# **New Directions in Aging Research**

Editor's Note: I am pleased to introduce the first article in a series, New Directions in Aging Research, which will appear occasionally in the Journal of Gerontology: Psychological Sciences. Articles in this series will feature a cutting edge research program that offers theoretical or methodological advances. The goal for the series is to summarize an innovative body of work that shows great potential for shaping the field. The following article by Dr. Frieder Lang exemplifies what I hope to achieve with this series. He summarizes the conceptual and empirical aspects of a promising research program on regulation of social relationships, integrating multiple studies with clear implications for new directions in the field of aging. The editorial board and I are committed to providing very quick reviews and decisions for articles in this series, to enable them to appear with little delay. Manuscripts should be no more than 25 pages. I welcome suggestions for future topics or authors.

# Regulation of Social Relationships in Later Adulthood

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Individuals are seen as coproducers of their social environments who actively manage the social resources that contribute to their positive aging. The regulation of social relationships reflects adaptive mechanisms of deliberate acquisition, maintenance, transformation, or discontinuation of relationships within the individual's personal network. Mechanisms of relationship regulation in later life are illustrated on the individual level with recent empirical findings on social motivation. Close emotional ties are relatively stable until late in life, whereas peripheral (i.e., not close) social relationships are preferably discontinued. Such patterns of change and continuity were found to reflect individual differences in goal priorities and in future time perspectives (i.e., subjective nearness to death). Proactively molding the social world in accordance with one's age-specific needs also contributes to subjective well-being. The regulation of social relationships is proposed as a promising venue for further research in this field that may also reflect key issues in social, emotional, and cognitive aging.

In the past decade, scholars of social actively influ-ontology have suggested that individuals actively influ-N the past decade, scholars of social and behavioral gerence the course and outcomes of their development until late in life (e.g., Baltes & Carstensen, 1996; Filipp, 1996; Heckhausen, 1999). From this perspective, social relationships contribute in two ways to individual adaptivity in later adulthood. On one hand, social relationships constitute an important resource for the individual's action potentials and quality of life. On the other hand, individuals appear to regulate the quality, structure, and function of their social ties and thereby enhance their social resources. Such regulation of social relationships refers to the individual's cognitive representations of and social motivation toward other people (e.g., Hansson & Carpenter, 1994; Lang & Carstensen, 1998). This includes, for example, the choices individuals make in their social worlds with respect to social partners as well as with respect to the functions and course of social contacts in everyday life. This also implies the perspective that individuals are coproducers of the social worlds they inhabit. Associated with this is the question, "To what extent do age-related differences and changes in social relationships reflect the motivational and self-regulatory adaptation of the individual?"

In the following article, the regulation of social relationships is discussed within the theoretical framework of life span psychology. Specifically, three issues are addressed: (a)

In what ways is chronological age associated with change and continuity of social relationships? (b) What are the motivational mechanisms underlying change or continuity of social relationships (specifically, what are the effects of time perspective on regulatory mechanisms of social relationships?)? and (c) In what ways does the regulation of social relationships contribute to subjective well-being? Finally, in the last section, some of the open questions that raise challenges to future research on the regulation of social relationships are discussed.

## Life Span Psychology of Life Management

Life span psychology has emphasized that development inextricably involves both gains and losses. This implies the perspective that the life-long dynamics of developmental gains and losses involve "adaptive processes of acquisition, maintenance, transformation, and attrition in psychological structures and functions" (Baltes, Staudinger, & Lindenberger, 1999, p. 472). Building on such perspectives, life span scholars have elaborated the motivational and self-regulatory mechanisms that contribute to such adaptive processes within the metatheoretical framework of the model of selective optimization with compensation (e.g., Baltes & Carstensen, 1996).

A basic assumption of this model is that throughout their lives individuals rely on and make use of their resources to P322 LANG

adapt to developmental tasks. Such adaptation can be best described by three interwoven strategies: selection, optimization, and compensation (for definitions of these strategies, see, e.g., Baltes & Carstensen, 1996). According to the theory, developmental changes lead to more positive outcomes (e.g., greater well-being, better functioning) when individuals apply strategies of selection, compensation, or optimization. It is important to note that such adaptation may occur not only in response to loss but also in response to other changes in the individual's developmental context (e.g., change of future time perspective). One implication of this assumption is that successful adaptation in later adulthood is a result of an individual's competence and capacity to make use of available resources (cf. Hansson & Carpenter, 1994). Therefore, it is expected that the availability of resources in later life facilitates the use of adaptive strategies such as selective optimization with compensation (Baltes & Lang, 1997).

This was empirically illustrated with longitudinal findings of the Berlin Aging Study (Baltes & Lang, 1997; Lang, Rieckmann & Baltes, in press). In this study, older adults who were identified as being rich in sensorimotor, cognitive, personality, and social resources were compared with resource-poor older adults with respect to change in everyday activities across two measurement occasions separated by a 4-year interval. The findings suggested that apart from their lower experimental mortality rate, after a 4-year interval resource-rich as compared with resource-poor older people (a) spent an increased percentage of their social time with family members, (b) reduced the diversity of activities within the most salient leisure domain, (c) slept more often and longer during the daytime, and (d) increased the variability of time investments across activities (Lang, et al., in press).

Overall, the findings suggest a greater use of selection, compensation, and optimization strategies in everyday functioning among resource-rich as compared with resource-poor older adults. These findings also underscore that age-related changes in everyday functioning may reflect proactive adaptation to age-specific demands of later life (i.e., adaptation that is not related only to prior experience of passive loss). Although the model of selective optimization with compensation makes predictions about adaptive life management strategies on a metatheoretical level, predictions on what will be selectively optimized are left to domain-specific theories.

Socioemotional selectivity theory (e.g., Carstensen, Isaacowitz, & Charles, 1999) describes changes of social motivation across the life span. The theory contends that social goals and preferences depend on how individuals construe their future time. Essentially, the theory predicts that when time is perceived as expansive, goals aimed at optimizing the future are prioritized. Such goals often pertain to the acquisition of knowledge or to seeking contacts that may be useful in the future. In contrast, when time is perceived as limited, emotionally meaningful goals are pursued because they are realized in the pursuit of the goal itself. Whereas long-term rewards often require the pursuit of information, short-term goals are related to emotional meaning. Over the past decade, numerous studies have provided empirical support for the theoretical assumptions of socioemotional selectivity theory (for an overview, see Carstensen et al, 1999; Lansford, Sherman & Antonucci, 1998).

One research program embedded within the framework of socioemotional selectivity theory addressed the mechanisms of relationship regulation across adulthood (cf. Lang, 2000; Lang & Carstensen, 1998; Lang & Carstensen, in press). Three questions were addressed in this research. A first issue explored the age-related differences in social embeddedness and social relationships across adulthood. A second issue investigated the motivational processes that underlie such age-related differences. A third issue examined the potential effects of relationship regulation on subjective well-being and everyday functioning in later adulthood.

In the following, I refer to relationship regulation as an adaptive individual-level construct (rather than a relationship process) that reflects aspects of social functioning on three different levels: the aggregate level of personal networks (involving characteristics and quality of multiple social relationships), the aggregate level of an individual's dyadic relationship with another person (involving characteristics and quality of multiple social interactions with this partner), and the level of social interaction in everyday life. For reasons of limited space, relationship regulation is illustrated here with regard to the composition and the perceived quality of personal networks on the most aggregated level (with a few noted exceptions).

### Age-Related Differences of Social Relationships Across Adulthood

There is robust evidence that in the second half of life, the number of social relationships decreases gradually. Much of the change in personal networks is associated with social losses due to widowhood and the illness and death of other network members (for a review, see Lang & Carstensen, 1998). Despite the findings on such change, there is considerable empirical evidence that most older people maintain meaningful and emotional close ties even until their 10th and 11th decade of life (e.g., Wagner, Schütze, & Lang, 1999; Bowling & Browne, 1991).

Empirical studies that have investigated personal networks on the basis of similar assessment methods have consistently found that older people in later life report, on average, about half as many social relationships as adults who are in their 20s or 30s do (cf. Lang & Carstensen, 1998). Although such age-associated attrition in personal networks is shown to be partly attributable to functional loss and mortality of social partners, there is some evidence suggesting that older adults deliberately discontinue their relationships with partners who are less close or who are perceived as less important (Lang, 2000; Lang & Carstensen, 1994).

## Effects of Personality Traits on Social Relationships

Empirical studies have consistently revealed effects of stable personality characteristics on social relationships at least in adolescence and early adulthood (e.g., Asendorpf & Wilpers, 1998). Throughout their lives, individuals seem to regulate their social relationships in congruence with their personality dispositions. However, because personality traits are shown to be relatively stable and consistent across adulthood, synchronous effects of such personality characteristics on relationships are expected to taper off in later life.

In a cross-sectional study, Lang, Lüdtke, and Asendorpf (2001) compared correlations of the five personality constructs, Extraversion, Agreeableness, Conscientiousness, Openness to Experience, and Neuroticism, with social satisfaction and size of personal network in three age groups of young, middle-aged, and older adults. No significant age differences were found in the magnitude of the correlations between personality characteristics and indicators of social relationships. In another cross-sectional study with very old adults between 70 and 100 years old, associations between personality characteristics (i.e., Neuroticism, Extraversion) and indicators of social relationship were found to be small or insignificant (Lang, Staudinger, & Carstensen, 1998). In a subsequent longitudinal analysis, Lang (2000) did not find any effects of personality characteristics on changes in social relationships across a 4-year time interval. These findings suggest that stable personality characteristics may not account for intraindividual changes or age-related differences in social relationships very late in life. This finding may serve to underscore the assumption that the regulation of social relationships is associated with adaptive developmental mechanisms that are not dependent on consistent personality traits. However, it remains an open question whether and in what ways motivational processes (e.g., perceptions of control) in later life moderate the role of consistent personality characteristics in the regulation of social relationships.

### MOTIVATION OF RELATIONSHIP REGULATION

According to socioemotional selectivity theory, the regulation of social relationships across adulthood is associated with the extent to which individuals perceive their future time as expansive or limited.

### Future Time Perspective and Social Relationships

In a longitudinal study with 206 older adults aged between 70 and 103 years old, Lang (2000) examined the associations between subjective nearness to death, changes of network size, reasons for discontinuation of relationships, and intrarelationship change of emotional closeness with each social partner across a 4-year time interval. Findings suggest that although there was a relatively strong rankorder consistency of network size (r = .75) across four years, the number of social relationships decreased considerably between the first and second measurement occasion. Only about one half of all initially reported social relationships were still continued after 4 years. About one third of all discontinued social relationships were lost for nondeliberate reasons such as illness or mortality of partners. However, about one half of all discontinued social relationships had been actively ended by the respondents for deliberate reasons. Moreover, there was a significant association between subjective nearness to death and decreases of the network size. A multilevel-regression analysis was used to test intraindividual changes of emotional closeness within each single personal relationship as predicted by characteristics of that relationship (on the relationship level), by subjective nearness to death (on the person level), and after controlling for individual differences in other variables such as Neuroticism, Extraversion, cognitive functioning, and subjective health. These results show that emotional closeness improved more strongly within family relationships, irrespective of whether family members gave practical help. More importantly, emotional closeness in relationships with family members and social companions improved more strongly when participants felt near to death. In contrast, among participants who did not feel near to death, emotional closeness improved more strongly in relationships with tangible supporters.

Whereas these findings lend support to the notion that limited future time perspective is associated with an increase in emotionally meaningful experiences with social partners, it is not possible to conclude that a limited time perspective is associated with different social motivations as compared with an expansive time perspective.

# Future Time Perspective, Goals, and Social Relationships

In their work, Carstensen and colleagues have shown that younger and older adults adjust their social preferences in similar ways under conditions of experimentally manipulated future time perspectives (Carstensen et al., 1999).

A critical question, however, was whether an individual's goal priorities are also reflected in the structure, functions, and perceived quality of personal networks. Lang and Carstensen (in press) explored the associations between future time perspective, social goals, and personal networks in a heterogeneous sample of 480 young, middle-aged, and older adults. A card-sort task was used to assess the goal priorities of participants in four different goal domains (i.e., autonomy, social acceptance, generativity, emotion-regulation). When participants perceived their future as limited in time, they prioritized generativity goals (e.g., "leave my mark on this world") and goals related to emotion control (e.g., "have control over my feelings"). In addition, the findings also suggested that social environments are reflective of the individual's social goals and future time perspective. For example, prioritizing emotion-regulation goals was associated with smaller personal networks, whereas importance of social acceptance was associated with larger personal networks. Theoretically more important was the finding that future time perspective had a moderating influence on associations between goals and characteristics of social relationships. For example, the association between priority of emotion-regulation goals and smaller personal networks was strongest among participants who perceived their future time as limited. In addition, among individuals who perceived their future as limited, prioritizing emotionally meaningful goals was associated with improved perceived quality of social relationships (Lang & Carstensen, in press). This finding suggests that the regulation of social relationships may also be of particular relevance for strong subjective well-being in later adulthood.

### SUBJECTIVE WELL-BEING AND RELATIONSHIP REGULATION

There is much agreement in the research literature that social relationships contribute to well-being and functioning throughout the life course (e.g., Ryff & Singer, 2001). It appears that the effects of positive relationships on well-being are less pronounced than the detrimental effects of negative relationship quality on well-being (for an overview, see

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Rook, 1998). Note that the valence of relationship quality (as either positive or negative) is unrelated to the emotional meaningfulness that individuals attribute to specific social relationships. Not much is known about to what extent the maximization of meaningful emotional experience (even when involving also negative affect) in social contact may also be associated with stronger feelings of well-being and with better everyday functioning.

In a cross-sectional study, Lang and Carstensen (1994) reported that larger proportions of emotionally close social partners in the personal network (as an indicator of socioemotional selectivity) was associated with stronger social well-being (i.e., absence of loneliness, higher social satisfaction). This finding was replicated in another data set from the Berlin Aging Study (Lang et al., 1998). This association was found to depend on the degree to which social needs were satisfied: Among older people who had nuclear family members (spouse, child), the positive effects of socioemotional selectivity (indicated by average emotional closeness with network members) on well-being were found to be less pronounced as compared with childless and unmarried older people (Lang & Carstensen, 1994). However, older people who had neither a spouse nor a living child experienced similar levels of well-being when they had a larger number of very close emotional ties in their personal network (Lang et al., 1998). This finding points to a potential compensation mechanism in the absence of normative family resources.

In a longitudinal study, Lang and Schütze (in press) explored changes of older parents' well-being across a 2-year time interval with respect to social support exchanges with their adult children. Adult children's reports of support given to their parents were explored in relation to changes of their parents' well-being over 2 years. Findings show that parents reported improved satisfaction after 2 years when children had given them emotional support (e.g., cheering up). Unexpectedly, satisfaction of parents decreased when children had reported giving advice to their parents. There were no effects of children's reports of practical help given to parents on parents' life satisfaction. These findings may serve to illustrate that with respect to the type of interactions with emotionally close partners, maximizing emotionally meaningful experiences may further contribute to increased subjective wellbeing. However, the finding that children's informational support was associated with reduced well-being also points to the risks and the ambivalence (Luescher & Pillemer, 1998) that are associated with close family ties in later life, particularly when they threaten older adults' feelings of autonomy.

In a cross-sectional study, Lang and Baltes (1997) explored the associations of daily social contacts, everyday functioning, subjective autonomy, and well-being. Among older people who did not experience difficulties with everyday activities, social contacts were associated with stronger well-being. However, among older people who experienced difficulties, social contacts were associated with reduced feelings of autonomy. The findings also point to a compensatory function of social contacts in everyday life. Older people who were alone when experiencing difficulties experienced more than two thirds of their social contacts in the context of leisure activities. Being alone was associated

with relatively strong feelings of autonomy, whereas being with others was associated with meaningful and satisfactory leisure activities. These findings suggest that there are influences of subjective control on social functioning.

In a longitudinal study with 56- to 88-year old adults, Lang, Featherman, and Nesselroade (1997) found that feelings of control in social relationships were associated with stronger feelings of social well-being (i.e., the absence of loneliness). In this study, control beliefs and social wellbeing were assessed 25 times across a 6-month time interval. Higher levels of intraindividual variability of control beliefs and social well-being were found to be associated with lower social functioning. In addition, when individuals showed much fluctuation in their social self-efficacy beliefs they also showed reduced social well-being. This finding underscores that individuals' stable beliefs of exerting control over their social relationships contribute substantially to their overall social well-being. Further research that explores the meaning of perceived control in the domain of social relationships in later life appears to be a promising venue.

### **Synopsis**

It was argued that the management and regulation of social relationships in later adulthood is associated with agespecific and motivational determinants such as future time perspective and resource loss. The conclusions of this research can be summarized as follows:

- Age-related changes or differences in social relationships reflect to some extent a deliberate discontinuation of peripheral (i.e., not close) social partners. Close emotional ties are characterized by relatively strong stability and continuity until late in life (Lang, 2000).
- Social environments are malleable to age-related differences in motivation and emotion. Among individuals who perceive the future as limited, emotion-regulation goals are more strongly associated with the quality of relationships than among individuals who perceive their future as open ended (Lang, 2000; Lang & Carstensen, in press).
- 3. Limited future time perspective is associated with increased motivation for emotionally meaningful social contact. In contrast, when individuals perceive their future time as expansive, they preferably pursue instrumental goals (Lang & Carstensen, in press).
- 4. Relationship regulation contributes to enhanced subjective well-being in later life (Lang & Baltes, 1997; Lang & Carstensen, 1994; Lang & Carstensen, in press; Lang et al., 1997). However, the extent to which the positive effects of such relationship regulation also depend on an individual's psychological resources (or action potentials) is not yet well understood. In the next section, some of the promising venues for future research on the regulation of social relationships are discussed.

## KEY DIRECTIONS FOR FUTURE RESEARCH

There are two key questions that raise challenges to future research on the regulation of social relationships in later adulthood. The first one relates to the issue of how the regulation of social relationships reflects and affects person–environment transactions in later life. The second issue

is associated with the question of what the motivational and cognitive processes associated with the regulation of social relationships in later adulthood are.

### Regulation of Social Relationships as Person–Environment Transaction

A pertinent issue of social and behavioral gerontology is related to the question of how aging individuals proactively adapt to potential functional loss and to changing environmental demands. Since the work of Lawton and colleagues on person–environment transactions in later life (Lawton, 1989; Lawton & Nahemov, 1973) much theoretical and empirical work has advanced insights on everyday competence in later adulthood (e.g., Wahl, Oswald, & Zimprich, 1999). However, the specific role social relationships play in contributing to a good person–environment fit in later adulthood is not well understood yet.

Research on the regulation of social relationships implies that social environments are characterized by plasticity (i.e., malleability). Not much is known, however, about the objective stability and consistency of social environments across adulthood. Empirical research on social relationships often relies exclusively on subjective reports. More research, for example, would be needed that includes observational data on the course of social interactions of older adults with their social partners. One outstanding example is the research program on dependency in nursing homes conducted by Baltes and coworkers in the 1980s and 1990s. In her research, Baltes demonstrated that older individuals show dependent behaviors as an adaptive response to the demands and constraints of their social environment (Baltes, 1996).

To advance the understanding of the regulatory processes in social relationships of older individuals, more knowledge is needed on the specific goals, needs, and capacities of network partners as they change or remain stable over time. Few longitudinal studies have assessed the perspective of the older individual together with the perspective of their social partners such as adult children (e.g. Silverstein, Parrott, & Bengtson, 1995). Further research is needed that explicitly includes information from and about spouses, children, siblings, friends, neighbors, or other activity partners in the community as they change over time. This would allow researchers to investigate more explicitly how changes in the social world influence an older individual's regulation of social relationships. For example, how do older individuals deal with and adapt to changes of motivation and health of their social partners when this does not correspond with their own goals or needs? Discontinuing such a relationship does not appear to be the only possible response to such a conflict (Luescher & Pillemer, 1998). Before giving up on a social partner who appears not to fit with one's goals (anymore), older individuals may first seek to influence the partner's goals or plans, so that the relationship continues to be meaningful or fitting. Moreover, such processes of adaptation may involve not only primary control strategies (i.e., "influence my partner") but also secondary control strategies (e.g., change one's own plans to fit the partner; cf. Heckhausen & Schulz, 1995).

### Motivational and Cognitive Processes

Although there is some knowledge on accommodative behaviors that regulate responses to adverse interactions in close relationships of young adults (e.g., Yovetich & Rusbult, 1994), not much is known about how older adults manage the possible constraints or adverse events in their social contacts. There is some suggestion that older spouses may be better at anticipating and preventing conflict situations in their partnerships. In a literature review, Carstensen, Gross, and Fung (1997) suggested that whereas older adults may be better at selecting social situations to fit with their emotional needs before they occur (i.e., antecedent-focused regulation), there do not seem to be robust age differences with respect to the regulation of the affective consequences of undesirable social interactions (i.e., response-focused regulation). Such age-related differentiation in emotion regulation is currently being investigated in a not yet published experimental study comparing young and old adults (Kunzmann, Kupperbusch, & Levenson, 2001). Another pertinent issue is related with possible age differences in how individuals respond to and deal with the emotional states and needs of their partners. A promising venue in this field of research would be to assess emotional experience and characteristics of social exchanges within a matrix of more than two interaction partners and across several interactions over time. This procedure would give access to a detailed comparison of emotional experience across different interaction partners and across different situations.

Over the last decade, there has been much agreement that studies on social relationships need to acknowledge the beneficial sides but also the costly sides of social contact in later adulthood (e.g., Rook, 1998; Newsom & Schulz, 1998). Some costs of social interaction may result from regulatory efforts of the older individual. For example, when experiencing hearing loss, individuals may have to invest more attention when listening to their partner. Generally, social interactions may be experienced as more strenuous when individuals experience cognitive or sensory decline. One research question associated with this is whether the regulation of social relationships depends on the extent of cognitive demands and the goal relevance of a given social interaction. In later life, individuals may become more selective in terms of what information they process in the course of a specific social interaction. For example, when perceiving the future as limited, older adults may be more attentive to affective cues in social exchanges while ignoring other aspects of that social interaction. Consequently, older adults may appear uninterested or even ignorant in social situations while in fact focusing on emotionally relevant aspects of the specific social contact. There is some empirical support for the notion that older adults as compared with younger adults need more cognitive resources when completing routine tasks while simultaneously doing other tasks (Lindenberger, Marsiske, & Baltes, 2000). Social contacts in everyday life typically involve the parallel execution of several tasks in complex situations (e.g., listening or talking while having dinner). In sum, it seems plausible to assume that older adults may set different priorities in their everyday social contacts than younger adults and may thus show different social behaviors. Further research on the P326 LANG

motivational and adaptational processes involved in everyday social contact behaviors is a promising venue to an improved understanding of the psychological mechanisms that contribute to positive aging. The regulation of social relationships may contribute to a further bridging of the gap between empirical research on cognitive and on socioemotional aging. More generally, a better understanding of the interplay between basic cognitive processes and adaptive social behaviors in everyday life appears as one of the major challenges of gerontological theory and research over the next decades.

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