.

Men are also more vulnerable to loss of parents and partner. They mention these events
more often than women do. Willitts, Benzeval and Stansfeld (2004) found that single women
exposed a good mental health relative to other women, but the same was not true for single
men relative to men who live in partnership. Concerning the future women are more
optimistic than men are; positive events turned out to be more stable in the life stories of
women, and negative events in the life stories of men. Women, with the exception of young
women, have a more varied life story than men; they are more active at different domains of
life, while men are focused mainly on their work. In short, it seems that women are the
stronger sex.

Overall, it can be concluded that the present study has contributed to the development of a
theory about life-course dynamics which should take into account the constantly changing
perspective on past and future over the course of life and the difference in quantitative
(number of events) and qualitative (affect) meaning of different periods in life. Besides, it can
be concluded that the ‘age-less non-sexist life course’ is an ideological construct which does
not match with the subjective feelings and experiences of people concerning their life course.

**Clinical application**

Besides a method to gather autobiographical information for research purposes, the LIM
offers various possibilities for application in the clinical practice. An important diagnostic
characteristic of the LIM is that within about 45 minutes a clear, chronologically ordered
overview of the total life course is obtained with all ups and downs which can be used, first of
all, as the starting point for counseling in different areas. The LIM is a general instrument
which yields information about different domains in life. As such it can be used, for instance,
in pastoral work or when working with guided autobiography, life review and reminiscence
(Birren & Deutchman, 1991; Schroots & Van Dongen, 1995). The LIM can also be applied in
specific domains of life, for instance in educational or vocational counselling, in order to help
a client to make proper educational and career decisions. In the field of health care the LIM
can be used to determine how respondents experience transitions in the course of chronic
diseases, which factors affect a more or less successful transition and what kind of assistance
patients could be given at different transitions in different stages of their illness (De Lange &
Van Staa, 2004).

Second, as different disorders affect AM in different ways, the LIM can be helpful as an
instrument, for instance, for diagnosing depression and dementia. In the present study the
LIM was administered to relatively healthy respondents. Results of this study can serve as a
benchmark with which LIM-scores of other groups of respondents can be compared. For
instance, Fromholt et al. (2003) found that older adults with Alzheimer’s dementia mentioned
fewer events than healthy adults (8 versus 18 events), but that the distribution of events over
the lifespan showed the same pattern for both groups. Fromholt, Larsen and Larsen (1995)
found that older respondents suffering from a major depression reported proportionally more
negative events dating from the last five years than non-depressed older adults. Depressed
individuals also show a tendency to be overgeneral, i.e., less specific, when recalling
autobiographical memories (van Vreeswijk & de Wilde, 2004) and have problems imagining
the future (Williams, Ellis, Tyers & Healy, 1996). Overgeneral autobiographical memory is
also found to be characteristic for individuals who have been traumatized. Wessel,
Merckelbach and Dekkers (2002) found that patients with various psychiatric diagnoses, who
had all been exposed to war atrocities during their childhood, produced significantly less
specific memories than did controls. DeVries, Suedfeld, Krell, Blando, and Southard (2005)
found differences in the content of life stories of Holocaust survivors and of other groups;
Holocaust survivors all started their life story at the beginning of the War in contrast to other
groups, and life stories of Holocaust survivors were less varied than life stories of other
groups.

Third, since the confrontation with one’s own life, i.e., reflection on the past and
anticipation of the future, can have a therapeutic effect the LIM can be used as the basis for
therapeutic interventions such as cognitive therapy, client-centred therapy and narrative
therapy. To this end a protocol was developed existing of seven sessions (Schroots, 2004). At
the first and last session the LIM is administered for evaluation purposes according to the
guidelines of the LIM-manual. At the sessions in-between and depending on the problems of
the client different periods in life can be explored more intensively and different domains of
life can be given specific attention.
6.5 Future studies

**LIM data set**

The present study is part of the research program *Life-course Dynamics* (Schroots, 2003b). Meanwhile the fourth wave has been administered resulting in a longitudinal study extending over a period of ten years. Besides, respondents also completed several questionnaires at each wave including a personality questionnaire, a locus-of-control questionnaire, a coping questionnaire and a subjective well-being questionnaire.

First of all, the fourth wave can be analyzed in the same way as the first three waves. It would be particularly interesting to examine how the young age group has developed over a period of ten years, as changes in the life story turned out to be most prominent for this group. In a longitudinal study over a period of three years McAdams et al. (2006) found that young adults showed a clear development in their life stories: the emotional tone of the life story became more positive, life stories showed a greater level of emotional nuance and self differentiation, and a greater understanding of the own personal development.

Second, in addition to a series of temporally ordered life events administration of the LIM also yields both a life-line and a life story which can be analyzed separately and in relation to each other. Some aspects of the life-line, for instance its factor structure and time orientation, have been analyzed for the first wave (Schroots & Assink, 1998). The results showed that young adults are focused mainly on the future and the present, middle-aged adults on the past and the present and older adults on the past. A factor analysis of twelve characteristic measures of the life-line yielded five factors: one for each phase in life (adolescence, young adulthood, late adulthood and older age) and one for the emotional tone of the life story. The life story can also be analyzed at different levels. For instance, Schroots, Kunst and Assink (2006) simply counted the number of words respondents needed to tell their life story and found that respondents used more words to describe an event from the past than an event in the future and that negative events were described more extensively than positive events. As the LIM-study is a longitudinal study it is also possible to examine changes of different aspects of the life story over the lifespan. For instance, McAdams et al. (2006) studied the continuity of emotional tone, theme and structure of life stories over a period of three months and three years. They found a substantial continuity of the complexity and the emotional tone of the narrative and a moderate continuity of the themes power and growth.
Third, the relationship between different aspects of the life story and other variables can be explored. According to McAdams (1996; 2001) the narrative or life story is part of personality. Personality can be described on three, relatively independent non-overlapping levels. The first level is the level of personality traits which are rather stable over the lifespan (McCrae & Costa, 1990). The second level is called ‘personal concerns’ and relates to different constructs that are contextualized in time, place and role (for instance: personal strivings, defense mechanisms, goals, coping strategies). The third level concerns the level of the identity of an individual which is expressed in the life story. This LIM-study has added to the body of knowledge at the third level. An interesting question is whether a connection exists between different levels of personality and whether specific patterns can be discerned. Since in the LIM-study also questionnaires concerning the first (personality traits) and second (coping, locus of control) level of personality were administered, it is possible to describe relations between the three levels of personality. McAdams et al. (2004) examined the relationship between the first and third level. They studied the relationship between the Big Five and some aspects of the life story (emotional tone, theme and structure). Openness was positively related to the construction of a more complex life narrative, Agreeableness was positively related to themes of communion and Neuroticism was positively related to an emotional negative tone in the life story. No relation was found between aspects of the life story and the traits Conscientiousness and Extraversion. Results of the subjective well-being questionnaire can also be related to different aspects of the life story. For instance, the relation between reported positive and negative life events and subjective well-being can be analyzed. Suh, Diener and Fujita (1996) found that only recent events, which had occurred in the preceding three months, had an effect on subjective well-being and on positive or negative affect. Their sample included students in the age of 20-21 years. The LIM-study shows a tendency that the recency effect covers a longer period for older respondents than for younger respondents. On the basis of this finding it can be hypothesized that the period in which events have an effect on subjective well-being is longer for older than for younger adults. Because most questionnaires have been administered at each wave the stability of variables measured by these questionnaires can be determined and can be related to (changes in) the life story.

**Prospective Memory**

Studies on AM have primarily focused on retrospective autobiographical memory. Prospective autobiographical memory, then, is a relatively unknown area and offers many
possibilities for further research. The present study, for instance, shows that many respondents find it hard to identify events in the future. At the first wave ten percent of the respondents of the oldest group did not mention any event in the future. The question, then, is to what extent individuals occupy themselves with the future and how this is related to other variables. The LIM-study showed that respondents are more focused on the near future than on the more distant future. Fingerman and Perlmutter (1995) found that adults of all ages think most frequently about the next few months but that young adults also think frequently about more distant periods in contrast to older adults. Young and older individuals think more about the distant future when they have a feeling to control events expected in the near future.

Respondents in the LIM-study sometimes wanted to draw two future life-lines; a line in case everything worked out in a positive way and a line in case everything worked out in a negative way. This may relate to the concept of ‘possible selves’ introduced by Markus and Nurius (1986). Possible selves are ideas of what one might become in the future. This can refer to one’s ‘hoped for self’, one’s ‘expected self’ or one’s ‘feared self’. In the LIM-study we asked respondents to draw a future line which expresses their expectations, not their hopes or fears regarding the future. It would be interesting to find out to what extent this expected future corresponds with the future one hopes for and the future one fears, and to determine the impact of these possible futures on present behaviour.

When people talk about their future they reveal more or less explicitly their goals for the future. The life story could be analyzed with respect to the kind of goals respondents set for their future and how these goals change as people grow older. In their socio-emotional selectivity theory Carstensen, Isaacowitz and Charles (1999) pose that the perception of time plays a decisive role in choosing and pursuing social goals. When time is perceived as unlimited individuals give priority to knowledge based goals. When time is perceived as limited, emotional goals are given priority. It seems that the study of the future has the future!

6.6 Conclusion

The LIM-study is an explorative, longitudinal study which started without pronounced hypotheses. This approach has yielded a large quantity of information about AM and about the subjective life course of individuals. Hereafter the main findings of this study will be summarized. Results for which a strong effect was found and which are also found in other
studies will be characterized by a ‘P’ (Principle). Results which can be considered as hypotheses as they were only found in this particular LIM-study will be characterized by an ‘H’ (Hypothesis). Results for which a trend was found will be characterized by a ‘T’ (Trend). The main findings, then, of this study are:

*Events of life*

P: The Principle of the Constant Life Perspective, i.e., the sum of past and future autobiographical events is constant across the lifespan.

P: Respondents of all age groups mention more events in the past than in the future. The ratio of past and future events changes over time, i.e., as people grow older the proportion of past events increases whereas the proportion of future events decreases.

T: The change in the ratio of past and future events is most prominent for the young age group.

P: The distribution of events over the lifespan shows strong recency and proximity effects for the young age group, an emerging bump and a recency and proximity effect for the middle age group, and a clear bump and a recency/proximity effect for the older age group. The recency/proximity effect is moving with calendar age of the respondent by definition, while the bump has a fixed peak between 20 to 30 years of age, the period of Commitment.

T: The recency effect seems to cover a longer period for older respondents than for younger respondents; the frequency of events in the recent past, however, is much lower for older respondents than for younger respondents.

P: The average age at which the first and last event are situated, is dependent on the method used. The average age of the first event is independent of respondent’s age, while the average age of the last mentioned event depends on age: the older respondents are, the later they situate the last event.

H: The older respondents are the later they situate the moment of expected death.

*Stability of events*

H: The life story has a stable core which contains about one third of all events respondents mention over their total lifespan over a period of five years.

T: The life story of older adults is more stable than the life story of younger adults.

H: The past is more stable than the future and especially young adults have a very unstable view of the future.
H: Childhood and the period of 20 to 30 years of age are the most stable periods in life; at each wave respondents mention more similar events in these periods than in any other period of life. From adolescence older respondents did not recall the same events at different measurement points.

H: More events in the near future actually happen than respondents expect to happen. The younger respondents are, the stronger this pattern.

Affect in life

H: Overall, life is perceived as affective neutral.

P: As people grow older the past is valuated more positive and the future more negative.

T: Young women are more positive about their whole life than young men, while middle-aged men are more positive than middle-aged women and older men and women are about equally positive (or negative).

H: The first mentioned event is mostly a negative event.

T: The affect of the last mentioned event is depending on age: the last event older adults report is more often negative than the last event younger adults report.

P: The distribution of negative events shows a forgetting curve for all subgroups and for older adults also a small bump which corresponds with the beginning of the Second World War.

P: The distribution of positive events shows a bump for middle-aged and older age groups.

H: The distribution of positive events shows a proximity effect.

H: Respondents have more intense feelings about the past than for the future.

H: Respondents mention more extreme negative than extreme positive events in the past.

T: Women report more very positive events from the past than men do.

T: Overall, respondents expect the same numbers of very positive and very negative events in the future but the older individuals are the fewer ‘very positive’ events are expected for the future.

H: The distribution of intense affect over the lifespan follows about the same pattern as the distribution of positive and negative events over the lifespan for the young and middle-age group.

T: For the older age group intense affects are distributed irregularly over the lifespan.

P: Traumatic events have the power to disturb the normal pattern (of distribution) of events over the lifespan and can cause a negative bump or an extension of the bump period.

T: Young adults, who look forward to, and older adults, who look back at certain events, for
instance Commitment and Work-related events, are more positive about these events than middle-aged adults who actually experience these events (rosy view phenomenon).

**T:** The period between 20 to 40 years of age is considered the best period in life, while the period of 70 to 80 years of age is considered as the worst period in life followed by childhood.

**Stability of affect**

**H:** With respect to the past it seems that negative events are more stable than positive events.

**T:** For the future it turns out that positive events are more stable for women than for men, while negative events are more stable for men than for women.

**H:** Memories from the bump period are mostly positive memories. Negative memories from this period, however, are relatively more stable than positive memories.

**H:** More events actually happen than respondents expect to happen in the near future and most of these events are negative events.

**Content of life**

**P:** The general pattern of the life course shows that childhood and adolescence are characterized by School, young adulthood by Relations, middle adulthood by Work, and older adulthood by Health and Death.

**H:** Events within the categories Relations and School are mentioned most frequently. Events within the subcategories Physical Health, Commitment, Birth Child and Starting School are mentioned most frequently.

**P:** The content of autobiographical memories and expectations is dependent of age and gender.

**H:** Younger respondents mention more events within the category Growth than older respondents.

**P:** Men mention more events in the category Work while women mention more events in the categories Health and Birth. Men are more dependent of parents and partner than women. The life course of women shows greater variety than the life course of men especially as they get older.

**P:** The past life story consists of personal memories while the future life story is more generic and mainly normative.
Stability of content

H: Events in the life story within the category Relations are most stable followed by School, Death and Other, while events concerning Growth are least stable. Events within the subcategories Relations Others, Travel, Problems Work, Death Family, End Relations, Birth Family, War and Rest, which are mainly accompanied by a negative affect, are most stable.

H: Memories from the bump period are mostly positive memories such as Begin Relations, Commitment, Birth Child, Finishing School and Beginning Work. Negative memories from this period, however, are relatively more stable than positive memories.

It can be concluded that a start has been made with the exploration of the dynamics of autobiographical memory. The contours of (patterns of) stability and change of autobiographical memory over the lifespan have been marked. Since there are almost no empirical data concerning the development of AM over the adult lifespan the results of this LIM-study can serve as a starting point with which results of future studies can be compared. What is more, examining AM in a lifespan perspective provides a good deal of information about the subjective human life course which can be used in everyday life as well as for policy developments in different areas, for instance with respect to health care and life course arrangements. The LIM-data set offers a variety of opportunities to continue the study of AM and raises quite a number of interesting questions concerning the great themes of life.