

## **Ageing as Future – Future-related activities regarding age and ageing in cross-cultural perspective**

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### **I Background and goals of the project**

Longevity is one of the most important drivers of demographic change. The extra years that are gained by longevity, however, are not equally distributed across the life span. Instead, mostly one phase of life profits disproportionately from the increase in life expectancy, namely old age. Although earlier phases of life have increased in duration as well, the extension of the last phase of life exceeds the gains of the other life phases by far. Nowadays, individuals in highly developed, industrialized countries can expect to spend roughly a quarter of their life time (20+ years) after retirement (Vaupel, Carey, & Christensen, 2003). Old age can thus straightforwardly be described as being the future for individuals and for society at large.

Such gains in life expectancy have important implications for individuals and for society. Compared to earlier phases of life, old age is much less structured by societal norms (Freund, Nikitin, & Ritter, 2009; Riley & Riley, 1994). For the ageing individual, old age is thus more or less a blank space during which one's life can be shaped free from external regulations, obligations, and constraints, according to one's own plans and goals – depending, however, on an individual's command over material and immaterial resources. The fact that old age is less structured by external norms provides freedom for the individual, but is also a challenge that requires planning and preparation. Furthermore, old age not only provides freedom to pursue additional life options, it can also be experienced as a threat to personal autonomy due to an increased risk of age-related illnesses, functional declines, and social exclusion or loneliness (Luhmann & Hawkley, 2016; Paul, Ayis, & Ebrahim, 2006).

From a societal perspective, the extension of old age and the burgeoning of the older population pose a potential threat to the stability of social welfare systems (pension, health care) by creating asymmetries between contributors and recipients. This has led to political agendas comprising reductions in welfare benefits and entitlements, increased retirement ages, and an emphasis on individual responsibilities for personal provision in old age. In turn, these political debates also affect individual perspectives on old age and ageing. Especially for younger people, personal views on ageing and age-related attitudes are less fixed and secure than those of aged people. Due to the increased distance to their own age and the insecurity of their future prospects, younger people are more easily influenced by anticipated changes regarding the situation of older people in society. For instance, younger people might anticipate a necessity to work after retirement to compensate for potential cuts in pension systems. Alternatively, they may expect emerging possibilities and expectations to participate and remain engaged in meaningful social activities without age limits.

The project "Ageing as Future" focuses exactly on this intersection between societal and individual perspectives on old age and ageing. The aim of our research is to describe and explain what people expect with regard to their age and how they cope with the challenges of ageing. Our studies aim at providing a differentiated perspective on individual constructions of old age and ageing in different life domains. Specifically, our project addresses three interrelated core topics (views on ageing, preparation for old age, time management in old age) from an interdisciplinary perspective. To investigate these topics, we use a multi-method approach, combining qualitative in-depth interviews, experimental paradigms, and panel surveys comprising specialized questionnaire instruments and online assessment tools. Another unique feature of our research is that we compare individuals of different age groups, socio-economic backgrounds, and countries (Germany, USA, Hong Kong) with regard to their views on and attitudes towards ageing. In combination with the domain-specific approach that we take in our research, the international format of our project allows us to investigate the phenomenon of ageing from a truly contextualized perspective. Identifying and explaining specific patterns of differences between countries for domain-specific views on ageing provides insights into how societal contexts shape individual experiences of ageing across the life span.

During the first funding period, the project “Ageing as Future” has already generated an impressive set of results that have had a strong impact on the field (international publications and conference presentations), and that have received attention also in the general public. A brief overview of the major results and their implications will be given below; a more extended description of findings and methodology is provided in the work report that accompanies this proposal. The project continues to gather interest of international researchers, and it is widely recognized as a unique research approach that provides specific insights into the origins and consequences of how people construe their own age.

Despite its already remarkable success, the immense potential of the project has not yet been fully exploited. On the one hand, the data that were gathered and documented during the first funding period offer enormous possibilities for further in-depth analyses. In particular, international comparisons for many important variables and their relations have not yet been fully analyzed, and we have only just begun to explore the implications of combining and comparing data sets that have been gathered with different methodological approaches (interviews, questionnaires, online assessment). On the other hand, the already existing data base of the project offers a unique potential to be further extended, resulting in an internationally unprecedented set of data with regard to core aspects of ageing in context. Collecting additional data for another measurement occasion would result in a fully longitudinal and multimethod design across different countries, yielding additional analytic options of core theoretical importance. These data will allow us to separate effects of age, cohort, and measurement occasion, and they will help us to identify historical trends and changes in patterns of ageing across different countries. Perhaps most importantly, extending the cross-national comparisons to a fully longitudinal design is a prerequisite for a stricter specification of causal relations between variables, which is of essential importance for all research foci of our project. Furthermore, we are planning to include two more countries into the design of the study (Czech Republic, Taiwan). These countries were selected for theoretical reasons (including an Eastern European country with a former state-socialist and thus highly protectionist regime, and an additional Asian country comprising a less metropolitan area compared to Hong Kong). For both of these countries, pilot data are already available, indicating that these countries substantially deviate from the presently sampled countries on core variables of ageing and on the perceived situation of older people in society. Incorporating these countries into the project would greatly enhance the potential for international comparisons, providing an even broader perspective on the core topic of our study, that is, ageing in different contexts of modernity.

Based on these reasons, we apply for a prolongation of funding for the “Ageing as Future” project for another three years. The first funding period already yielded a remarkable output. The second funding period will provide an even better return on investments because it builds on and further extends an already unique data set. It will allow us to interconnect the research topics that we have been investigating, and it capitalizes on a well-established set of collaborations between the international group of highly engaged researchers in the project, all of whom are fully familiar with and strongly committed to the project’s aims and goals.

## **II Core results of the first funding period<sup>1</sup> and implications for future research**

In the following, we briefly present the major results of our project that were established within the three sub-projects during the first funding period. Since all sub-projects worked closely together on all topics of the project, we will organize the presentation of results according to the core phenomena that were of interest for the project: A first section focuses on views on ageing (II.1), where we investigated how people perceive old people and aging in different life domains, and what they ex-

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<sup>1</sup> Studies and presentations/posters printed in bold resulted from the “Ageing as Future” project – a complete list of these papers is given at the end of the work report accompanying this proposal. Additional literature cited here and in the report can be found in the separate selective bibliography.

pect from their own ageing. A second paragraph addresses preparation for old age (II.2). Here, we present findings with regard to the diverse set of plans and activities that relate to old age, and to the determinants that explain different levels of preparation between individuals, life domains, age groups, and countries. A third research area summarizes our findings with regard to time perspectives and time management in old age (II.3). Time has been identified as a core variable for understanding old age and ageing; our project focused on the different ways in which people solve the “task of time” in retirement, and how time perspectives and time management relate to ageing-related action, preparation, and development.

When presenting these findings, we combine the results that were gathered in the different parts of the project (questionnaire study, online assessment, interviews). These results also provide the basis of what we aim to achieve in the second funding period of the project. Detailed information on the core findings and methodological details (samples, recruitment strategies, instruments, and methodology), as well as a complete list of publications that emerged from the first funding period of the project, is provided in the report that accompanies the current proposal.

At the end of each result section, we discuss ongoing work, implications of the reported findings for future research, and we link the results to research questions we want to address in the second funding period.

### **II.1 Views on ageing**

A first core aim of the project focuses on the views on ageing that people hold. Which expectations and attitudes do people hold towards old age and ageing, and which developmental outcomes can be predicted on the basis of these ageing-related beliefs? The “Ageing as Future” project identified central distinctions regarding the study of views on ageing, providing a new theoretical perspective on what people expect from old age, and how these beliefs shape development across the life span.

*Domain-specificity.* A first, fundamental distinction regards the *multidimensionality* (cf. Baltes, 1987) of views on aging (**Kornadt & Rothermund, 2015**). Expectations, evaluations, and attitudes regarding old age and ageing differ in content and valence depending on the situation or context to which they refer. To separately assess these *domain-specific views on ageing*, we developed and validated new scales, each of which referred to a specific life domain (e.g., family, health, religion/spirituality, fitness, leisure, personality, work, finances, friends; **Kornadt & Rothermund, 2011a**). These scales allowed us to assess individual differences in personal views on ageing in specific domains, and to predict and explain differences in ageing well (or less well): More positive views on ageing in a domain were shown to predict feelings of subjective age (i.e., feeling younger in a domain; **Kornadt, Hess, Voss, & Rothermund, in press**), more preparation for old age and age-related changes (**Kornadt, Voss, & Rothermund, 2015b**), more positive attitudes towards activity and social engagement in old age (**Kornadt & Rothermund, 2011b**), higher life-satisfaction (**Kornadt & Rothermund, 2011a; Rothermund, 2015**), and even the occurrence of more positive (and less negative) critical life events (**Voss, Kornadt, & Rothermund, in press**). Importantly, all of these relations were shown to be domain-specific, that is, positive views on ageing in a domain predicted positive outcomes with regard to this particular domain but not for other domains. This specificity of relations supports the novel theoretical perspective that views on aging do not shape development in a global and unconditional fashion, but that they become activated only in specific circumstances and in response to age-related events (**Kornadt & Rothermund, 2015**; see also Casper, Rothermund, & Wentura, 2011). Further corroborating this assumption, views on aging for the leisure domain were shown to predict changes in levels of leisure activities following retirement but not before retirement or for already retired people (**Rothermund, 2016**).

*Age stereotypes vs. future self-views.* Secondly, when studying views on aging, it is important to distinguish between what people believe about ageing in general as it applies to other people (age stereotypes) and what they believe about their own ageing (personalized views on ageing, future self-views). Investigating the dynamic interrelations between personally held age stereotypes and personalized views on one’s own ageing revealed that as people grow older, (a) previously held age ste-

reotypes become incorporated into the self-concept through a process of internalization, and (b) personal experiences of ageing and age-related change (or stability) color the perceptions of older people in general through a process of externalization or projection (**Kornadt & Rothermund, 2012; Kornadt, Voss, & Rothermund, 2015a**). Further supporting our domain-specific approach to the study of views on ageing, we found specific time windows for internalization and projection for specific life domains that were driven by expectations or experiences of age-related changes and transitions in the respective domains (**Kornadt et al., 2015a**). These findings provide an innovative explanation of the origins of ageing-related personal beliefs, and they identify personal conceptions of one's own ageing as a powerful pathway that mediates between age stereotypes and personal development in old age.

*Ongoing work, implications for future research, and outlook on second funding period.* In sum, results from our project on views on ageing have made a major contribution to the literature on this topic during the recent years. The measures of domain-specific views on ageing that were developed in the project have become a reference standard for research assessing age-related beliefs (e.g., a selection of these scales has recently been chosen for incorporation into the innovation sample of the socio-economic panel [SOEP], which is one of the largest and most important survey studies in Germany). Our findings on the consequences of domain-specific views on ageing for a wide range of indicators of successful ageing have substantially broadened the perspective that is taken when discussing the implications of views on ageing for development.

Although the reported findings are already impressive, the data that were gathered in the ageing as future project contain lots of further possibilities, providing a unique opportunity to explore the origins and consequences of views on ageing and to advance our knowledge on this topic. A most crucial set of questions in this regard focuses on *differences between countries*. Going beyond previous work that compared countries with regard to global age stereotypes and general evaluations of older people (e.g., Löckenhoff et al., 2009; North & Fiske, 2015; Zhang et al., 2016), our project allows for a much more fine-grained analysis of the pattern of differences between countries and of their potential determinants by taking into account domain-specific views on ageing. Ongoing work on this topic (**Voss, Kornadt, & Rothermund, 2015; Voss, Kornadt, Hess, Fung, & Rothermund, in preparation**) identified systematic differences in domain-specific views on ageing, with more negative views on ageing dominating in Hong Kong compared to Germany and the USA. This overall pattern was further qualified by domains, with large differences between countries emerging for the domains work and health, for which ageing depends most strongly on societal regulations and infrastructures (social security and welfare systems), while no or only marginal differences between countries obtained for the domains personality, finances, and friends, which can be assumed to reflect mostly individual planning and engagement. Follow-up analyses indicate that part of these country differences in domain-specific views on ageing can be explained by the perceived situation of older people in the respective societies (e.g., social inclusion, opportunities of participation, provision for older people by social welfare systems).

These findings are a core reason why we want to *include two additional countries in the second funding period of our project*. The transformation in Eastern European countries from state-socialist, highly protective regimes to capitalist societies emphasizing individual liberty and responsibility has brought about massive institutional changes that also affect old age and ageing, in particular with regard to work and welfare settings. Including the Czech Republic as a paradigm example for such a society will shed light on how individuals experience these changes, and how they translate these macro-changes at a societal level into individual perceptions of and attitudes toward their own ageing. Similarly, comparing more rural and metropolitan areas is important in order to understand how people age in the absence of infrastructures that were shown to have a massive influence on individual ageing in Hong Kong (senior centers). The latter aspect is a major reason for including the Tainan region of Taiwan as an additional Asian country into our study.

Another highly relevant topic regards the relation between views on ageing and (perceived) age discrimination. In a recent paper, we found that negative views on ageing in a domain predict higher

levels of experiencing age discrimination in the respective domain (**Voss, Wolff, & Rothermund, 2016**), indicating that negative views of ageing represent a risk factor that (a) sensitizes older people towards perceiving unfair treatment due to their age, and/or (b) predisposes them to behave in a way that confirms existing age stereotypes and thus might in turn have an influence on ageist behaviors from others. Further analyses on this topic revealed huge differences in perceived group-level age discrimination between countries (cf. **Ayalon & Rothermund, 2016**), and identified marginalizing older people with respect to relevant individual and collective decisions and insufficient health care provision for older people as important predictors of perceived age discrimination (**Voss, Kornadt, & Rothermund, 2016**). Based on these important preliminary findings, we want to put a special focus on actual and perceived age discrimination and its individual and societal determinants in all subprojects during the second funding period.

## ***II.2 Preparation for old age***

Discussions about preparation for old age occupy a central place in public debates centering on the implications of demographic change and “ageing societies”. Our innovative take on the topic of preparation in the ageing as future project is twofold: First, we want to broaden the conception of preparation for old age by showing that it includes more than just preparation in the financial and health domains. Second, we are interested in describing individual differences in preparation, and in identifying the determinants of these differences.

*Assessment of preparation for old age in specific domains.* Corresponding to our work on views on ageing, we also conceive of preparation as a multidimensional construct. We thus developed scales to assess levels of preparation for old age with respect to nine different domains that were shown to represent separate and independent facets of old age preparation (emergency situations, finances, work, housing, leisure activities, health, social relationships, appearance, and fitness; **Kornadt & Rothermund, 2014**).

*Individual differences in preparation and their determinants.* Preparation for old age and age-related changes is a major predictor of successful ageing and adaptive development. A core research topic was to identify determinants of preparation: Who prepares more (or less) for old age and why? A central finding is that positive future self-views as an old person in a domain predict more preparation activities for the respective domain whereas negative views on old age and ageing undermine the motivation to engage or invest in preparatory activities for this period of life (**Kornadt et al., 2015b**). Another important predictor of preparation is an individual’s time perspective: A low perceived quantity of residual life time and corresponding time perspectives that were characterized by attributes of concreteness and openness predicted high levels of preparation (**Kornadt, Voss, & Rothermund, 2016**). Additional findings suggest that depending on the domain of late-life preparation there are differential motivational influences on planning and preparation: E.g., when people believe to have much time left in their lives, they are more likely to consider a possible relocation in the future as a precautionary strategy. In contrast, when people feel that their time in life is limited, planning of relocation was more likely postponed (**Beyer, Rupprecht, & Lang, 2016**). We also found levels of preparation to vary systematically between the three countries of our study, with highest levels of preparation in the USA, slightly lower levels in Germany, and substantially lower levels for Hong Kong (**Kornadt, Voss & Rothermund, 2016; Rothermund, Kornadt, & Voss, 2016**). Some of the variance between countries were due to differences in the perceived situation of old people in society. Perceptions of an open society that provides ample opportunities for old people to participate in public life increased preparation.

*Ongoing work, implications for future research, and outlook on second funding period.* Preparation for old age has been established by our research as a crucial process that translates views on ageing into developmental outcomes. Many of the relations that were previously reported in the literature on the adverse consequences of negative views on ageing for different indicators of successful ageing were mediated by a reduced motivation to engage in preparatory activities. However, contrast effects on compensatory preparation behavior are possible and are seen in our study as well (e.g., low-

er perceived levels of provision in social security systems led to a compensatory increase in individual preparation tendencies; **Rothermund et al., 2016**). Further analyses of our data base are needed to gain further insights on the motivational, affective, and cognitive determinants of preparation behavior and on their contextual moderators. A promising perspective in this regard is the distinction between preparation for active engagement in old age (focusing on leisure, fitness, appearance, social relations, and work), and preparation for dependency (focusing on emergency, finances, housing, and health; **Kornadt & Rothermund, 2014; Rothermund et al., 2016**). Drawing on this distinction, we are planning to set a special focus on perceptions of ageing and preparation in what is called the “fourth age” during the second funding period, especially with regard to experiences of anxiety, motivation to live longer, and frailty.

What is already evident, however, is that policy interventions aiming to increase individual preparation for old age are well advised to provide societal conditions of ageing that allow older citizens to participate in social life and to experience old age as a phase of life that is full of chances and interesting opportunities, for instance by eliminating age limits.

### ***II.3 Time perspectives and time management in old age***

Subjective perceptions of old age and ageing are deeply connected with the biographical transition from work to retirement. After having left employment, people are confronted with a paradoxical time constellation: While they experience a sudden gain in everyday time at their personal disposal, as pensioners they at the same time enter what is often conceptualized as life’s “last chapter”. Our empirical findings so far show, however, that both categories of everyday “time wealth” and biographical “time poverty” in old age are overgeneralizations that have to be differentiated according to specific life situations.

*Individual strategies in managing everyday time.* Based on the concept of people’s “sovereignty” with regard to time use in retirement, we reconstructed three different “time styles” from our interview material: *enjoying time*, *filling time* and *investing time* (**Münch, 2014**). We found an interesting contrast to these perceptions for people who had to cope with critical life events like the loss of the partner or the diagnosis of a severe illness. Focusing on these critical life situations revealed two further time styles, both of them of a “non-sovereign” kind: *stealing time* and *deferring time* (**Münch, 2015**). “Stealing time” describes the mode of constantly searching for at least a short slot of disposable time in an otherwise completely filled and tightened daily time schedule, whereas the mode of “deferring time” is often associated with the notion of potentially having time but not being able to make use of it because of being shut-in to one’s home. Strikingly, almost all of our interviewees had a sense of time passing faster in old age, a finding which relates to the results of the online study in which older adults felt that time was passing more quickly, particularly during productive tasks (**John & Lang, 2015; Lang, 2012; Löckenhoff, 2011**). This experience of time acceleration is interpreted either in an *active* sense of accomplishing less in a given unit of time, or with a *passive* meaning where time ultimately is out of reach for an effective creative intervention due to a loss of social roles. Either way, our data show that managing time becomes a developmental task of its own in old age (**Ekerdt & Koss, 2015**).

*Subjective views on biographical time.* We identified one basic pattern of time orientation among older adults that may be framed as a logic of *making up for lost time*, and that consists in reversing previously established time orientations. While male pensioners tend to re-orient their preferences towards spending time with their spouse, family and/or friends, thus compensating for the felt neglect of “significant others”, female retirees try to give way to their formerly suppressed want for “ego-time” (Nowotny, 1989). For elderly people with care duties, the idea of making up for lost time turns into an ideal that is projected into a biographical future: Finally doing what one “always wanted to do” is subjectively postponed to a later, post-care-obligation stage of life. Another pattern of handling biographical time we identified in the material was framed as “suspension” by the US research group and reframed as “time freeze” by the Hong Kong team (**Fung et al., in prep.**). The *suspension pattern* may best be understood as the subjective construction of a biographical “safe room” that

allows for the conservation of the status quo, and that shields against a negative conception of old – or rather “oldest” – age as a time of frailty, dependence and need for familial or institutional care. The negative stereotypes with regard to such a “fourth age” (Laslett, 1989) may contribute to people’s withdrawal from an active life-style otherwise publicly called for – and may thus lead to a “dispossession of time” in old age (**Münch, 2016**). In a way, current public discourses and political programs calling for “active ageing” and social engagement of the elderly (**Lessenich, 2015, 2016**) do not take into account the individual time conflicts we found in our empirical material, neither with regard to a possible wish for a “tranquil life” (**Liou, 2016**) after life-long work nor to the fact of persistent or recurrent family duties in old age.

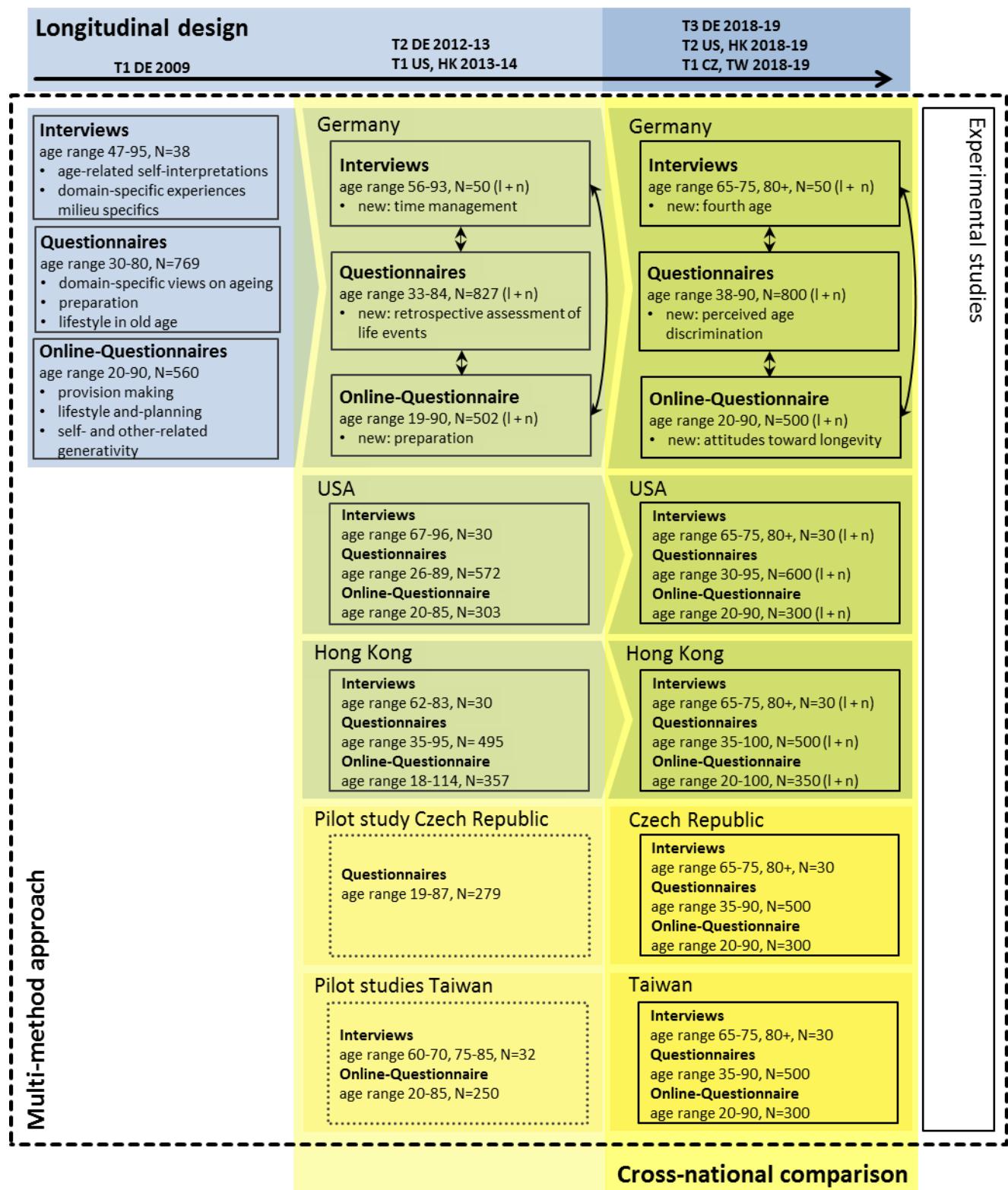
*Ongoing work, implications for future research, and outlook on second funding period.* As an instance of the intense and ongoing exchange between the qualitative research teams at the three interview sites, we have just submitted a paper on the fundamental question of how to avoid the fallacy of “methodological nationalism” (Wimmer & Glick Schiller, 2002) in cross-cultural qualitative research on ageing. Reflecting systematically on the research process in the “Ageing as future” project, we address the problem of taking for granted the information given by the interviewees on grounds of cultural proximity and tacit understanding – a lack of cultural detachment that may be overcome in a transnational research project by orchestrating a methodically controlled process of reciprocal “estrangement” (**Lessenich, Münch, Ekerdt, Koss, Fung, & Li, 2016**). This paper is not only of interest for cross-cultural qualitative research at large, but it represents the essence of three years of methodological discussion among the different subprojects and thus provides a unique foundation for a potential second phase of cooperation in an enlarged research setting.

In the second funding period of the research project, we will on the one hand selectively re-interview our sample and part of the overlap sample with the online and questionnaire studies in order to focus on longitudinal issues of time perspectives and time management in old age. On the other hand, we will slightly redirect our focus on time perspectives with regard to time management in the fourth age, enlarging our sample in the group of people aged 80+. With increasing longevity, the question of “frailty” will move back center stage in the “ageing societies” (Higgs & Gilleard, 2015). Against the backdrop of our empirical findings in terms of a prevalent desire to “suspend” individual ageing and in the light of the public debates about societal “over-ageing”, it seems relevant to ask if longevity is wanted at all, individually as well as on the level of societal self-conceptions. More specifically, the question is *under what conditions* ageing individuals want to live longer and old people want to become even older. For the longevity society to come, this is an issue of truly vital importance.

### III Methods and design

In the second funding period, we will further investigate the core research question of the “Ageing as future” project, that is, we want to describe, understand, and explain how individuals construe their old age, taking into account the variability and complexity of these constructions in different societal contexts of ageing. Our investigation centers on views on ageing, preparation for old age, and time management in old age. We approach these questions with a three-pronged methodological research strategy, combining in-depth interviews, questionnaire instruments, and online assessments, corresponding to the three sub-projects of our study. To contextualize processes of ageing, we are collecting data from countries that differ with regard to their cultures of ageing. This allows us to investigate the reciprocal interplay between individual processes of ageing and societal norms and constraints that regulate ageing in different countries and life domains.

Building on the existing data bases that were gathered during the first funding period of the “Ageing as future” project, we plan to further extend the study in the following ways (for a structural overview of the resulting design of our study, see *Figure 1*).



↔ exchange of methods and samples, multi-method validation

l = longitudinal sample, n = new participants

**Figure 1.** Overview of the full project design. The planned second funding period is shown in the right column in fully saturated colors; already existing data resulting from previous funding are shown in the left and middle columns in pale coloring.

### ***III.1 Longitudinal extension***

The second funding period will allow us to collect data from the same participants again that were already part of the core sample that makes up the existing data base. For all participants of the first wave, contact information is available that allows us to re-contact the same participants again and to match their data with the data from the first wave via an anonymized code. This extension of the data base will result in a fully longitudinal design spanning a 4-year interval for the international data (USA, Hong Kong) and spanning an 8-year interval (3 measurement points separated by 4 year intervals) for the German sample. Gathering data from the same participants at multiple measurement occasions is of utmost importance for the quantitative subprojects (questionnaire and online study), enabling us to separate effects of age, cohort, and historical time. This longitudinal extension of our study is of crucial importance for the international comparisons, since it allows us to (a) identify and compare true age-related changes in certain processes and variables, and to separate them from cohort differences, and (b) to make strong causal claims regarding the relations between societal and individual conditions that have an impact on indicators of successful development in old age. Extending the time interval from 4 to 8 years (three measurement occasions) for the German sample will further extend our possibilities to model age-related changes over a substantial time interval, both in the qualitative and quantitative subprojects. With regard to the latter, it allows for fitting more complex growth models, to identify non-linear age-related changes, and to predict changes even for those outcomes that typically are characterized by a high degree of stability and for events that have a low probability of occurrence (cf. **Voss, Kornadt, & Rothermund, in press**). In effect, the longitudinal extension of our project will result in a data base that is exceptional and unique for its in-depth assessment of ageing-related variables in a large cross-sequential design spanning different countries. Within the qualitative subproject, we will combine a selective reassessment of previous participants with the recruitment of new participants to investigate the interrelation of time management, frailty, and the will to live longer in old and very old age. The special focus of these interviews is on individual and contextual conditions of longevity.

### ***III.2 Data collection in two additional countries***

We are planning to include two additional countries (Czech Republic, Taiwan) into our project that will broaden the spectrum of variability that is covered by our study with regard to the societal conditions of ageing in theoretically important ways. The Czech Republic serves as a model case for an Eastern European country of the post-communist era, where people experienced a far-reaching transformation of institutional structures and welfare state policies during the past three decades. Pilot data that were gathered with a Czech translation of our questionnaire instrument indicate that people in this country deviate substantially and systematically from the other countries that are already part of the project with regard to core variables (views on ageing, preparation for old age) and also with respect to the perceived situation of older people in society (**Nikitin & Graf, 2016**). More recently, however, there have emerged expectations of “ageing well” in the Czech context that reproduce the paradigm of “active ageing” as it has been developed in the EU policy arena since the late 1990s (**Hasmanová Marhánková, 2011**). Including the Czech Republic into our study will broaden the spectrum of European countries and will provide insights into the long-term consequences of former East-West differences for ageing and development.

As a second extension, we are planning to collect data from people living in the Tainan region in Taiwan. These data will represent a counterpart to the Hong Kong sample, with Taiwan showing generally comparable levels of economic development but especially in the Tainan region covering a less metropolitan area with a mixed set of cultural influences (Chinese, Netherlands, Japan). We are particularly interested in including a more traditional area from Asia in order to gain more detailed and systematic insights into the large variability within Asia with respect to views on ageing and cultures of ageing (e.g., North & Fiske, 2015). Pilot data that were gathered from older people living in the Tainan area already provide interesting cues to specific forms of time management and time perspective (the “tranquil life”; **Liou, 2016**) that differ from what was observed in our sample in Hong

Kong, where living in old age was found to be influenced strongly by institutionalized centers for senior citizens.

### ***III.3 Incorporating additional variables and research topics***

The project will focus on the same set of core research questions and constructs as in the first funding period, and will contribute more and more specified insights on these topics. However, we will use the opportunity that comes along with collecting additional data in the second wave of the project to extend our data base by including some additional variables, processes, and constructs that emerged as potentially promising during the first funding period, and that will help us to get a fuller picture of the core issues that we want to address.

(1) *Perceived age discrimination.* Beliefs about the situation of older people in society are a core construct that we included in the first wave of data collection, mostly in order to explain differences between countries with regard to views on ageing, attitudes towards living in old age, and preparation for old age and age-related changes. When analyzing these data, we found perceived exclusion of older people (i.e., beliefs about group-level age discrimination) to be an important variable both as an explanatory construct, but also as an outcome (Rothermund et al., 2016; Voss, Kornadt, & Rothermund 2016). On the basis of a conceptual analysis (Voss & Rothermund, in press; Voss, Bodner, & Rothermund, in press), we proposed that experiences of ageism have a domain-specific structure and we provided preliminary evidence for this assumption (Voss, Wolff, & Rothermund, 2016). We will thus develop a new instrument for assessing domain-specific experiences of age discrimination at a personal and at a group level, and include them into our questionnaire study. Experiences of age discrimination will also form a major topic in the interview studies, as part of the new interviews and of reanalyses of the previous interviews. We expect this variable to be of interest in explaining differences between countries in many other variables, and to be an outcome that is in itself of major theoretical and practical interest (e.g., Ayalon & Rothermund, 2016).

(2) *Attitudes towards longevity.* A central topic that has emerged from repeated discussions among the different projects focuses on attitudes towards longevity (“How long do you want to live?”; Lang, Baltes, & Wagner, 2007). Interviews about this topic revealed interesting and differentiated responses from participants, depending on expectations of what life will be like in the future when they become old (Ekerdt, in preparation; Lang, Rohr, & Mueller, in prep.). This topic is of general interest for the entire project, because it relates not only to questions of time management and time perspective, but also to views on ageing and preparation for old age as possible antecedents or outcomes of attitudes toward longevity. We will develop and include measures of attitudes toward longevity in all sub-projects in order to be able to compare and combine results of qualitative and quantitative assessments on this core topic of our project.

(3) *Intertemporal thought.* A related topic concerns the concept of “time freeze” that has been identified as a central construct of time perception in the analysis of the Hong Kong interviews (Fung et al., in prep.). Again, we aim at incorporating variants of this construct into the quantitative projects as well (e.g., scales to assess temporal self-continuity; Ersner-Hershfield et al., 2009; Rutt & Löckenhoff, 2016). A particular interest is to develop domain-specific variants of time perception (temporal self-continuity, time suspension), in order to allow for a differentiated assessment of time experiences in different life domains, and to investigate interdependencies with views on ageing and preparation for old age.

(4) *Ageing in the “fourth age”.* Our research has so far evidenced significant differences between the “young old” (aged 65-75) and the “oldest old” (aged 80+) not only in terms of their subjective views on longevity and finitude, but also with regard to their sense of social recognition and self-esteem. With ongoing demographic change and the rise of “ageing societies” being widely debated in all the countries under review in our project, there emerges the paradox constellation of the large and growing group of people in their “fourth age” increasingly facing marginalization (Higgs & Gillear, 2015). While the healthy and mobile “silver agers” may be successful in conforming to midlife norms, “fourth agers” are being confronted with more or less subtle forms of “othering”. In line with this

tendency, the “oldest old” are still conspicuously absent in international empirical research on ageing. Our project wants to counter this situation by systematically enlarging all the subprojects’ samples in the age group 80+ (and indeed oversampling this group in the qualitative study).

(5) *Modifying views on aging.* In our project, views on aging were found to be an important predictor and antecedent of core developmental outcomes (see II.1 above). Changing personal views on aging thus is of utmost theoretical and practical relevance (a) for investigating relations between views on ageing and other variables with an experimental design, and (b) for designing interventions that aim at optimizing development in old age. Influencing personally held age stereotypes and/or future self-views, however, is a notoriously difficult task that typically requires massive interventions requiring a change in deeply rooted personal belief systems (e.g., Wolff et al., 2014). In the second funding period, we will conduct experimental and intervention studies in which we try to manipulate personal views on ageing. In these studies, we capitalize on the two core aspects of our previous findings: In the interventions at changing views on ageing we let people reflect (a) on what they think about old people in different contexts, and (b) on what they think about themselves as old persons as compared to what they think of old people in general. Both techniques aim at making salient the breadth and variability in the content and valence of ageing-related associations. We test the assumption that this will make views on ageing less negative and more balanced, which should have positive consequences on immediate (performance) and delayed (attitudes toward ageing, perceived age discrimination, preparation, behavior) outcomes.

In sum, all of these planned extensions capitalize on important findings from the first funding period, and they will help us to deepen our understanding of the core research topics and their interconnections in the second funding period. A detailed work plan and timetable is attached to this proposal.

#### **III.4 Project team**

The project team consists of three German PIs who are mainly responsible for developing and managing the project within the three interconnected methodological approaches (Prof. Frieder Lang: online study; Prof. Stephan Lessenich: qualitative in-depth interviews; Prof. Klaus Rothermund: questionnaire study). In addition, we have established a team of extremely productive and highly committed international PIs who have organized data collection in the other countries (Prof. Dave Ekerdt, University of Kansas: interviews; Prof. Helene Fung, Chinese University of Hong Kong: interviews, questionnaire, and online studies; Prof. Thomas Hess, North Carolina State University: questionnaire and online studies). The collaboration within the team has been exceptionally close and efficient during the entire project duration, with regular international meetings within and across the different sub-projects, joint publications from all sites, exchanges of junior researchers, and organization of joint project symposia on international conferences (GSA; IAGG-ER). All international partners are eager to continue working with us in the project in order to fully exploit the data that have been collected and to maintain and expand the collaboration in the future.

With Prof. Dr. Jana Nikitin (Universität Basel), Dr. Sylvie Graf (Academy of Sciences of the Czech Republic, Brno), Dr. Jaroslava Hasmanová Marhánková (University of West Bohemia, Pilsen), Prof. Dr. Shynan Liou (National Cheng Kung University, Tainan), and Prof. Dr. Susan Hu (National Cheng Kung University, Tainan), we have already established an extension of our network of international collaborators. These researchers are highly familiar with the Czech and Taiwanese cultures and are also committed to the aims of the “Ageing as future” project. They have agreed to collaborate with us in organizing the data collection in the Czech Republic and Taiwan, respectively. These collaboration partners have already invested a lot of energy and effort in becoming involved with the project, they have translated and adapted the instruments that were developed in the project and conducted pilot studies in the Czech Republic and in Taiwan; first findings of these studies were already presented at an international conference that was organized by the project team in Nuremberg, in July 2016.

## **IV Expected results**

### ***IV.1 Scientific contribution***

During the first funding period, the project has already succeeded in creating a data set that is nationally and internationally unique in the research field of ageing experiences and age-related behavior. It is characterized by tremendous broadness (age range and sample size, cross-cultural comparison, spectrum of methods, interdisciplinary approach) and depth (domain-specific assessment of views on ageing, provision making, time experience). The data we collected are of immense scientific and societal relevance, and they have already made a major contribution to the scientific literature. The findings that emerged from the project helped us to establish a new theoretical perspective on aging across the life span that can be described as “ageing in context” (Kornadt & Rothermund, 2015).

The second funding period will help us to fully exploit our data set with respect to the core topics of our project. Specifically, additional time and funding is needed to further investigate differences between countries for core variables of the project, and to combine the data from the different sub-projects in comprehensive analyses. Furthermore, we will use the second funding period for a second wave of data collections that will (a) provide longitudinal data for the international comparisons, allowing us to separate effects of age, cohort, and historical time, (b) broaden the spectrum for comparisons between countries systematically by including the Czech Republic and Taiwan as additional countries, and (c) capitalize on the results of the first wave to collect more in-depth information on topics and variables that have been identified as highly promising in interconnecting the different research topics of our project (perceived age discrimination, attitudes towards longevity, temporal self-continuity, the fourth age).

In sum, the second funding period will be invested in a project that has been very successful already, and that will yield increasing returns in the upcoming funding period due to the fact that we build upon a powerful data set and, perhaps even more important, on an established set of highly committed and internationally renowned researchers who are highly familiar with the project and with the potential that our study offers. The second funding period will be used to create a data set that is truly exceptional and unique, and that will continue to inspire research on individual constructions of ageing in diverse societal contexts in the future. We will use the second funding period to complete data collection in the project, and to prepare the data that were gathered and the instruments that have been developed in the project for public usage, by creating a website that allows open access to the project data and instruments for registered users from all over the world.

### ***IV.2 Sociopolitical implications***

The research questions that we address in the “Ageing as future” project are highly relevant. Consequences of societal conditions of ageing (views on ageing, demographic change, softening and renegotiating of age thresholds and provision structures) on individual ageing-related behavior and experiences are analyzed. At the same time, processes and mechanisms are clarified with which societal conceptions of age and ageing are translated into (or warded off from) individual expectations and behavior dispositions. As a whole these mechanisms and processes constitute new social realities, and thus retroact correctively or stabilizing on existing age and ageing stereotypes. Understanding the dynamics of individual ageing in context is of core importance for public debates on topics relating to old age and demographic change, and, most of all, for fostering an understanding of what individuals expect, fear, and hope for when they become older, which is important for interactions with older people under various circumstances.

We have disseminated the knowledge that was gathered in the “Ageing as future” project into the public with a special focus also on non-scientific audiences through various channels: We have contributed repeatedly to media reports on ageing related topics (talk shows, interviews, press releases), we have published summaries of our findings for a non-scientific audience (**Kornadt & Rothermund, 2011b**), we will publish a monograph that collects an overview of the core findings of the project in a format that is accessible for a broad, non-scientific readership (**Lang, Lessenich, & Rothermund**,

2017), and we have prepared educational materials based on the findings of our project for courses on advanced vocational training for a study addressing service providers for older people (certificate studies “Future market 65+: Developing and implementing services for seniors”, FSU Jena; **Kornadt & Rothermund, 2016; Lessenich, 2016**). For example, as a spin-off of the Ageing as Future project a center for “Health counseling in old age” has already been established at the FAU Erlangen-Nuremberg that develops training and intervention programs in late-life preparation in different domains such as mobility planning (e.g., care driving), caregiving needs, and social participation. The findings of our project have already had an impact on public discussions of age-related topics, and they will continue to have a strong influence on public debates regarding questions of ageing in “ageing societies”.

During the second funding period, we will continue our efforts to circulate the core findings of our project into the public by (a) publishing press releases on core findings of the project, (b) translating results into formats that are easily accessible for non-scientific audiences, and (c) organizing a conference that focuses on the practical implications of ageing research for policy makers and executives from organizations who are involved with providing services for older people.

#### ***IV.3 Promotion of young researchers***

The project contributes to the successful promotion of young scientists. It employs young researchers who already worked and acquired qualifications during the first funding period. The project provides them with optimal opportunities to deepen their knowledge and extend their qualifications in order to prepare them for a (junior) professorship. Furthermore, the planned longitudinal and cross-sectional data sets provide an excellent base for high-ranked international publications. Moreover, through the collaboration with the international cooperation partners from the US, Hong Kong, Czech Republic, and Taiwan, the young researchers will be integrated into an international network that will serve as an excellent foundation for establishing a successful scientific career.