

Motivational Changes Across Adulthood: The Role of Goal Representations for Adult Development and Aging

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Abstract

The importance of goals for understanding behavior and performance over time and across situations, for a sense of purpose and psychological well-being, has been acknowledged in the areas of motivation and lifespan development for more than a quarter-century (Baltes & Baltes, 1990). More recently, the field of motivated cognition has pointed to the role of the cognitive representation of goals for self-regulation, affect, and goal achievement (Fujita & Carnevale, 2012). Owing to the decline in the perceived availability of goal-relevant resources across adulthood, I argue that the representation of goals and their effects on behavior, performance, and well-being changes across adulthood. More specifically, I propose that goal representations change dynamically as a response to—and help managing—the developmental gains and losses regarding (i) the orientation toward achieving gains, maintaining performance, or avoiding losses, and (ii) the focus on the means or the outcome of goal pursuit.

SUCCESSFUL ADULT DEVELOPMENT AND AGING IN THE FACE OF CHANGING RESOURCES

Whether we like it or not, one of the inevitable changes that happens to all of us over time is that we grow older. We might not like to age because aging is strongly associated with the perceived availability of internal and external resources that help us to pursue and achieve our personal goals. In fact, maybe one of the most dramatic changes that occurs in adulthood is the increase in developmental losses and the simultaneous decrease in gains (Baltes, 1997). For example, although adults still have gains in some areas of cognition well into old age such as in knowledge, they experience losses in the more biologically based cognitive functions such as information

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processing speed. Across domains of functioning, research suggests that the ratio of gains to losses favors young adults and is unkind to older adults (for an overview, see Baltes, Lindenberger, & Staudinger, 2006).

Adults of different ages are acutely aware of this change in the ratio of gains to losses (Heckhausen, Dixon, & Baltes, 1989). Mustafic and Freund (2012a) asked younger, middle-aged, and older adults what changes they expect to experience in the next 10 years. A clear pattern emerged: younger adults expected substantial gains in all functional domains under investigation (subjective well-being, social relations, cognition, physical functioning). Middle-aged adults were somewhat less optimistic, although they still expected some gains except in the domain of physical functioning. In sharp contrast, older adults expected to experience losses in all domains of functioning. Moreover, in a second study Mustafic and Freund (2012a) found that young, middle-aged, and older adults largely agreed on this pattern of changes in gains and losses across adulthood.

With increasing age, then, adults expect to have fewer resources available to pursue and achieve their goals. Goals are central for development across the life span as they help guide behavior over time and across situations, thereby organizing behavior into higher order action units that structure the interaction of a person with his or her environment, and provide people with a direction and purpose in life. In short, having and pursuing personal goals seems essential for successful development (Freund, Nikitin, & Riediger, 2012). Thus, one of the central questions regarding successful development and aging is: *How do people advancing in age manage the threat to the ability to pursue and achieve one's goals resulting from the decline and loss of goal-relevant resources?*

THE CURRENT STATE OF THE FIELD

GOALS IN MODELS OF SUCCESSFUL AGING

Given the central role of goals for development across adulthood and into old age, it is not surprising that all of the central theories in this area are concerned with the question of how people manage the changing ratio of gains and losses across adulthood through the setting and pursuit of goals: The model of optimization through primary and secondary control (OPS, Heckhausen, Wrosch, & Schulz, 2010), the model of accommodative and assimilative coping (Brandtstädter & Greve, 1994), the model of selection, optimization, and compensation (SOC, Baltes & Baltes, 1990), and socioemotional selectivity theory (SST, Carstensen, Isaacowitz, & Charles, 1999). At the same time, these theories assume that the way people set and pursue their goals changes as a response to changes in the availability of

goal-relevant resources. The significance of these theories notwithstanding, I will focus on what I believe to be an emerging trend in the study of life management across adulthood, namely, the role of goal representations. In particular, I argue that goal representations do not only reflect the changes in gains and losses across adulthood, but that they are most adaptive when they correspond to the availability of resources.

COGNITIVE REPRESENTATION OF GOALS

The area of motivated cognition is on the one hand concerned with the cognitive representation of goals, and, on the other hand, with the effect of goal representations on cognition, behavior, and affect (Fujita & Carnevale, 2012). The motivated cognition approach conceptualizes goals not as direct expressions of fundamental needs, drives, or unconscious (implicit) motives, but as the cognitive representations of ends (desired or dreaded states) that can be brought about (achieved or avoided) through specific means (Kruglanski, 1996). Note that this conceptualization comprises two important dimensions: (i) the orientation of goals toward achieving desired versus avoiding undesired outcomes and (ii) the distinction of means and ends within a given goal. In the following, I will elaborate on how these two dimensions change with age and how these age-related changes contribute to successful development and aging.

GOAL ORIENTATION

One of the prominent models of successful development, the model of SOC (Baltes & Baltes, 1990), argues that in response to the changing ratio of gains to losses across the life span, goals oriented at the optimization of gains are more important and adaptive for younger age groups and that goals oriented at the maintenance and avoidance of losses become more important and adaptive when people experience more losses as they grow older (Staudinger, Marsiske, & Baltes, 1995).

AGE-RELATED DIFFERENCES IN THE IMPORTANCE TO ATTAIN, MAINTAIN, AND AVOID LOSING RESOURCES

An evolutionary perspective and a developmental perspective converge in assuming that it is advantageous to accumulate and maintain goal-relevant resources. Resources, defined as means that are instrumental in pursuing one's goals, are not only linked to goal achievement and higher levels of functioning, but they also serve to signal success to others as they are related to the relative social standing within a group. With this, they enhance one's social

attractiveness and, thereby, also the likelihood to find a resource-rich partner with whom to have and bring up offspring (Buss, 1999). Given that young adults have not yet had much time and opportunities to accumulate many resources that are advantageous for their further development, the attainment of important developmental goals such as finishing their education, advancing their professional careers, and, relatedly, achieving social status and gaining resources should be a primary motivation during this phase of life. Moreover, in many functional domains, young adults have substantial potential for gains that they need to realize in order to ensure continued successful development.

In middle adulthood, people likely have reached their personal asymptote of performance in many areas of life, such as occupational power, which is highest in middle adulthood (Eaton, Visser, Krosnick, & Anand, 2009). Most people view middle adulthood as a time that still holds possible gains (Freund & Ritter, 2009) but they believe that there are fewer opportunities for gains compared to young adulthood (Heckhausen *et al.*, 1989; Mustafic & Freund, 2012a). Moreover, middle-aged adults face the first losses in some areas of cognitive and physical functioning (Baltes *et al.*, 2006). Taken together, middle-aged adults have fewer potential gains, have accumulated resources in many areas of life such as skills, material belongings, or social relations that are worth maintaining, and have to compensate for the occurrence of first losses in functioning. The maintenance of functioning and the avoidance of losses should become even more important in old age when losses become more and more prevalent in different areas of life (Staudinger *et al.*, 1995).

EMPIRICAL EVIDENCE ON AGE-RELATED DIFFERENCES IN GOAL ORIENTATION

Empirical evidence supports the developmental trajectory of goal orientation from a predominant gain orientation in younger adults to an increasing importance of maintenance and avoidance of losses as people grow older. For instance, Heckhausen (1999) found that compared to middle-aged and older adults, younger adults reported more goals in domains associated with gains and fewer goals in domains reflecting the avoidance of losses. Ebner, Freund, and Baltes (2006) asked adults of different ages to rate their personal goals regarding their goal orientation. As expected, the goal orientation toward gains was stronger in younger than in middle-aged and older adults, who in turn reported a higher maintenance and loss avoidance orientation than younger adults.

Going beyond self-reported, personal goals, Ebner *et al.* (2006) asked younger and older participants to put together a physical fitness training consisting of five training modules. Each module was presented in

two alternative variants, one geared toward achieving gains (i.e., higher levels of physical fitness) and one aimed at maintenance/avoidance of loss in physical fitness. As expected, younger adults were more likely to choose modules that targeted the increase in fitness, whereas older adults selected more modules that promised to counteract impending losses in physical fitness. This result was replicated in the domain of cognitive functioning. Importantly and supporting the assumption that the age difference in goal orientation is driven by the perceived availability of resources, younger adults shifted to a preference for maintenance goals when the perception of resources as limited was experimentally induced.

Is this age-related shift in goal orientation adaptive? To address this question, Ebner *et al.* (2006) not only assessed the individual goal orientation of young, middle-aged, and older adults, but also their subjective well-being. They found that none of the age groups profited particularly from adopting a gain orientation, but that maintenance and avoidance of loss orientation was negatively associated with subjective well-being in younger adults. In contrast, maintenance orientation was positively related to subjective well-being in middle-aged and older adults.

In order to investigate the adaptiveness of goal orientation on goal pursuit, Freund (2006) asked younger and older adults to pursue a simple sensorimotor task that was either oriented toward achieving higher performance (gain orientation) or toward counteracting losses (loss avoidance). As expected, younger adults worked longer at the task when it was oriented at achieving gains, whereas older adults were more persistent when the task was oriented at counteracting losses. Finally, Duke, Leventhal, Brownlee, and Leventhal (2002) found that activities that counteract losses are related to positive affect in older adults.

Taken together, the existing research suggests that the representation of desired (or dreaded) outcomes of goal pursuit changes in line with the decrease in expected gains and the simultaneous increase in expected losses across adulthood: Whereas younger adults orient their goals more toward gains, maintenance/avoidance of losses becomes a more and more important outcome as people grow older. As expected, this age-related shift in goal orientation that matches the expected availability of resources appears to be adaptive regarding the subjective well-being as well as the persistence in pursuing goals across adulthood.

GOAL FOCUS

As defined above, goals comprise the representation of means and ends. When pursuing a goal, either the means or the ends might be more salient.

For instance, when working out in the gym, one might focus more on the exercises (e.g., which muscles to contract, when to breath) or on their intended effect (e.g., enhancing one's health or physical attractiveness). In the first case, one focuses on the process of goal pursuit, and in the second, on the outcome. Accordingly, *process focus* is defined "as the degree to which a person attends to aspects of the goal that are related to the means and *outcome focus* as the degree to which a person attends to the desired outcomes and consequences of goal pursuit" (Freund & Hennecke, 2015, p. 149). In other words, goal focus denotes if the means or the outcomes of a given goal are more salient.

Process and outcome focus differ regarding (1) their level of concreteness (process focus)/abstractness (outcome focus), (2) the degree of contextualization (higher in process focus), as well as whether they make more salient (3) the standard of comparison to measure goal progress (outcome focus) or (4) the necessary goal-relevant means (process focus). Research on goals suggests that these differences in the cognitive representation of goals are related to successful goal pursuit (Carver & Scheier, 1998):

1. A process focus directs attention to goal-relevant behaviors, which are more concrete than the outcome. The more concrete the representation of a goal, the more it provides guidelines for actions, which, in turn, are more likely to be implemented than abstract representations of goals. Thus, a process focus should be related to a higher likelihood of engaging in goal-relevant actions compared to the more abstract outcome focus. In contrast, the more abstract the representation of a goal, the more likely it directs attention to higher order outcomes that are related to providing meaning and a sense of purpose than the more concrete representation of a goal in terms of the means (Klinger, 1977).
2. Typically, actions are more contextualized than outcomes. To get back to the example of the goal to work out, the means of doing certain exercises on specific days in the gym is more contextualized than being healthy, which is a state that a person does not only demonstrate in the gym but carries with him or her to various contexts. As is the case for abstract versus concrete goal representations, contextualized actions are more likely to be carried out compared to the more general goal representations in terms of outcomes. This has been demonstrated convincingly in numerous studies on implementation intentions (for an overview see Gollwitzer, 1996).
3. Building on cybernetic models of goal pursuit, Carver and Scheier (1998) have elaborated on the importance of a clear standard of comparison of the desired state against which to measure the actual state as well as goal progress. A constant comparison of the actual with the desired state

indicates whether goal-relevant means are effective and bring about a sufficient rate of change in the desired direction. If this is not the case, corrective actions or a switch to different means is necessary. This suggests, and again has been supported by ample empirical research (Locke & Latham, 2002), that clearly defined outcomes should help to keep goal-relevant behaviors on the right track. Given that an outcome focus is defined as the salience of the end state of goal pursuit, adopting an outcome focus should lead to a higher accessibility of the standard of comparison (compared to the salience of means in a process focus) and thereby support goal achievement.

4. Again drawing on research by Gollwitzer (1996), the specification of goal-relevant means is essential for goal pursuit. According to this research, the specification of goal-related actions and the situations in which and the time when to act guide information processing in that they focus attention on goal-relevant information and situational cues signaling opportunities to implement the actions and ward off distractions. Thus, focusing attention on the process rather than the outcome of goal pursuit should increase the likelihood of actual goal pursuit.

Taken together, the goal literature provides good theoretical and empirical support to suggest on the one hand that a process focus—by being more concrete, contextualized, and highlighting goal-relevant means—should be more adaptive for goal engagement and achievement and, on the other hand, that an outcome focus—by being more abstract and providing a clear standard of comparison—should be more adaptive for providing meaning as well as keeping goal-relevant actions directed toward achieving the desired outcomes.

AGE-RELATED DIFFERENCES IN GOAL FOCUS

At least three factors that are likely to contribute to adopting a process or outcome focus are also related to age, namely, (1) goal orientation toward gains or maintenance/avoidance of loss, (2) the availability of resources, and (3) future time perspective (for a more detailed discussion see Freund, Hennecke, & Mustafic, 2012). Taken together, the three factors suggest that an outcome focus should be more prevalent in younger adulthood and a process focus should increase with age.

1. As mentioned above, the developmental goals in young adulthood are primarily concerned with the achievement of gain-oriented goals.

Such goals are inherently bound to attaining a certain outcome (e.g., finishing education, getting a job, getting married, having a child). Thus, due to the developmental and social importance of attaining these outcomes, young adults might be more likely to focus on the consequences of their goal pursuits rather than the process. As goal orientation shifts toward maintaining one's level of functioning and avoiding losses across adulthood and into old age, the process of goal pursuit might become more salient. This should be the case because pursuing maintenance/avoidance of loss goals does not provide a new outcome but, instead, the actual state constitutes the desired state. Thus, the focus of maintenance goals is inherently on the means and the process of stabilization rather than on achieving an outcome. Therefore, associated with the age-related shift in goal-orientation, goal focus should shift from a primary focus on the outcomes of goal pursuit in young adulthood to an increase in process focus across adulthood (Mustafic & Freund, 2012b).

2. The sharp decrease in the perceived availability of resources with age might also contribute to a stronger process focus in older compared to younger adults depending on their goal orientation. High resource investment is feasible only when it leads to relatively fast goal attainment, so as to not overtax the available resources that might be needed for other goal pursuits. When goals require long-term and repeated investments of means, they need to be carefully selected and monitored regarding their availability over a long period of time. This is typically the case when pursuing a maintenance/avoidance of loss goal that requires investment of resources as long as the goal itself persists. For instance, the maintenance goal to stay healthy requires one to continue eating healthily, exercising regularly, and generally taking good care of oneself. In contrast, the goal to pass an exam is achieved at a certain point in time after which resources can be directed to other goals. In other words, the means invested into temporally extended goals (such as maintenance/avoidance of loss goals) require more attention and, thus, are more salient than their outcomes. This should be particularly the case when resources are perceived as limited as they have to be invested more carefully. Thus, with increasing age, when maintenance/avoidance of loss goals are more prevalent and when resources are perceived as more limited, a process focus should also become more likely.
3. Another factor that is strongly related to age and that might also influence goal focus is future time perspective. In line with SST, empirical evidence (Carstensen *et al.*, 1999) suggests that an extended future time perspective is related to goals with a potential long-term pay-off

(e.g., spending time with people who might be able to offer useful information), whereas a limited future time perspective is related to a stronger emphasis on goals that offer immediate gratification (e.g., spending time with emotionally close partners). Thus, results from studies in the context of SST are consistent with the view that a longer future time perspective might be associated with a focus on the more distant outcomes of goal pursuit. In contrast, a shorter future time perspective seems to be related to a focus on the present and, thereby, on the immediate process of goal pursuit. This expectation is also in line with construal level theory (Trope & Liberman, 2003), which suggests that temporally close goals are represented in a more concrete way and in terms of the means, whereas temporally distant goals are typically represented in an abstract way and in terms of ends. Thus, younger adults who have an extended future time perspective should be more likely to adopt an outcome focus, while older adults who have a more limited future time perspective should be more likely to adopt a process focus.

EMPIRICAL EVIDENCE ON THE ADAPTIVENESS AND AGE-RELATED DIFFERENCES IN GOAL FOCUS

Several studies have tested the hypothesis of an increase in process focus over adulthood. This research supports the hypothesis that, in contrast to younger adults, older adults adopt a stronger process focus. This has been shown for relatively trivial goals such as engaging in short thinking exercises and for long-term goals that have high demands on self-regulation such as starting to exercise regularly (Freund, Hennecke, & Riediger, 2010) or losing weight through a low-calorie diet (Freund & Hennecke, 2011).

Regarding the adaptiveness of process and outcome focus for goal pursuit and subjective well-being, these studies have found that, in contrast to an outcome focus, a stronger process focus is related to more positive evaluations of the goal (e.g., perceived goal progress, involvement in goal pursuit, satisfaction with the goal) and actual goal pursuit and achievement (i.e., exercising regularly, losing weight) as well as subjective well-being (for converging evidence see Houser-Marko & Sheldon, 2008; Pham & Taylor, 1999). Interestingly, none of the studies including different age groups found evidence for age-related differences in the adaptiveness of goal focus. In other words, process focus was advantageous for all age groups under consideration. Thus, given that older adults tend to adopt a stronger process focus compared to younger adults, this goal representation might contribute to the maintenance of well-being in old age despite a decline in resources.

FUTURE DIRECTIONS

The research on the cognitive representations of goals and their role for managing the changing availability of resources is still in its infancy, and more questions are open than answered yet. Obvious questions concern the optimal “mix” of goal orientation in different age groups (e.g., is it adaptive to have certain degree of gain orientation throughout the life span and into old age?) and the limits of the adaptiveness of adopting a process focus (e.g., when the process is highly aversive). There are some less obvious questions that seem promising in helping us understand the interplay of motivation and successful development that I will briefly address in the concluding paragraphs.

TACKLING THE PROCESSES UNDERLYING AGE DIFFERENCES IN GOAL REPRESENTATIONS

Although the existing research has identified some important age-related differences in goal representations, very little is known about the underlying processes. The role of the availability of resources and time perspective is assumed to be crucial but has not been systematically investigated. Experimental research limiting or expanding the perceived as well as the actually available goal-relevant means or time perspective in different age groups seems a particularly promising avenue.

DIFFERENCES IN LIFE DOMAINS

Similarly, motivated cognition approach implicitly assumes that the content of goals does not play an important role in their cognitive representations and their consequences for goal pursuit and achievement. However, it might very well be the case that there are domain-related differences in the adaptiveness of goal representations. For instance, adopting an outcome focus for goals in the social domain (e.g., friendship, family) might not only be less adaptive than adopting a process focus, but it might actually stand in the way and harm successful goal pursuit. This might be the case because social goals are often defined by the process. Having fun while spending time together is an important aspect of friendship and seeing it primarily as a means toward the end of being friends might kill the fun and thereby undermine the friendship. This might also apply to experiential goals such as dancing or enjoying to listen to music. Older adults, due to their shorter future time perspective, might be more likely to focus on the experiential aspect of goals, and might profit even more from adopting a process focus when pursuing such goals.

THE DYNAMIC ASPECT OF GOAL REPRESENTATIONS

Although goal researchers would probably agree that goal representations are likely to change over the course of goal pursuit, this aspect has only rarely been investigated. Goal representations might not only change with age over longer periods of time, but also on a momentary basis depending on the motivational phase (Freund *et al.*, 2012). Moreover, such fluctuating states as exhaustion or mood might affect goal representations. For instance, when in a good mood, one might perceive the available resources more optimistically and plentiful than when being in a bad mood, and accordingly be more likely to orient one's goals toward gains and adopt an outcome focus. It is an open question as to how such momentary fluctuations affect goal pursuit and achievement and if there might be age-related differences in this regard. Again, this line of inquiry could be addressed using experimental designs manipulating such states as exhaustion or mood and assess the subsequent goal orientation and goal focus in different age groups. In addition, momentary fluctuations in goal representations as well as mood states could be assessed using experience sampling methods in everyday lives in different age groups.

Taken together, the research on age-related changes in goal representations has begun to reveal systematic age differences in goal orientation and goal focus, but many questions are awaiting future theoretical and empirical research. One of my goals is to tackle them and hopefully be able to provide more answers in the years to come. I am certain that there will always be more questions than answers, but I am also certain that we will enjoy the process of research.

REFERENCES

- Baltes, P. B. (1997). On the incomplete architecture of human ontogeny: Selection, optimization, and compensation as foundation of developmental theory. *American Psychologist*, *52*, 366–380.
- Baltes, P. B., & Baltes, M. M. (1990). Psychological perspectives on successful aging: The model of selective optimization with compensation. In P. B. Baltes & M. M. Baltes (Eds.), *Successful aging: Perspectives from the behavioral sciences* (pp. 1–34). New York, NY: Cambridge University Press.
- Baltes, P. B., Lindenberger, U., & Staudinger, U. M. (2006). Life-span theory in developmental psychology. In R. M. Lerner (Ed.), *Handbook of child psychology: Vol. 1: Theoretical models of human development* (5th ed., pp. 1029–1143). New York, NY: Wiley.
- Brandtstädter, J., & Greve, W. (1994). The aging self: Stabilizing and protective processes. *Developmental Review*, *14*, 52–80.
- Buss, D. M. (1999). *Evolutionary psychology: The new science of the mind*. Needham Heights, MA: Allyn & Bacon.

- Carstensen, L. L., Isaacowitz, D. M., & Charles, S. T. (1999). Taking time seriously: A theory of socio-emotional selectivity. *American Psychologist*, *54*, 165–181.
- Carver, C. S., & Scheier, M. F. (1998). *On the self-regulation of behavior*. New York, NY: Cambridge University Press.
- Duke, J., Leventhal, H., Brownlee, S., & Leventhal, E. A. (2002). Giving up and replacing activities in response to illness. *Journal of Gerontology: Psychological Sciences*, *57*, 367–376.
- Eaton, A. A., Visser, P. S., Krosnick, J. A., & Anand, S. (2009). Social power and attitude strength over the life course. *Personality and Social Psychology Bulletin*, *35*, 1646–1660.
- Ebner, N. C., Freund, A. M., & Baltes, P. B. (2006). Developmental changes in personal goal orientation from young to late adulthood: From striving for gains to maintenance and prevention of losses. *Psychology and Aging*, *21*, 664–678.
- Freund, A. M. (2006). Differential motivational consequences of goal focus in younger and older adults. *Psychology and Aging*, *21*, 240–252.
- Freund, A. M., & Hennecke, M. (2015). On means and ends: The role of goal focus in successful goal pursuit. *Current Directions in Psychological Science*, *24*, 149–153.
- Freund, A. M., & Hennecke, M. (2011). Changing eating behaviour vs. losing weight: The role of goal focus for weight loss in overweight women. *Psychology and Health* Advance online publication. doi:10.1080/08870446.2011.570867.
- Freund, A. M., Hennecke, M., & Mustafic, M. (2012). On means and ends: Process and outcome focus. In R. M. Ryan (Ed.), *The Oxford handbook of human motivation* (pp. 280–300). New York, NY: Oxford University Press.
- Freund, A. M., Hennecke, M., & Riediger, M. (2010). Age-related differences in outcome and process goal focus. *European Journal of Developmental Psychology*, *7*, 198–222.
- Freund, A. M., Nikitin, J., & Riediger, M. (2012). Successful aging. In R. M. Lerner, M. A. Easterbrooks & J. Mistry (Eds.), *Handbook of psychology, Vol. 6: Developmental psychology* (2nd ed., pp. 615–638). New York, NY: Wiley.
- Freund, A. M., & Ritter, J. O. (2009). Midlife crisis: A debate. *Gerontology*, *55*, 582–591.
- Fujita, K., & Carnevale, J. J. (2012). Transcending temptation through abstraction: The role of construal level in self-control. *Current Directions in Psychological Science*, *21*, 248–252.
- Gollwitzer, P. M. (1996). The volitional benefits of planning. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action* (pp. 287–312). New York, NY: Guilford Press.
- Heckhausen, J. (1999). *Developmental regulation in adulthood: Age-normative and sociostructural constraints as adaptive challenges*. New York, NY: Cambridge University Press.
- Heckhausen, J., Dixon, R. A., & Baltes, P. B. (1989). Gains and losses in development throughout adulthood as perceived by different adult age groups. *Developmental Psychology*, *25*, 109–121.
- Heckhausen, J., Wrosch, C., & Schulz, R. (2010). A motivational theory of life-span development. *Psychological Review*, *117*, 32–60.

- Houser-Marko, L., & Sheldon, K. (2008). Eyes on the prize or nose to the grindstone: The effects of level of goal evaluation on mood and motivation. *Personality and Social Psychology Bulletin*, *34*, 1556–1569.
- Klinger, E. (1977). *Meaning and void: Inner experience and the incentives in people's lives*. Minneapolis, MN: University of Minnesota Press.
- Kruglanski, A. W. (1996). Goals as knowledge structures. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior* (pp. 599–618). New York, NY: Guilford Press.
- Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist*, *57*, 705–717.
- Mustafic, M., & Freund, A. M. (2012a). Multidimensionality in developmental conceptions across adulthood. *Geropsychology*, *25*, 57–72.
- Mustafic, M., & Freund, A. M. (2012b). Means or outcomes? Goal orientation predicts process and outcome focus. *European Journal of Developmental Psychology*, *8*, 1–7. doi:10.1080/17405629.2012.661411
- Pham, L. B., & Taylor, S. E. (1999). From thought to action: Effects of process- versus outcome-based mental simulations on performance. *Personality and Social Psychology Bulletin*, *25*, 250–260.
- Staudinger, U. M., Marsiske, M., & Baltes, P. B. (1995). Resilience and reserve capacity in later adulthood: Potentials and limits of development across the life span. In D. Cicchetti & D. Cohen (Eds.), *Developmental psychopathology* (Vol. 2, pp. 801–847). New York, NY: Wiley.
- Trope, Y., & Liberman, N. (2003). Temporal construal. *Psychological Review*, *110*, 403–421.

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Becoming Adult: Meanings of Markers to Adulthood (*Sociology*), Richard A.
Settersten, Jr. *et al.*
Leadership (*Anthropology*), Adrienne Tecza and Dominic Johnson
Theory of Mind (*Psychology*), Henry Wellman
Recent Demographic Trends and the Family (*Sociology*), Lawrence L. Wu