

## The Life-Course Dynamics of Goal Pursuit and Goal Adjustment: A Two-Process Framework

Jochen Brandtstädter and Klaus Rothermund

*University of Trier, Trier, Germany*

A dual-process framework is proposed for understanding how the self-system negotiates the conflicting demands of ensuring a stable pursuit of goals and plans while adjusting to changes that affect their attainability. The model distinguishes two basic modes of reducing discrepancies between desired and factual situations or developmental outcomes: The *assimilative mode* comprises intentional efforts to modify the actual situation in accordance with personal goals, whereas the *accommodative mode* engages mechanisms that promote the adjustment of goals to constraints and changes in action resources. Differential conditions, underlying cognitive mechanisms, as well as life-course implications of these regulatory modes are specified. Empirical findings are presented that illustrate the explanatory scope of the model and its implications for well-being, efficacy, and successful aging. © 2002 Elsevier Science (USA)

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The question of what constitutes a “good life,” and which external and personal conditions may promote desirable forms of personal development and aging, is presumably as old as the capacity of humans to take a reflective, intentional stance toward their lives. Although the question has found many answers, none prove to be valid for all times and people. Since antiquity, philosophical theorizing reveals two seemingly opposed perspectives on happiness and optimal development that may be denoted roughly as *offensive* and *defensive* (Tatarkiewicz, 1976). Whereas “offensive” notions consider happiness and satisfaction as being rooted primarily in the active and efficient pursuit of goals and in personal and contextual resources that enhance effi-

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Address correspondence and reprint requests to Jochen Brandtstädter, Department of Psychology, University of Trier, D-54286 Trier, Germany. E-mail: [brandtst@uni-trier.de](mailto:brandtst@uni-trier.de).



cient goal pursuit, “defensive” notions emphasize the importance of making oneself resistant to the vicissitudes of life. Perhaps the most prominent proponents of the latter stance were the Stoic philosophers (e.g., Seneca, Epictetus, and Marcus Aurelius; see also Long, 1974), who considered ambitious goals to be a source of distress rather than a developmental asset. According to the teachings of Stoicism, the wise and virtuous person can accept losses and strokes of fate with equanimity; as Epictetus put it, the wise person “accommodates to necessity” (cit. after Burton, 1977, p. 169). The Stoic position integrates fatalism and efficacy in a paradoxical way: It combines skepticism concerning the possibility of having control over life’s vicissitudes with an extreme optimism concerning the capacity of humans to control their desires and emotions. Presumably, today’s psychologists would not readily endorse the first premise and perhaps not even the second: Although people may be quite adept at influencing their mental life, they are not able to let go of their goals and ambitions through a sheer act of will (see also Brandtstädter, 2000; Gilbert, 1993; Lazarus, 1985). This point has important implications to which we return below.

From an action-theoretical point of view, “offensive” and “defensive” stances, despite their apparent divergence, both seem to contain valid insights. Goals play an ambivalent role in a person’s economy of well-being: On the one hand, they give structure and motivating meaning to life; having goals is in itself a potent predictor of life satisfaction (e.g., Brunstein, Schultheiss, & Maier, 1999; Emmons, 1996). On the other hand, goals turn into sources of dissatisfaction and depression when they become unattainable or exceed individual resources—at least when the persons remain committed to them (see also McIntosh & Martin, 1992). Although this insight is not novel, it has important theoretical implications: Obviously, the permanent coadjustment of goals and action resources is a key source of resilience across the life span. Because a person’s life course is generally a mixture of intended action outcomes and unintended events—or of gain and loss (e.g., Baltes, 1987)—it seems to follow that optimal development and successful aging, however else defined, cannot be explicated exclusively in terms of efficient goal pursuit and avoidance of loss. Rather, a comprehensive notion of optimal development and successful aging also needs to consider the ways in which persons respond to, and come to terms with, divergences between desired developmental outcomes and the factual trajectory of their life course. At any point in the life course—but perhaps particularly in later life—well-being and self-esteem depend not only on perceived control over future developmental outcomes but also on the readiness to accept one’s past (which is unalterable) and to disengage without regret from counterfactual life paths that were desired but have never been accomplished (see also Dittmann-Kohli, 1990; Lecci, Okun, & Karoly, 1994). Wisdom seems to imply an integration of technical knowledge concerning the efficient pursuit of personal goals with an experience-based sensitivity as to which goals are

feasible and worth pursuing and which should be given up for the sake of other, more valuable ones (cf. Nozick, 1989; Staudinger, Smith, & Baltes, 1992; Sternberg, 1990).

In the following, we propose a theoretical framework that integrates and elaborates these basic propositions. Our approach focuses on the dynamic interplay between the pursuit of goals and the adjustment of personal goals to contextual constraints or losses in action resources. At the core of this model is the distinction between two modes of coping with discrepancies between desired and factual circumstances of developmental outcomes that we denote as *assimilative* and *accommodative*, respectively (Brandstädter, 1989; Brandstädter & Renner, 1990): The assimilative mode comprises efforts and intentional activities to modify the actual situation to attain a closer fit with personal goals and projects; the accommodative mode, on the other hand, comprises mechanisms and processes by which goals and projects are adjusted to available resources of action.<sup>1</sup> As one may anticipate, the balance between assimilative and accommodative processes is affected by, and in turn affects, self-beliefs of efficacy and personal resources of control. As becomes clear in the further course of our argument, however, the predictive and explanatory scope of the model differs in some important respects from current formulations of control and efficacy.

The theory of assimilative and accommodative processes has evolved over the past 15 years from longitudinal studies focusing on the stability and change in goals and self-beliefs of control over personal development in adulthood and old age (see also Brandstädter, 1984; Brandstädter, Krampe, & Heil, 1986; Brandstädter, Wentura, & Greve, 1993). One observation that resurfaced repeatedly in our analyses has particularly spurred our theoretical interest in the interplay between goal pursuit and goal adjustment: For most of the goal dimensions assessed in our research, a negative correlation emerged consistently between goal importance ratings and ratings of perceived distance from the goal; similar patterns of covariation were obtained for longitudinal change scores. We assumed that this negative relationship might reflect a tendency to keep the subjective balance of gains and losses within favorable margins; deficits or losses in particular goal dimensions should affect this balance less negatively if the respective goals are downgraded or deemphasized (in terms of the present theoretical account, we assumed an accommodative process). In that case—we hypothesized further—measures of depression should moderate the correlation between distance

<sup>1</sup> It is evident that our use of terms differs from Piagetian terminology in which the concepts of *assimilation* and *accommodation* refer to the application and adjustment of cognitive schemata rather than to complementary modes of achieving a congruence between factual and desired courses of action or development (see, e.g., Flavell, 1963). It is worth noting at this point that John Dewey (1934) already used the term “accommodation” to refer to the adjustment of goals to constraints, which comes close to our terminology.

and importance ratings; more specifically, we expected that the negative relationship should be expressed less, or even disappear, among participants with higher depression scores. This type of interaction effect indeed emerged for most goal dimensions (Brandtstädter, 1989; Brandtstädter & Baltes-Götz, 1990).

Departing from these early observations, the dual-process model has been elaborated with respect to differential conditions, developmental implications, and underlying cognitive mechanisms and has found further empirical support from experiments, questionnaire studies, and interviews. In the course of these developments, we recognized that the theory could provide an integrating explanatory account for a diversity of phenomena that have puzzled researchers in the field of control and aging. Examples are the intriguing stability of control beliefs in later life (e.g., Gatz & Karel, 1993; Lachman, 1986; Rodin, 1987) or anomalous findings of a positive correlation between measures of depression and perceived control reported repeatedly in the literature (for an overview, see e.g., Coyne, 1992; Coyne & Gotlib, 1983). It also became apparent that the dual-process model could provide a framework for integrating a broader range of phenomena that point to the modulating influence of action orientations on information processing.

The aim of the present article is, first, to delineate the core assumptions of the model of assimilative and accommodative processes. We then consider situational and personal conditions that influence the interplay between these modes of functioning and spell out underlying mechanisms. Finally, we present empirical findings illustrating the explanatory scope of the model and its relevance to issues of well-being and successful aging.

## 1. GOAL PURSUIT AND GOAL ADJUSTMENT: OUTLINE OF THE MODEL

Action regulation in the pursuit of goals and plans faces a basic dilemma: It must be sufficiently stable and closed to stay focused on the goal and resist distractive influences; at the same time, it has to be open and flexible enough so that plans and priorities can be adjusted to new and unexpected circumstances. This stability–flexibility dilemma (Bak & Brandtstädter, 1998; see also Grossberg, 1987) also arises in contexts of life planning in which the choice and implementation of goals depends on resources and constraints that change on ontogenetic and historical levels. Adaptive flexibility does not just imply a readiness to switch to new and more effective means for reaching a goal, which often enhances stability and persistence in goal pursuit. Rather, it also requires a capability of disengaging from blocked goals and barren commitments and of breaking up frames of rationality that gradually tend to become constrained and selective during the course of executing a plan (see also Bratman, 1987). Notions of “entrapment” or “escalating commitment” (Brockner & Rubin, 1985; Staw, 1976) point to the dysfunctional and sometimes even catastrophic consequences that may ensue in or-

ganizational contexts as well as in personal development when cognitive systems, or cognitive systems in interaction, lack this more radical kind of adaptive flexibility.

The present theoretical approach posits that stability and personal continuity as well as an adaptive flexibility of the self-system over the life span hinge essentially on the interplay of assimilative and accommodative processes. These concepts define two families of adaptive processes that function in antagonistic, but at the same time complementary, ways. Both processes are activated by perceived or anticipated goal discrepancies, or by divergences of the factual course of personal development from the intended one; both tend to reduce such discrepancies. They do so, however, in opposed ways: In the assimilative mode, as already intimated, the person tries to reduce discrepancies through active, corrective interventions; this may take the form, for example, of a purposeful modification of life circumstances and may also involve intentional modifications of one's own behavior. In the accommodative mode, by contrast, goal discrepancies are removed by downgrading blocked goals or rescaling ambitions. In the assimilative mode, the system tends to solve a problem; in the accommodative mode, problems that resist active solutions are dissolved, as it were (Brandtstädter & Greve, 1994; Brandtstädter & Renner, 1990; Brandtstädter & Rothermund, in press-a; Brandtstädter Wentura, & Rothermund, 1999).

Assimilative activities involve intentional agency and are integral to the lifelong process of intentional self-development; all goal-directed activity involves a tendency to assimilate actual life circumstances to normative self-representations and projections of a desired life course (see also Brandtstädter & Lerner, 1999). Accommodative processes, in contrast, cannot be originated intentionally, but shape the selection of goals and thus are basic to the regulation of action as well as to the allocation of assimilative efforts.

### *1.1 Assimilative Activities: Facets and Functions*

Assimilative activities can take many forms, depending on the goals, projects, or life tasks to which the person is committed within a given social, societal, or historical context, as well as on the means–ends beliefs that are cognitively available and accessible within a given field of action. To achieve some identity goal, the person may try to acquire relevant knowledge and skills; to maintain some normative performance standard, he or she may engage compensatory means; to assimilate one's bodily appearance to the desired bodily self, one may change dieting habits, engage in physical exercise, and the like. Generally, any domain of life or functioning that is deemed open to modification can become the target of assimilative efforts.

Assimilative activities may imply a preventive, corrective, or optimizing focus, and they may range from specific goals to more basic shifts in habits or lifestyle. On a global level, we may discern *self-efficiency* and *self-cultiva-*

tion as broader themes or motivational vectors that underlie assimilative efforts (Brandtstädter & Lerner, 1999). Broadly speaking, self-cultivation refers to self-regulatory actions that are guided by, or express, some normative standard or ideal of behavior and personal development. The theme of self-efficiency, on the other hand, refers to activities through which we strive to expand our action resources and control potentials and to protect them against loss. These basic motivational orientations, which may of course overlap, both presuppose the reflective representation of a desired or ought self (cf. Bandura, 1989; Brandtstädter, 1998; Higgins, 1996).

Over the life course and with advancing age, the intentional focus of assimilative activities tends to shift from a "promotion" focus (Higgins, 1997) toward a focus on prevention and compensation. Whereas in early adulthood, assimilative activities aim at expansion of action resources and implementation of future-oriented projects, they become oriented increasingly toward maintenance goals in later life (see also Cross & Markus, 1991; Nurmi, Pulliainen, & Salmela-Aro, 1992; Ogilvie & Rose, 1995). Assimilative efforts are constrained by available action resources such as time (or time yet-to-be-lived), health, social support, or physical stamina. With the curtailment of such resources in later life, questions concerning their optimal use and allocation become increasingly urgent. Accordingly, compensatory forms of assimilative activity have received particular attention in research on aging (Bäckman & Dixon, 1992; Baltes & Baltes, 1990).

A characteristic of assimilative activities in general, and of preventive and compensatory efforts in particular, is a *tenacious adherence* to previously adopted goals and performance standards. This tenacity is expressed most strongly in goal domains that are central to the person's identity or life design, as well as in areas of performance or functioning that are subject to normative expectations. Compensatory activities presuppose an "equifinality structure" (Kruglanski, 1996) that affords alternative means to reach a given goal; substitutions at the level of means or procedural subgoals involve an enduring commitment to, and serve to maintain, the focal goal. In case of a progressive loss of action resources, increasing task load, or raised normative demands, assimilative-compensatory efforts may yield diminishing returns and eventually approach a "production possibility frontier" (Brandtstädter & Wentura, 1995).

When goals to which the person is strongly committed become unfeasible, a situation arises that, according to control-theoretical formulations, precipitates hopelessness and depression (e.g., Abramson, Alloy, & Metalsky, 1990; Abramson, Metalsky, & Alloy, 1989). In the dual-process model, however, possibility frontiers demarcate a zone in which accommodative mechanisms are activated and eventually supersede assimilative tendencies.

### 1.2 Accommodative Processes: Features and Functions

Accommodative processes can be characterized by the following functional features: First, they deconstruct the hedonic differential between the

goal and the actual situation that maintains assimilative effort; second and related to this point, they reset the cognitive system so that beliefs or cognitions that promote this deconstruction become more available. Typical outcomes of accommodative processes include the rescaling of aspirations, the dissolving of barren attachments, and the channeling of assimilative energies toward new, feasible goals.

Accommodative processes are inhibited by, and tend to inhibit, assimilative activities; as long as the person sees chances to attain a goal, the tendency to disengage from the goal should be low. There are limiting situations, however, in which both adaptive tendencies are activated simultaneously. In particular, when assimilative activities become taxing and approach a zone of diminishing returns, both tendencies may conflict. Such conflicts may manifest themselves in a wavering between holding on and letting go and in corresponding doubts. When important goals are at stake, such unstable action orientations are experienced as stressful and also seem to involve an increase in neuroendocrinological parameters of stress such as plasma cortisol levels (e.g., Bak & Brandtstädter 1998; see also Gunnar, 1987; Rose, 1984). As we argue below, however, the process of accommodation engages cognitive mechanisms that drive the system out of this intermediate zone of uncertainty or conflict.

It should also be noted at this juncture that assimilative and accommodative processes, albeit antagonistically related, may operate synergistically and complement each other in concrete episodes of coping. Critical life events typically involve a plurality of adaptive tasks that may call to various degrees for assimilative persistence or accommodative flexibility. For example, when adjusting to impairments or chronic health problems in later life, the elderly person must often forgo some cherished projects or developmental options in order to maintain others.

Despite their obvious adaptive importance, accommodative processes have found scarce attention in research on action and motivation (notable exceptions are, e.g., Carver & Scheier, 1998; Feather, 1989; Janoff-Bulman & Brickman, 1982; Klinger, 1975, 1987). One reason for this may be that these processes cannot be equated with reasoned actions; it would thus be misleading to consider them as deliberately chosen strategies of coping or control. As already intimated in the introduction, we cannot disengage from blocked goals through a deliberate decision, nor can we adopt beliefs or valuations that would support such disengagement through an intentional act (see also Gilbert, 1993; Lazarus, 1985; Williams, 1973). This does not imply, of course, that one could not calculate the pluses and minuses of pursuing or abandoning a given goal. If the person resolves to drop a blocked goal or plan, however, this decision already involves a change in preferences and corresponding changes in the availability of pros and cons, thus being the effect rather than the cause of an accommodative process. Certainly, we can think of self-management strategies that might render a person more prone to disengage from a particular goal or accept particular beliefs; theories

of self-management provide various techniques in that regard (e.g., Karoly, 1993; in terms of the dual-process model, such strategies would still belong to the assimilative mode). The use of such proxies, however, reveals only that we cannot originate accommodative processes intentionally in any direct, unmediated sense (see also Brandtstädter, 2000). The dual-process framework thus transcends a purely intentionalist scheme of explanation, and at the same time, it draws attention to the sub- or nonintentional mechanisms that undergird the dynamics of assimilation and accommodation.

One further possible explanation of the relative neglect of accommodative processes seems to be that accommodative phenomena are often connoted with resignation, despondency, and depression or treated as inferior modes of coping. As becomes clear in the following, we consider this to be a misleading assumption.

### *1.3 Differential and Moderating Conditions*

The balance between assimilative and accommodative processes depends on conditions that may differ between individuals and across situations. Two factors stand out in this regard: first, the personal importance and centrality of a goal and, second, its subjective attainability. The higher the personal importance of a goal and the stronger the attainability beliefs, the longer the individual will persist in the assimilative mode; to the same degree, accommodative tendencies will be inhibited. For goals of high importance, even weak attainability beliefs may suffice to maintain assimilative efforts. The present theoretical perspective, however, also stresses the dynamic dependencies between both factors: In the assimilative mode, the valence of a goal may be increased reactantly when obstacles render goal attainment more difficult (see also Wright & Brehm, 1989); when attainability beliefs become eroded, accommodation tends to reduce subjective goal importance. A third group of modulating factors concerns the availability of cognitions that help to deconstruct the attractiveness of a blocked goal and enhance a positive reappraisal of initially aversive situational aspects that are irreversible or resistant to change.

(a) *Action resources, attainability beliefs, and self-percepts of control.* Beliefs about the attainability of a goal depend on contextual contingencies as well as on generalized self-percepts of control over personal development, which in turn are influenced by beliefs concerning the malleability and plasticity of human development in general that prevail in a given cultural and historical context (e.g., Lerner, 1984; Lerner & Walls, 1999). Persons harboring strong self-beliefs of efficacy and control tend to be more persistent in the pursuit of goals and in their efforts to overcome obstacles (e.g., Bandura, 2000). By the same token, however, strong self-percepts of efficacy tend to impede or delay a shift toward accommodative modes, which may put the individual at a disadvantage facing irreversible losses or intractable problems; the delayed engagement of accommodative mechanisms may even increase the intensity and duration of depressive reactions. This reasoning



could account for findings indicating that the presumed negative relation between measures of control and depression tends to vanish in contexts that are resistant to change (e.g., Wolk, 1976; see also Coyne, 1992; Skinner, 1995). Though not disregarding the role of efficacy beliefs as a developmental asset, the dual-process model sensitizes to potentially negative side effects that strong control beliefs may have in situations of the type mentioned above (see also Burger, 1989; Carver & Scheier, 1998; Thompson, Cheek, & Graham, 1988; Whyte, Saks, & Hook, 1997).

Although accommodation of goals and ambitions is driven by the erosion of goal-linked beliefs of attainability, this does not imply that the accommodation process would negatively affect the individual's global sense of control and efficacy. Later, we present arguments and findings that point to the contrary.

(b) *Goal importance and substitutability.* When a blocked goal is central to the person's identity and life design and cannot be substituted easily by other, equally satisfying options, dissolving the commitment is particularly painful and difficult. Goals can often be reached through different means, so that disengaging from lower level instrumental goals or subgoals within a plan or action sequence should be easier than disengaging from higher level or terminal goals. This is not the case, however, when the subgoal is linked strongly to the focal goal, so that there is no other way to reach the goal (see Carver & Scheier, 1998; Kruglanski, 1996). Availability of equivalent substitutions also seems to depend on the "phrasing level" (Little, 1989) of a goal: Abstract goals (e.g., "occupational success") leave more scope for different interpretations and implementations than concrete goals involving specific constraints (e.g., "becoming a successful physician") and thus appear to be less easily involved in accommodative changes. Even the most abstract goals, however, have to be pursued in concrete ways, and this may impose temporal limitations: The longer a person has followed a particular career, the less available alternative ways to reach occupational success often become (Brandstädter, in press-b). From a developmental point of view, it should be noted that this type of constraint becomes more salient with the fading of lifetime resources.

Goal centrality and substitutability refer to structural features of personal goal systems. Life designs or self-systems that involve a diversified, multifaceted structure of goals and personal projects will generally enhance flexible accommodation of goals; this assumption converges with findings suggesting that high "self-complexity" renders persons less vulnerable to depression (Linville, 1985, 1987).

(c) *Availability and accessibility of palliative cognitions.* The valence and motivational potential of goals depend essentially on the availability and accessibility of cognitions that relate the goal to positive meanings and outcomes. In the accommodative process, these associative links are inhibited, whereas cognitions that support a positive reappraisal of the actual situation are enhanced. The availability of such uplifting cognitions is enhanced

by the accommodative process itself, but also depends differentially on the extent to which the person, within particular social-historical contexts and cognitive milieus, has access to systems of knowledge or meaning that support palliative reappraisals. For example, whether persons can find sense and meaning in adversity depends on personal knowledge and experience, on temperamental dispositions, and on basic existential attitudes such as religious beliefs or the belief in a "just world" (Lerner & Miller, 1978; Montada & Lerner, 1998). Accessibility of downward comparisons (Wills, 1991) may likewise enhance accommodative reappraisals, whereas self-attributions of personal responsibility for losses or failures may induce counterfactual rumination ("If only I had . . .") that impede an accommodative adjustment of preferences (Brandtstädter et al., 1999; see also Kahnemann & Miller, 1986; Miller & Turnbull, 1990; Roese, Hur, & Pennington, 1999).

#### 1.4 *Implications for a Theory of Depression*

Formulations of control and helplessness have advanced our understanding of cognitive and situational factors that precipitate depression. These approaches emphasize in particular the perceived loss of control over personally valued goals and life domains as a risk factor for depression, and they have spelled out attributional styles that dispose people to perceive problems and losses as stable and intractable (e.g., Abramson et al., 1989; Abramson & Martin, 1981; Seligman, 1975). The mechanisms underlying recovery or "spontaneous" remission, however, are less well understood. From a control-theoretical perspective, it appears particularly puzzling that people recover from depression even after losses that are irreversible (see also Coyne, 1992; Teasdale, 1988).

The present theoretical perspective affords vantage points for a better understanding of such phenomena. More specifically, it suggests that there are two broad risk factors for depression: Beyond the loss of control over personally important goals, the inability to dissolve barren commitments appears to be a key factor that affects the strength and duration of depressive episodes. In terms of the dual-process model, feelings of helplessness and depression appear as symptoms of persisting commitment to blocked goals, thus indicating difficulties in switching from assimilative to accommodative modes of coping. Consistent with this account, clinical evidence suggests that a central feature of reactive depression is the inability to let go of blocked goals (see also Brandtstädter & Baltes-Götz, 1990; Carver & Scheier, 1990, 1998; Coyne, Aldwin, & Lazarus, 1981).<sup>2</sup> As intimated above, the initial

<sup>2</sup> Based on clinical observations, Coyne et al. (1981, p. 439) state that "depressed persons . . . were *less* likely to appraise situations as requiring their acceptance." It is interesting that Billings, Cronkite, and Moos (1983, p. 120) quote this study as showing that depressed persons are "*more* [italics added] likely to view situations as necessitating acceptance," a misreading that perhaps results from a widespread but misleading etiological scheme in research on depression.

importance of the goal, as well as the strength of generalized self-percepts of efficacy, are important parameters in this respect: Goals that are highly important, and for which no equivalent substitute is accessible, may persist in binding attention and cause ruminative thought (e.g., Martin & Tesser, 1989).

From the present theoretical perspective, ruminative and depressive states appear as manifestations of a conflict between assimilative and accommodative tendencies. At the same time, however, the present approach emphasizes the functional or adaptive value of these states (cf. Webster, 1995). Thus, "depressive realism" (Alloy & Abramson, 1979) should contribute functionally to the deconstruction of the cognitive sets and biases that maintain assimilative efforts, thus promoting the shift toward accommodation. Ruminative thought is commonly thought to prolong depression (e.g., Lyubomirsky & Nolen-Hoeksema, 1993), but the fact that it occurs as part of a depressive syndrome should not blind us to its positive adaptive functions that may be instrumental for overcoming states of helplessness and depression (cf. Martin & Tesser, 1989): As long as assimilative tendencies dominate, rumination should be geared toward finding new means for achieving the blocked goal; accommodative rumination, on the other hand, should support goal abandonment through increasing the availability of cognitive content that undermines the attractiveness of the blocked goal and enhances a positive reappraisal of the situation. Note also that tendencies of "benefit finding" (Affleck & Tennen, 1996), or of making sense out of losses and drawbacks, are driven motivationally by their potential to reduce emotional strain—an effect of negative reinforcement that, however, can operate only on the basis of a negative mood state. This also suggests that accommodative processes override negative mood congruency effects and gear the cognitive system toward "mood repair" (Forgas, Johnson, & Ciarrochi, 1998; Isen, 1984; Rusting & DeHart, 2000), an assumption that receives support, for example, from clinical and experimental findings according to which depressed people are more prone to select favorable social comparisons (Pelham, 1991; Taylor, 1983). The dual-process model, however, does not suggest a general preference for palliative downward comparisons, but considers them as part of a syndrome of accommodation. Assimilative efforts, on the other side, involve the contrast of a bad present with an attainable positive future and may be enhanced by motivating upward comparisons (see also Carver & Scheier, 1998; Collins, 1996; Wood, 1996; Wrosch & Heckhausen, 1996).

The previous arguments underscore the adaptive value of assimilative and accommodative processes and the importance of both adaptive modes in contexts of intentional self-development. We have argued, however, that controllability of the developmental situation is of crucial importance in that regard. Assimilative efforts will have beneficial effects as long as goals are commensurate with action resources; in cases of mismatch, the intentional focus of

assimilation may shift toward expanding action resources and acquiring skills and knowledge that may be relevant to efficient goal pursuit. Accommodative processes, on the other hand, gain dominance when assimilative efforts remain ineffective; they help to recalibrate preferences to the feasible range and to avoid dysfunctional persistence in barren projects. By the same token, the dual-process model draws attention to possible dysfunctional side effects of assimilative and accommodative processes. Overestimating the difficulty of goals or underestimating one's capacity to reach given goals may have limiting consequences for personal development; enduring commitment to unfeasible goals, however, may result in wasting resources and in being caught in barren life paths.

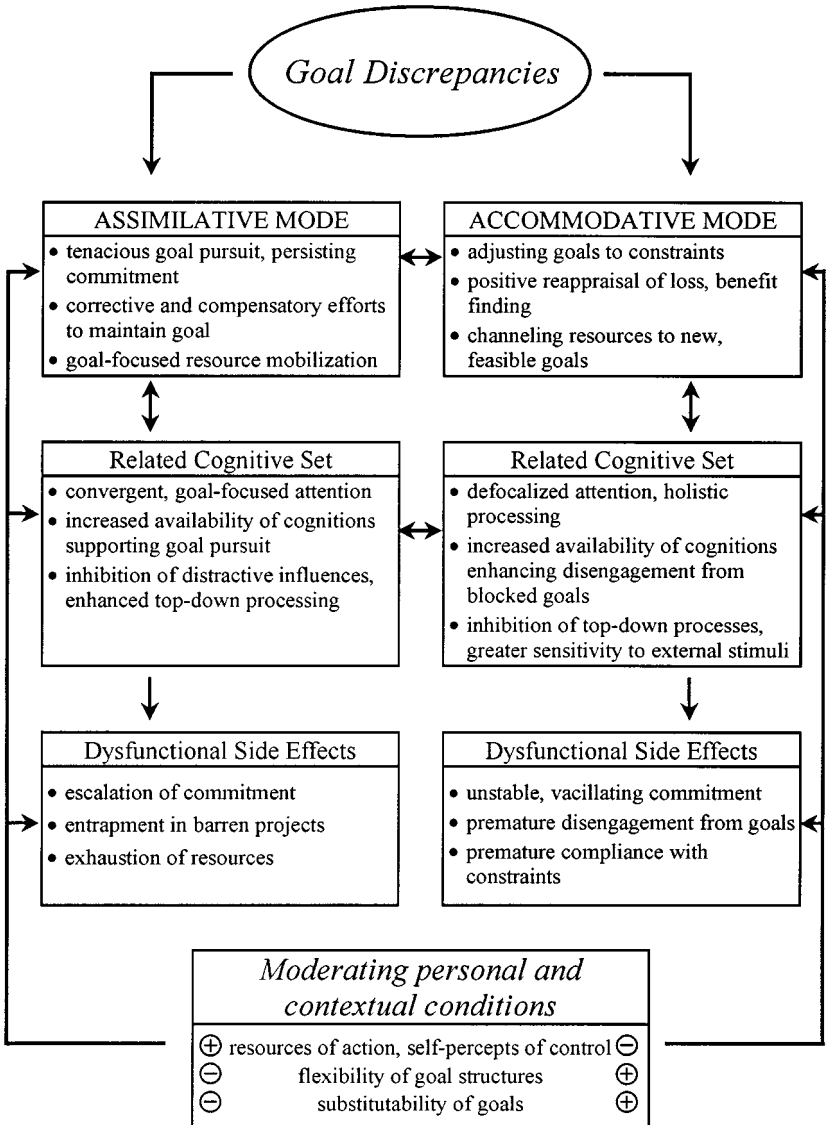
Figure 1 summarizes the concepts and arguments discussed thus far; it also hints at cognitive mechanisms that underlie assimilative and accommodative processes. In the following, we address these mechanisms in greater detail.

## 2. BASIC MECHANISMS OF ASSIMILATIVE AND ACCOMMODATIVE PROCESSES

Assimilative and accommodative processes involve characteristic cognitive sets that tend to mutually inhibit each other. In the assimilative phase, attentional resources are allocated to the efficient pursuit of goals and the removal of obstacles that may hinder goal attainment; cognitions that would undermine the attractiveness of, and commitment to, the focal goal remain inhibited. In the accommodative mode, this cognitive set is neutralized or inverted; the accommodative process engages mechanisms that deconstruct barren commitments, enhance a positive reappraisal of the actual situation, and redeploy attention and action resources toward new goals.

### 2.1 *Information Processing in the Assimilative Mode*

In the assimilative mode, the cognitive system is tuned toward the implementation of a dominant goal and toward the specification of situational and procedural conditions that are relevant for goal attainment. Action-theoretical research has made significant advances in specifying the cognitive and motivational processes that undergird goal selection and implementation (e.g., Gollwitzer & Bargh, 1996; H. Heckhausen, 1989; Kuhl & Beckmann, 1994; Mischel, Cantor, & Feldman, 1996). Dominant goals can be characterized as highly accessible memory structures (e.g., Anderson, 1983); in the phase of goal selection, the cognitive system forms representations of the intended goal as well as of action paths and situational contingencies. These representations regulate the course of action and shield it against distractive influences and competing action tendencies in the phase of goal implementation (e.g., Gollwitzer & Moskowitz, 1996). Obstacles that arise during goal pursuit initially induce an increase in these shielding and focusing tendencies, a mobilization of effort, as well as a reactant increase in the attractiveness of the goal that compensates for increased costs of implementation



**FIG. 1.** Assimilative and accommodative processes: Mechanisms and differential conditions.

(see also Wright & Brehm, 1989). In the assimilative mode, the cognitive system is thus relatively closed with respect to stimuli or information that would conflict with, or distract from, the chosen path of action; it is open, however, to cognitive content that supports persistence and continuity of goal pursuit. This even involves particular judgmental biases, such as positively biased control beliefs (Taylor & Gollwitzer, 1995) or a tendency to overpredict the strength and duration of negative emotions in the case of failure ("durability bias"; Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998; Wilson, Wheatley, Myers, Gilbert, & Axom, 2000). The present theoretical approach suggests, however, that the latter type of bias reflects not only the particular cognitive set that characterizes the assimilative mode but likewise the effects of accommodative processes that reduce the valence of the missed goal and thereby neutralize feelings of frustration and distress.

## 2.2 *Information Processing in the Accommodative Mode*

It would be dysfunctional and maladaptive if goals that have become unattainable were to remain protected against competing action tendencies and persist in binding attention. To adjust to changes in resources of action and in the feasibility of goals, the cognitive system has to engage override mechanisms that dissolve barren commitments, withdraw attention from the blocked goal, and thus support the formation of new and alternative goals. Such mechanisms are activated in the accommodative mode.

The dual-process model posits that to the degree that attainability beliefs are eroded, for example, by repeated unsuccessful attempts to reach the goal or—in the case of time-linked projects—by the passing of critical time lines, the goals and the corresponding implementation intentions are eliminated from working memory, which is enhanced by a tendency of the cognitive system to withdraw attention from unsolvable problems (cf. Brandtstädter & Renner, 1990; Carver & Scheier, 1990; Rothermund, 1998). This may also involve an increased readiness to disregard or "blunt out" (Miller, 1979) problem-related cues in situations in which the person believes that nothing can be done about the problem. Experimental evidence suggests that the blunting of aversive uncontrollable stimuli operates already on early levels of processing; for example, the threshold for cues preceding painful stimulation seems elevated when there are no possibilities of avoidance or escape (e.g., Reece, 1954). Animal studies conducted within the learned helplessness paradigm also suggest that prolonged exposure to uncontrollable painful stimuli induces a marked decrease in pain sensitivity (Jackson, Maier, & Coon, 1979; Maier, Drugan, & Grau, 1982; see also Rothermund, Brandtstädter, Meiniger, & Anton, in press).<sup>3</sup> According to the present formulation, such

<sup>3</sup> This analgetic effect appears to be mediated by endogenous opiates; it disappears after injection of opiate antagonists such as naloxon (Maier, Sherman, Lewis, Terman, & Liebeskind, 1983). Whether and to what extent the opioid system is also involved in other types of accommodative responses is an open question that deserves further investigation.

effects reflect the operation of accommodative automatisms that neutralize the blocked intention (which in this particular case is the intention to avoid, or escape from, aversive stimuli).

On higher levels of processing, accommodation involves an increased availability of cognitions that deconstruct positive goal valences and enhance a positive reappraisal of the given situation; with the shift toward accommodative modes, a convergent, focalized processing style is superseded by a defocused, holistic mode of processing, and the field of attention is broadened so that the system becomes responsive again to stimuli that had been warded off as distractors during goal pursuit. The accommodative process thus neutralizes and inverts an "implemental mind set" (Gollwitzer & Moskowitz, 1996) that prevails in the assimilative mode.

In line with these assumptions, experimental findings by Brandtstädter and Rothermund (in press-a) suggest that incidental recall for distractor stimuli increases after exposure to unsolvable tasks. Participants in this study (78 psychology undergraduates) worked on anagram tasks presented sequentially on a computer screen; the task stimuli were surrounded by distractor words that were ostensibly unrelated to the task. After an initial series of solvable anagrams, the experimental group received letter strings that could not be arranged into meaningful words (materials were selected to ensure that this could not be detected easily by mere inspection). Recall of the distractors was measured after completing the second series. For early tasks in the critical series, incidental recall for distractor stimuli was reduced, indicating a reactant increase in focalized goal-related attention. With gradual erosion of task-related control beliefs during subsequent tasks, however, a defocalized, open mode of processing emerged, which was reflected in a significant increase in recall rates. Similar shifts in modes of processing have been reported from animal studies in which the blocking of goal-related activity was found to enhance performance in tasks requiring attention toward external cues (Lee & Maier, 1988; Rodd, Rosellini, Stock, & Gallup, 1997).

Hence, there are strong indications that the shift from assimilative to accommodative modes involves a fundamental change in cognitive set during which the balance between top-down and bottom-up influences tips toward a greater responsiveness to novel external stimuli and a more open, holistic mode of processing. Neuropsychological findings suggest that these changes are possibly mediated by modulatory effects of the dopaminergic system and may involve a shift of processing activities from the left to the right hemisphere (e.g., Ashby, Isen, & Turken, 1999; Chiarello, 1988; Kischka et al., 1996). Over and above the dispositional factors already mentioned (see section 1.3), individual differences in the tendency to persevere with one's beliefs ("need for cognitive closure"; Kruglanski & Webster, 1996; Webster & Kruglanski, 1994) could impede the changes in information processing that undergird the shift toward accommodation.

The assumptions above also converge partly with observations concerning

the effect of mood on information processing (Bohner, Moskowitz, & Chaiken, 1995; Fiedler, 1988; Isen, 1999). Negative mood states seem to enhance a deeper, more focused mode of processing; in terms of the present theoretical perspective, these functional states would correspond to early phases in the transition from assimilation to accommodation during which goal pursuit approaches resource limits and becomes increasingly strenuous. The emotional relief resulting from the dissolution of barren commitments should accordingly enhance a more open, divergent, and holistic style of processing. There are further points of convergence with the Goal-Network Theory (GNT) advanced by Kruglanski (1996). The GNT suggests that accessibility of alternative goals should reduce commitment to the focal goal by competing with it for limited attentional resources (Shah & Kruglanski, in press). In terms of the present model, activation from different goals should increase in the transition from assimilative toward accommodative modes of coping in which new, alternative orientations begin to compete with previous commitments.

### 3. PREDICTIVE AND EXPLANATORY SCOPE OF THE DUAL-PROCESS MODEL

As explained above, the model of assimilative and accommodative processes applies to the dynamics of goal pursuit and goal adjustment throughout the life span. Throughout life, these dynamics help to coadjust goals and projects to personal and contextual resources and to stabilize a sense of continuity, efficacy, and personal worth within a system of constraints that changes on historical and ontogenetic time dimensions. Our own research has focused primarily on adulthood and later life; for various reasons, the transition to old age is a paradigm case for testing implications of the present model. Health problems, physical impairments, and functional losses increasingly take their toll; the death of friends and partners destroys ties of mutual support and creates problems of isolation and marginalization (e.g., Bengtson & Schaie, 1989; Schneider & Rowe, 1990). Adaptive strain is further boosted by the dynamics of accelerating social change and the fading of time yet-to-be-lived. Under these conditions, the optimal use and allocation of scarce resources become urgent concerns; at the same time, there is an increasing pressure to reorganize personal goals and priorities and to disengage from goals that have drifted outside the individual's span of control.

Given this backdrop, it is all the more astonishing that—at least up to the terminal phases of life—there is no evidence for a general or dramatic age-related decline in indicators of subjective life quality such as self-esteem, life satisfaction, or personal control, nor is there consistent epidemiological evidence for an increased incidence in depression (see, e.g., Blazer, 1993; Brandtstädter et al., 1993; Gatz & Hurwicz, 1990; Henderson et al., 1998). These findings have spurred research into the sources of resilience in later



life (e.g., Ryff, Singer, Love, & Essex, 1998; Staudinger, Marsiske, & Baltes, 1995). We assume that the intriguing stability of the aging self hinges essentially on the interplay of assimilative and accommodative processes as well as on age-related shifts in the salience of these processes (Brandtstädter & Greve, 1994). Over the past 15 years, these assumptions have found empirical support from various lines of research. In the following sections, we present selected findings that illustrate the explanatory scope of the two-process model and implications for the study of successful aging. The analyses are based primarily on two large-scale cross-sequential projects centering on perceived control over development and resilience in adulthood and later life which also involved experimental studies and interviews with elderly people.<sup>4</sup>

### 3.1 *Accommodation of Goals as a Resource of Efficacy in Later Life*

During the past decades, research on aging has been led, and perhaps to some extent misled, by the plausible assumption that the gradual shrinking of physical, social, and time resources in later life should induce losses in self-efficacy and perceived control, which, in turn, should be followed by increasing rates of depression. However, relationships between perceived control and age have turned out to be weak and inconsistent (for overviews, see Fung, Abeles, & Carstensen, 1999; Lachman, 1986; Rodin, 1987). As we have seen already, research on the age–depression relationship has yielded a similarly inconsistent picture. Instrumental and compensatory activities are undoubtedly important to maintain desired performance levels and enhance self-percepts of efficacy, but they are of limited reach and generate diminishing returns in areas in which functional loss is cumulative (see also Brandtstädter & Wentura, 1995; Kliegl, Smith, & Baltes, 1989).

The model of assimilative and accommodative coping assumes that accommodative modes are engaged when cost–benefit ratios of compensatory efforts become unfavorable. We even assume that the accommodation of goals and ambitions helps to maintain a sense of control. Although—for reasons already explained above—we do not assume that accommodative processes are under intentional control or are deliberately employed as a

<sup>4</sup> The research reported in the following was funded by the *Deutsche Forschungsgemeinschaft* (DFG). The project “Personal Control Over Development” started in 1983; it involves repeated assessments of a core sample of 735 participants (initial age range: 30–59 years) over a longitudinal interval of 8 years. The project “Adaptive Resources of the Aging Self” (started in 1991) involves a core sample of 690 participants (initial age range: 54–78 years); the longitudinal assessment spans an interval of 8 years. Participants were recruited from an urban area in southwestern Germany. Samples are fairly representative of the general population in terms of level of education, income, and occupational status (for details of the assessment procedures, see also Brandtstädter & Rothermund, 1994; Brandtstädter, Rothermund, & Schmitz, 1998; Brandtstädter et al., 1993). In the following, we refer to these projects as Project I and Project II, respectively.

strategy of “secondary control” (e.g., Heckhausen & Schulz, 1995), we propose that they are functional to buffer generalized control beliefs from the experience of losses of control in particular goal domains. At first sight, this argument appears paradoxical because the dual-process model assumes that accommodation is driven by losses in perceived control. Notions of power and control, however, primarily imply the capability to reach goals of *personal importance*. The implication—which has been largely overlooked in research on the age-control relationship—is that downgrading the importance of goals that have become unfeasible can help to stabilize a sense of efficacy and personal control.

Data from *Project I* (initial age range: 30–59 years; see footnote 4) provide support for this assumption. As part of the assessment procedure, ratings of importance and perceived control were obtained for a list of 17 goals (e.g., physical fitness, personal independence, social recognition, occupational efficiency, and satisfying friendship). Moderated regression analyses involving 8-year longitudinal change scores revealed that the degree to which losses in goal-linked control influence global control beliefs is mitigated when the corresponding goals are downgraded during the same interval (Brandtstädter & Rothermund, 1994). This interactive buffering effect emerged for the majority of goals; the findings have been replicated by longitudinal observations based on the older sample of *Project II* (initial age range: 54–78 years; Brandtstädter et al., 1998; Rothermund & Brandtstädter, 1996).

### 3.2 *From Compensation to Accommodation*

Regarding the balance of assimilative and accommodative efforts, a critical situation arises when assimilative efforts reach the limits of personal action resources. The dual-process model predicts a typical sequence of regulations when assimilative efforts approach a zone of maximal strain. To reach the desired goal or to maintain a desired standard of performance, persons may try to augment their capacities to reach the desired goal, for example, by acquiring new knowledge or skills. Self-percepts related to one’s competence to compensate for incompetence will determine how long a person stays in this primary cycle of compensation (Brandtstädter et al., 1999). To the degree that such metacontrol beliefs are eroded, the intentional focus of assimilation may shift to a secondary level of compensation or “proxy control” (Bandura, 1982, 2000), in which external means of support systems are engaged to reach the goal. Here, elements of accommodation already become apparent, but remain limited to shifts in subgoals or means. Compensatory efforts, however, operate on limited resources; counteracting progressive functional losses through increased compensatory investments may thus reach a limit at which the costs begin to exceed the benefits (Brandtstädter & Wentura, 1995; see also Freund, Li, & Baltes, 1999). With advancing age, time-discounting effects may further potentiate the opportunity costs of compensatory efforts: Investing increasing amounts of time and effort in order

to raise or maintain one's efficiency for attaining future goals may not appear a rational strategy when increasingly less future is left and time itself becomes an increasingly scarce and valuable resource (Brandtstädter & Rothermund, in press-b).

The dual-process model thus suggests that compensatory tendencies should be expressed most strongly when losses become perceptible but still appear amenable to preventive or corrective intervention, but that they should decrease when compensatory activities reach a zone of diminishing returns; to the same degree, the balance may tip toward an accommodation of goals. As a corollary, we would expect compensatory efforts in many domains to exhibit a curvilinear, inverted U-shaped regression on age. Our panel studies with older people (Project II) used a global measure of compensatory effort aggregated over four domains of functioning (physical fitness, outward appearance, intellectual efficiency, and everyday competence). The expected curvilinear pattern actually did emerge in both cross-sectional and longitudinal comparisons (see Brandtstädter & Rothermund, in press-a, in press-b). Supplementary analyses further suggested that compensatory investments in a given functional domain were dependent on perceived control within this domain and that perceived losses within domains had less negative impact on well-being when the motive to maintain previous levels of functioning and to keep up with younger people was reduced.

These arguments and findings should not be read as implying that assimilative (preventive and compensatory) efforts cease in later life. From the present theoretical perspective, a much more plausible scenario is that accommodative processes establish new domains and reference standards for preventive and compensatory activities. As intimated above, goals that are central to the person's life design may resist accommodation; in such cases, the accommodation process may involve criteria of goal fulfillment or implementation rather than the goal itself—in a way that integrates continuity and flexibility, as it were. Abstract goals such as occupational success, intellectual efficiency, and the like are particularly open to different forms of interpretation and implementation. For example, the older person may accommodate personal notions of intellectual competence by deemphasizing aspects of "fluid" functioning that undergo age-related loss and by placing more weight on aspects such as life experience, expertise, and wisdom (see also Ryff, 1991). Accommodative changes in goal implementation standards, which to some extent may be supported by a social "seniority bonus," thus protect the aging self against discontinuity and loss.

### *3.3 Dispositional Differences in Assimilative Persistence and Accommodative Flexibility: Relationships to Age and Well-Being*

There are dispositional trait-like differences in the readiness or capacity to employ assimilative or accommodative modes of coping. Our research with elderly people uses two scales to assess such differences: Tenacious

Goal Pursuit (TGP) as a measure of assimilative persistence and Flexible Goal Adjustment (FGA) as a measure of accommodative flexibility (Brandtstädter & Renner, 1990). These scales tap different aspects of coping competence that contribute independently to individual differences in well-being and subjective life quality (see also Becker, 1995), which is consistent with the presumed adaptive function of assimilative and accommodative processes. There are no clear-cut relations with the gender variable; overall, gender differences seem to be expressed less in Flexibility than in Tenacity where men tend to score slightly higher than women.

Of particular interest in the present context is the relationship of Tenacity and Flexibility to the age variable. According to the dual-process model, the cumulation of irreversible losses and the narrowing of action resources in later life should lead to an increasing dominance of, or preference for, accommodative over assimilative modes. Consistent with this assumption, a positive regression on age has been found repeatedly for FGA, whereas TGP tends to show an opposite pattern (Brandtstädter, 1992; Heckhausen, 1997).

Although both scales are strong predictors of life quality on all age levels, accommodative flexibility has shown two particularly intriguing effects: First, it appears to act as an interactive buffer that mitigates the impact of losses and constraints on measures of well-being; among "flexible" individuals, dissatisfaction in particular domains of life seems to spread less easily to general well-being. Second, and presumably related to the first point, flexibility seems to enhance the availability of palliative or uplifting cognitions in situations of threat and loss.

### 3.4 *Accommodative Flexibility as Interactive Buffer*

Goals constitute knowledge structures that involve two types of associative links: "Downward" links specify procedural steps to reach the goal, whereas "upward" connections relate the goal to the person's general strivings and identity projects (see also Brandtstädter, 1998; Little, 1989). The upward links lend meaning and valence to the goal, but create frustration and depression when goals to which the person is strongly committed have not been achieved or have become unfeasible.

The dual-process model posits that in the assimilative mode, failures and setbacks activate processes to build up new downward connections. Where no such connections are found, accommodative processes are engaged that deconstruct the upward links, so that failures and setbacks in particular goal domains have a less strong and lasting negative impact on well-being and satisfaction. Accommodative flexibility should enhance this deconstruction process and thus shield self-esteem and well-being from experiences of loss and impairment. This type of buffering effect has surfaced repeatedly in moderated multiple regression analyses in which accommodative flexibility (FGA) was included as a moderating variable. For example, in married couples, accommodative flexibility was found to dampen the negative impact of mari-

tal problems on general life satisfaction (Felser, Schmitz, & Brandtstädter, 1998). In older samples, problems such as chronic pain, impairment, or illness generally predict depression and low life satisfaction; these relationships appear to be mitigated in people scoring high on the FGA measure (Brandtstädter et al., 1993; see also Schmitz, Saile, & Nilges, 1996). Furthermore, accommodative flexibility was found to dampen negative self-evaluations among people whose biographical pattern deviated from the socially expected script or “normal biography” (Kalicki, 1996). As already intimated above, recognizing that valued goals can no longer be achieved is a typical and stressful experience in later life; the shrinking of temporal reserves in later life thus places a strong pressure on accommodative readjustments in goals and priorities. Consistent with theoretical expectations, the fading of residual life time (which was assessed in our samples as the difference between chronological age and subjective life expectancy) was found to have a less negative impact on well-being and future prospects among persons scoring high in accommodative flexibility (Brandtstädter & Wentura, 1994; Brandtstädter, Wentura, & Schmitz 1997; Rothermund & Brandtstädter, 1998). Noticeably, similar buffering effects have not been observed for the Tenacity scale, although this aspect of coping competence shows a similarly strong predictive relationship to indicators of well-being as the Flexibility measure.<sup>5</sup>

Accommodation theory suggests that the buffering or dissociation effects described above are due in part to the deconstruction of positive meanings of blocked goals as well as to an increased availability of palliative cognitive content that mediates a positive reappraisal of the given, initially aversive, situation. Both processes should contribute synergistically to destroying the motivational potential that fuels further assimilative effort and counteract a “crystallization of discontent” (Baumeister, 1994) in situations of crisis and loss.

### 3.5 *Accommodative Thought: Generating Uplifting Conditions*

The human mind seems geared toward transforming bads into boons; the dual-process model assumes that if active, instrumental strategies fail to solve the problem, the cognitive system tends to produce such transformations mentally. The tendency to find benefit in adversity accounts for the paradoxical contentment reported for cancer patients, accident victims, paraplegics, and other disadvantaged groups (e.g., Affleck & Tennen, 1996;

<sup>5</sup> There are some indications that the effects of tenacity and flexibility on well-being and satisfaction may depend on the demand structures and social expectations within particular task contexts. For example, findings by Abraham and Hansson (1996) hint that in occupational contexts, flexible goal adjustment predicts job satisfaction independently of gender, whereas a positive contribution of tenacious goal pursuit emerges only for the male group. The authors argued that these differences may reflect the influence of gender-role stereotypes.

Brickman, Coates, & Janoff-Bulman, 1978). Note that the dual-process framework does not imply a generalized tendency toward benefit finding and reappraisal, as notions of positivity bias, self-serving bias (e.g., Frijda, 1988; Markus & Zajonc, 1985), and the like would suggest. Finding positive meaning in an aversive situation tends to inhibit active problem-solving efforts and thus appears maladaptive as long as there is a realistic chance of changing the situation. When aversive circumstances seem irreversible, however, positive reappraisals of the actual situation should enhance disengagement from barren commitments and redeployment of resources to new goals. The dual-process model thus proposes that tendencies of benefit finding are suppressed in the assimilative mode (or stay focused on presumable future benefits of pursued goals), whereas there should be an increased availability of uplifting thoughts and palliative reappraisals in the accommodative mode. Support for these assumptions comes from experimental studies in which we used a semantic priming paradigm to assess the availability of uplifting cognitive content. In a study involving 120 participants aged 56–80 years (Wentura, Rothermund, & Brandtstädter, 1995), scenarios comprising stressful and uplifting aspects were used as stimulus materials (e.g., “. . . you recently visited your doctor for a check-up. He told you that your hearing has become worse since the last visit, but that it is still better than that of most people in your age group”). Following the presentation of the vignettes, availability of negative and uplifting elements (in the example, “*worse*” and “*better*”) was assessed; the target stimuli were preceded by either a prime stimulus epitomizing the stressful event (“*doctor*”) or a distractor. Recognition speed and error rates were measured as dependent variables. As expected, participants scoring high in accommodative flexibility (FGA) showed enhanced access to the uplifting contents; this effect was particularly pronounced in the priming condition (see also Wentura, 1995). In another line of experiments involving the same sample as above, we hypothesized that elderly people, and, in particular, persons disposed toward accommodative flexibility, would be more prone to link the notion of “being old” with positive meaning (Rothermund, Wentura, & Brandtstädter, 1995). Using a priming procedure in combination with a lexical decision task, we expected the priming effects of the attribute “old” on positively connoted target stimuli (such as “*good*” or “*happy*”) to be moderated by age and FGA. The results indicated that among “flexible” individuals, connotations of being old become more positive with advancing age, whereas the opposite pattern emerged among participants scoring low in FGA. Taken together, these findings lend further support to the assumption that accommodative flexibility enhances processes of benefit finding and positive reappraisal.

As a supplementary line of research, we used structured interviews with elderly people to explore how accommodative thoughts are expressed in biographical narratives and how they relate to attitudes toward age and aging.

For the sake of brevity, we quote only two typical examples from our transcripts:

It's strange, like a lot of other things in later life: You get used to it after a while. You regret the fact that you're getting old, that your body's getting old, that you, well, don't look very attractive in a bikini anymore. But somehow, after a certain amount of time, you come to terms with it, because other things are always happening which are nice and have little to do with your appearance. (female, 57 years)

Things that I can't change—I don't worry about them as much. Because if I moped about, the wrinkles would get worse [laughs]. And when I don't think about it, then it just follows its natural course, but I don't do anything to worsen it. (female, 73 years)

These quotations are apparently not tainted by resignation or depression; they rather convey an impression of a relaxed and calm attitude toward aging and perhaps even of wisdom. Beyond such qualitative impressions, content analyses revealed that participants who were more prone to express accommodative thoughts also reported greater satisfaction with their aging, had a more positive attitude toward their biography and found more continuity and meaning in their life (Brandtstädter, Rothermund, & Schmitz, 1997; Schmitz, 1998).

## DISCUSSION

Over their life course, people construe, and strive to implement, normative projections of themselves and their future. Personal goals and projects are defined, however, within a system of constraints and resources that change on ontogenetic age-graded and historical dimensions of time and have to be continuously adjusted to such changes.

We have distinguished two opposing but interrelated adaptive modes through which such adjustments are achieved: first, intentional actions aimed at assimilating the actual situation to personal goals; second, processes through which goals are accommodated to situational constraints and to changes in action resources. We have discussed the model of assimilative and accommodative processes as a framework for analyzing how these two types of processes intertwine and change over the life course. The model also specifies processes and differential factors that influence the balance between the two modes in concrete episodes of coping.

The dual-process framework thus integrates cognitive and action-theoretical perspectives with life-course insights. Regarding its cognitive implications, the model sheds some light on the cognitive mechanisms that enhance the pursuit of goals as well as the flexible adjustment of goals and constraints; it appears that action-theoretical research as well as decision-theoretical formulations have given short shrift in particular to the latter, accommodative aspect (see also Lazarus, 1985). For example, the adjustment of goals to

action resources is commonly treated as an aspect of goal selection and definition; this tends to neglect the temporal and developmental dynamics of goal adjustment that are not engaged volitionally and that modify frames of decision making rather than being the outcome of decisions. Regarding developmental aspects, the two-process framework affords a better understanding of how the aging self maintains a sense of personal continuity and efficacy even when the balance of developmental gains and losses becomes increasingly unfavorable. We have argued that well-being over the life course hinges essentially on the interplay between assimilative and accommodative processes and have presented arguments and findings that point to an increasing importance of accommodative modes of coping in later life, that is, in a developmental context in which losses in temporal, social, and physical resources enforce adjustments of goals and priorities.

Considering the dialectics of assimilative and accommodative processes over the life span, the current emphasis on active-offensive strategies of coping and life management that pervades notions of optimal development and successful aging has clouded to some extent the benefits of accommodative processes that help the person to cope with irreversible losses and constraints and to come to terms with developmental outcomes that diverge from personal goals and ambitions. These processes should not be confounded with a syndrome of resignation and depression. The present approach posits that depressive symptoms point to difficulties in relinquishing blocked goals; at the same time, however, it suggests that feelings of depression may play a functional role in promoting accommodative revisions of the person's system of preferences through destroying the cognitive sets and biases that maintain assimilative efforts.

We have addressed the interplay between tenacious goal pursuit and flexible goal adjustment generically, and largely without regard to particular goals or intentional contents, because we did not want to restrict the formulation to particular situations, groups of people, or developmental settings. It should be noted, however, that different types of goals or strivings may not be equally open to accommodative revisions. We have already mentioned that goals which are central to the person's construal of identity and formulated at more abstract levels are more resistant to accommodation; from a biological point of view, it also seems plausible that evolution has shielded particular "system goals" or strivings from being easily relinquished. This may apply, for example, to goals related to the maintenance of health, intimacy, personal security, and other types of "satisfaction" goals (Schank & Abelson, 1977) that are basic to life and self-preservation. Related to this point, we might expect that in the transition to later life, accommodative adjustments and substitutions in goals may show a particular sequential patterning. Carstensen (1993), for example, has suggested an ontogenetic sequence in which goals related to status and power are replaced in later life by goals related to emotional closeness and intimacy.



Generally, however, the interplay of assimilation and accommodation is itself rooted in the phylogenetically evolved architecture of the human mind. The mechanisms of accommodation channel assimilative efforts toward new, more feasible tasks and thus help to avoid situations of entrapment and escalating commitments that may arise not only in personal life but also in broader organizational contexts.

It appears that these theoretical perspectives gain particular importance in developmental settings of modernity, which are characterized by accelerated change and a necessity to adjust life policies to rapidly changing role structures and task environments. Modernity has put a premium on ideals of development and aging that emphasize agency, planful competence, and maximization of personal efficiency; at the same time, it has rendered long-range planning and the formation of stable, enduring commitments increasingly more difficult (e.g., Berger, Berger, & Kellner, 1967; Brandtstädter, in press-a; Sennett, 1998). Thus, it seems to call for a paradoxical integration of planfulness and opportunism, of commitment and disengagement—or of assimilative tenacity and accommodative flexibility, to put it in terms of the dual-process framework.

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