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Science Watch

From Thought to Behavior: "Having" and "Doing" in the Study of Personality and Cognition

Nancy Cantor *University of Michigan*

ABSTRACT: *In recent years, much progress has been made by those advocating the trait perspective in personality in explicating an underlying dispositional structure to individual differences, to the attributes individuals "have." A cognitive perspective on personality can complement this description, providing a view of what Allport called the "doing" side of personality, by focusing on how these dispositions are cognitively expressed and maintained in social interaction. This perspective shows how individuals interpret life tasks of work, play, intimacy, power, and health, in light of their most accessible schemas, envisaging alternative future selves, and devising cognitive strategies to guide behavior in relevant situations. Strategic problem solving typically has its benefits and its costs because an effective solution to one life problem often creates other new problems. Therefore, a central question about the adaptiveness of personality is raised by this approach. To what extent, under what circumstances, and through what channels do individuals work to modify their schemas, tasks, and strategies in light of experience? A structural approach to personality can indicate much about basic stabilities, and an emphasis on the "doing" side can contribute knowledge of the mutability of personality.*

Personality is something and personality does something. . . . The adjustments of men contain a great amount of spontaneous, creative behavior toward the environment. Adjustment to the physical world as well as to the imagined or ideal world—both being factors in the "behavioral environment"—involves mastery as well as passive adaptation.

—Allport, 1937, pp. 48–50

Our great advantage over all other social animals is that we possess the kind of brain that permits us to change our minds. We are not obliged, as ants are, to follow genetic blueprints for every last detail of our behavior. Our genes are more cryptic and ambiguous in their instructions: Get along, says our DNA, talk to each other, figure out the world, be useful, and above all keep an eye out for affection.

—Thomas, 1984, pp. 7

For quite some time now the dominant force in personality psychology, trait psychology, has been concerned with the structural basis of individual differences, that is,

with Allport's (1937) "having" side of personality. There have been substantial and important advances in the taxonomic efforts to chart the major and stable dimensions on which people can be said to differ (e.g., McCrae & Costa, 1987; Norman, 1963). We are also much closer than ever before to explicating genetic and biological bases for important differences in temperament, sociability, and the other "big five" personality factors (e.g., Tellegen et al., 1988). These advances are encouraging also because they pave the way for increasing attention to questions about *how* these individual differences are expressed and maintained in social interaction across the life course (Caspi, Bem, & Elder, 1989).

Accordingly, there has been lately more and more emphasis in personality research on process (Larsen, 1989). In this trend, theorists are taking three complementary tacks to elucidating both the "having" and the "doing" sides of personality. First, such theorists have proposed "middle level" units of analysis—units that take an individual's standing on abstract dispositions of sociability or openness to experience and the like and give concrete form to their diverse expressions (Briggs, 1989). These middle level units of personality description are explicitly contextualized, with dispositional categories like impulsivity or sociability defined in terms of the if-then contingencies of specific situations (e.g., Wright & Mischel, 1987). Second, theorists have proposed mechanisms that selectively maintain and bolster these individual differences; mechanisms, for example, of "selection, evocation, and manipulation" that underlie person \times environment transactions (Buss, 1987). Finally, theorists have paid increased attention to processes of change in dysfunctional behavior and in "normal" personality during life transitions (e.g., Stewart & Healy, 1985).

I propose that a cognitive approach to personality has the potential to be especially useful at this juncture. It provides useful constructs and methods in the analysis of personality differences as they are diversely expressed and maintained in situ. It brings to this enterprise a central concern with cognitive mechanisms that can mediate the mapping of abstract dispositions onto specific outcomes; with processes that selectively give form to the blueprint of individuals' personalities. By explicating these processes of translation (and of construction) a cognitive

approach underscores the dynamic, transactional development of personality. By recognizing the power of intelligent beings to think in novel ways about themselves and others, it acknowledges a potential for creative adjustment that Allport and Thomas both claimed as central human virtues. In short, this perspective complements the trait approach and fits well with an ever-increasing attention to the "doing" side of personality expression and maintenance, and of personality growth.

"Having" and "Doing" in Personality

Julian Rotter (1954), in his seminal book *Social Learning and Clinical Psychology*, set the stage for current cognitive approaches to personality. He conceptualized outcomes as behavioral *choices* that individuals make in the light of their interpretations of situations and of likely reinforcements. For instance, in arguing against simple forms of reductionism in personality, he used examples of the following sort: Consider three individuals' different responses to the problem of low blood sugar, differences that follow from the individual meanings they give to the event. One person perceives the situation as under his or her control and directly confronts the problem by eating granola and running a mile several times a week; another decides that the problem is here to stay but that he or she can "make the best of it" by getting more rest and boosting energy with chocolate; and yet a third refuses to see it as a problem at all, pushing until all his or her reserves are depleted. Whereas one might reasonably contrast the adaptive responding of the first two persons with the destructive denial of the third, Rotter would be more likely to emphasize the differences between the first two, even though they both take an active response to the situation. He implored personality psychologists to pay less attention to where people begin and end and to accord at least equal weight to the differing ways in which they get there, that is, the strategies that move people from some interpretation of the situation toward their goals. Rotter did not intend to present a model of conscious choice, but he did say that people made choices, however automatically, by construing situations, tasks, or problems in particular ways, and he thought that those construals formed the basis for important behavioral differences that should not be ignored.

Rotter's Ohio State colleague, George Kelly (1955),

Preparation of this article was supported in part by grants from the National Science Foundation (BNS 8718467 to Nancy Cantor and Julie K. Norem, and BNS 8411778 to Nancy Cantor and Harold Korn). I wish to thank several of my colleagues and students for their many helpful comments: David Buss, William Fleeson, James Hilton, John F. Kihlstrom, Christopher A. Langston, Hazel Markus, Michael Morris, Julie K. Norem, Richard Nisbett, Christopher Peterson, Claude Steele, Abigail J. Stewart, Lynne Sutherland, and Sabrina Zirkel, as well as the editor and anonymous reviewers. Nancy G. Exelby provided invaluable technical assistance. Portions of these analyses and ideas were presented recently at the August 1989 meeting of the American Psychological Association in New Orleans.

Correspondence concerning this article should be addressed to Nancy Cantor, Institute for Social Research, 426 Thompson St., Ann Arbor, MI 48106-1248.

provided a powerful and complementary analysis of the individual as a naive scientist, busy anticipating events in the light of personal constructs about the self and the social world. Kelly articulated two fundamental and enduring cognitive assumptions. First, he placed the interpretive process at the very center of his account of individual differences: People differ because they anticipate events in unique ways which, in turn, *channel* their behavioral responses. Feelings, thoughts, actions, and reactions in a situation follow from those initial anticipations, those meanings with which an event is infused. Second, and equally important, Kelly posited *constructive alternativism*, the potential for alternative interpretations of similar events, either by two people in one situation or even by the same person in repeated encounters with an event or task. Individuals' constructs firmly channel their behavioral responses; however, the rich diversity of those constructs preserve considerable flexibility in personality functioning.

✓ The Rotter-Kelly analysis has all of the central features of a cognitive approach. The challenge for current cognitive-personality psychology is to increasingly reveal and specify those processes that represent an individual's active attempts to understand the world, to take control, and to reach personal goals. At the heart of this approach is a strong respect for the power of cognition to generate choice or create freedom. Individuals overcome stimulus control at least in part by giving their own meanings to events, by cognitively transforming situations. In this sense, the work of Walter Mischel, one of Kelly's proteges, on children's strategies for delay of gratification provides a prototypic illustration: Young children can overcome the pull of a prized delay object, such as a pretzel or marshmallow, by cognitively transforming the object in their mind's eye, turning the pretzel into a log or the marshmallow into a cloud (Mischel, 1984). Such generative processes provide a basis for structuring interventions to help children and adults acquire impulse control in taxing life situations (Mischel, Shoda, & Rodriguez, 1989).

In focusing on the active side of personality, on what people *do* cognitively to transform their worlds and themselves, Rotter, Kelly, and their cognitive-social learning heirs have also set forth the major units of analysis and measures that are characteristic of the cognitive approach. Three types of units—schemas, tasks, and strategies—compose the cognitive substrate of personality. *Schemas*, or organized structures of knowledge about particular domains of life and of the self, serve Kelly's basic channeling function. That is, they provide each person with unique cognitive filters that color the perception of events, determining the very ways in which events are "seen" and remembered. Moreover, individuals set *tasks* for themselves, distilling from the many culturally prescribed and biologically based demands of social life and survival a set of personal life task goals for which to strive. In constructing their tasks, individuals transform their social realities in the mind's eye, temporarily overcoming the control of current stimulus forces by looking toward

alternative possibilities for the self in the future. Then, as Rotter understood so well, the full creativity of personality emerges in the *strategies* that individuals embrace as they attempt to gain control and make progress on their significant tasks. In their strategies, individuals ingeniously combine processes of anticipation, monitoring, and retrospection to direct their behavior in context.

In this perspective, a focus on the "doing" side of personality means understanding these three units as they are coordinated to guide social behavior: schemas that channel perception and memory in specific settings, life tasks that individuals construct as goals for the self, and strategies embraced to pursue those goals. Each of these cognitive units both reflects and is the source of significant individual differences in personality, differences that highlight the inventive, flexible, willful features of individuals. They are, at least in principle, dynamically responsive to social experience; a concern with personality change is a critical part of a cognitive perspective. In the following discussion, I hope to illustrate that a cognitive approach can reveal something of the inventiveness of personality, forging links to personally significant outcomes and raising questions about mutability in the "doing" side of personality.

Before beginning, however, it seems prudent to discuss briefly the limits of a cognitive approach to personality, what it is and what it is not, what it hopes to do and what it likely can not address. Schemas, tasks, and strategies are middle level units of analysis directed at the intentional structure of personality-in-context (Little, 1989). They are not comprehensive as descriptions of individual differences, nor does an understanding of their contribution to social behavior preclude revelations about deeper structure or explanations of ultimate causality in personality (Wakefield, 1989). The approach is probably best applied to show the workings of dispositions such as optimism, self-esteem, or shyness that have an identifiable cognitive-motivational component, and that translate readily into goals and self-regulatory processes. More and more, investigators are successfully linking dispositional dimensions of social competence, such as conscientiousness, perceived control, and optimism-pessimism, with cognitions and cognitive processes that regulate social behavior (e.g., Little, 1989; Paulhus, 1983; Scheier & Carver, 1985). On the other hand, promising work is really only just beginning on the cognitive processes that maintain and bolster individual differences in affective reactivity (e.g., Larsen, 1989) and in physiological reactivity (e.g., Smith & Rhodewalt, 1986). Relatively little is yet known about the links to other broader temperament characteristics, such as sensation seeking and extraversion, that regularly emerge as powerful individual differences at quite an early age (Buss & Plomin, 1984; Zuckerman, 1979).

Whereas the approach is probably most insightful with regard to the intentional strivings of fairly well-functioning individuals, it can also be applied in clinical contexts in which efforts to change negative schemas, unrealistic tasks, and self-defeating strategies are important

objectives (e.g., Little, 1987; Nasby & Kihlstrom, 1986). What we do not know is whether those changes have a substantial long-term impact in reorienting dysfunctional personalities. Can individuals overcome the force of early-acquired patterns, often unconscious and affectively based, in order to allow new schemas, tasks, and strategies to flourish (Pervin, 1989a)? In most life contexts, cognitions and cognitive processes do more to perpetuate than to modify affect-based predispositions to social mistrust, neuroticism, or depression. Therefore, it is not known what happens when current cognitions and more deep-seated affect are strongly at odds (Swann, Griffin, Predmore, & Gaines, 1987). It is a challenge for the future to find those conditions when they do conflict, when there is some glimmer of hope of improved social functioning, and to chart the limits of effective change. In the meantime, there is still the need to understand more about how traits such as shyness, conscientiousness, or dominance are cognitively and behaviorally expressed and maintained, and the cognitive approach can be helpful in this important enterprise.

Schemas and Doing

Starting in the 1970s and continuing today, there has been a steady elaboration of cognitive models of individuals' personal constructs about their life experience (see Fiske & Taylor, 1984). Building on the work of Kelly, Rotter, Rogers, and many others, self-schemas, prototypes, scripts, and episodes have been proposed as basic cognitive units of personality (e.g., Cantor & Kihlstrom, 1987, chaps. 4, 5). These schemas¹ importantly shape individuals' perceptions of situations, their memories for events, and their feelings about the self and others. As such, they continue the tradition established by the cognitive style theorists who investigated the impact of personal styles for seeing the world (e.g., Crockett, 1965; Scott, 1966). Unlike the more abstract style dimensions, however, schemas are organized around different aspects of a person's life experience.

For example, in Markus's (1977) work on self-schemas, the schema is an organized set of knowledge in long-term memory summarizing the gist of an individual's feelings, thoughts, and experience in a specific life domain. The individual with a "self-as-shy" schema has elaborate knowledge of behaving in awkward ways, replete with the painful memories of social "failure," and he or she is poised to interpret experience in the light of this special self-knowledge (McGuire, 1984). This self-schema also provides the basis for behavior in interpersonal interactions, although the individual may not be pleased about repeating past uncomfortable interchanges.

In considering the sources of these schemas, one way to view them is as the cognitive carriers of dispositions. A shyness schema might reflect an underlying predis-

¹ For the sake of brevity, in the following discussion the term *schema* will be used in its broadest meaning, including under this rubric self-schemas, situation scripts, social prototypes, and so forth (Cantor & Kihlstrom, 1987).

position to general social anxiety and shyness (Cheek, Melchior, & Carpentieri, 1986). The schema serves then as a record of the individual's particular *expression* of shyness—for example, the specific kinds of people and interactions that make him or her nervous, the particular acts of shyness most characteristic of his or her shyness, and the subset of life situations or contexts to which he or she is most readily predisposed to respond with shyness. Over time, however, the schemas also become a critical part of the process that maintains and bolsters those dispositional differences. Schemas are selectively organized around particular *content*, such as a depressive schema, a shyness schema, or a gender schema, and they thus serve to focus individuals' attention selectively on those particular aspects of life experience. They demarcate regions of social life and domains of personal experience to which the person is especially tuned, and about which he or she is likely to become a virtual "expert," a grand master albeit one who sometimes feels less than fully successful (Linville, 1985; Markus, Smith, & Moreland, 1985).

Expertise and Constructive Alternatism

The construct of expertise provides a very important link between analyses of schemas as knowledge structures and the maintenance of individual differences. In this regard, schemas routinely serve three critical functions in the regulation of behavior: (a) As chronically accessible constructs, they repeatedly *direct individuals' attention selectively* to certain aspects of life and experience (Higgins & King, 1981); (b) the chronic salience of schemas in working memory encourages individuals to *articulate relevant life tasks*; and (c) individuals develop highly practiced *procedural routines* for doing those tasks in schema-relevant contexts (Linville & Clark, 1989). These functions reflect the automated workings of schematic expertise, and to the extent that dispositional predispositions underlie and reinforce that expertise, self-consistency is likely perpetuated (Swann, 1987).

This model of social expertise is similar in some ways to conceptions of expertise in other more "objective" domains of knowledge, such as playing chess or solving physics problems (e.g., Chase & Simon, 1973; Larkin, McDermott, Simon, & Simon, 1980). Individuals are particularly facile in their domains of expertise at retrieving "facts" and at organizing new information in terms of their schemas; they find it almost impossible not to think in these terms when in relevant situations, and their familiar schemas provide a ready, sometimes automatically available plan of action in such life contexts (Showers & Cantor, 1985). Unlike most expertise in domains of objective knowledge, however, social expertise can have its distinct downside, when the expert makes little effort to test the limits of his or her knowledge, that is, in this case, to test the limits of his or her theory of self (Epstein, 1973). The shy schematic person, for example, is dishearteningly quick to see his or her social faux pas, to retrieve from memory numerous examples of prior mistakes, and to pit the self against an elaborate vision of

the outgoing person that he or she is decidedly not like (Wurf & Markus, 1983). Through processes of selective attention, memory, and self-verification, the shy schematic person can exaggerate the implications of his or her shyness. It is one thing to "be shy," and quite another thing to actively remind the self and others of one's shyness (Arkin, Lake, & Baumgardner, 1986). The schema itself can reinforce risk-averse social goals and a "shyness strategy" for social interactions that further exacerbate one's uneasiness with people (Langston & Cantor, 1989).

Changing Schemas

The preceding discussion leaves a rather pessimistic impression with regard to cognitive flexibility in people's self-construals. Nevertheless, it is also true that one needs to look more carefully for the conditions under which people do try to change their schemas and their behaviors. Whereas the shy schematic person is not likely to give up too quickly on his or her self theory, or on the shy self-presentational style that it engenders, such an individual may also be looking sub-rosa for an avenue out of that shyness. For example, Wurf (1988) found that shyness schematic individuals who currently downplay the importance or inevitability of their shyness are actually quite likely to seek specific social feedback about improving their interactional style and to believe that such improvement can occur at some future time. Moreover, the "shy-downplaying" subjects in her experiments were more likely to seek this improvement feedback when they experienced increasing social anxiety, whereas the "shy-emphasizing" subjects retreated further into a pattern of negative self-verification under such conditions of strain.

One source of motivation for such change efforts comes from individuals' ability to imagine different "possible selves" that they might become, those they wish to avoid repeating from the past or turning into in the future, and those they want to attain (Markus & Nurius, 1986). These possible selves invoke multiple temporal perspectives on past, present, and future selves. They also involve a mixture, most likely, of the heroic (McAdams, 1985), the "ideal" and the "ought" in each of us (Higgins, Klein, & Strauman, 1985), and the more "down-to-earth," or at least more feasible desired identities (Schlenker, 1985). Thinking about these different possibilities for the self can sometimes encourage people to try to change, especially when the self-goal seems feasible to attain (Carver & Scheier, 1981). Markus and Nurius (1986) noted that the more mental consideration given to these alternative self-views the more likely the person is to believe in their future possibility (p. 964).

Several theorists have suggested that periods of life transition that are initially disruptive and overwhelming can ultimately foster schema change (Stewart, 1989; Veroff, 1983). Living and working with new people in a new environment, especially in one that preserves some aspects of a familiar past without holding the person hostage to his or her prior persona, can sometimes free individuals to test the limits of self change (Swann & Hill, 1982). Stewart and Healy (1989) have shown how major social

events, such as the women's movement of the late 1960s and early 1970s, also can precipitate self-definitional conflict, sometimes followed by schema revision. The timing of the event in the life course can be instrumental in fostering or impeding this process. Individuals are most open to identity change during late adolescence when personal values and life choices are rather routinely inspected and least open to revising self-schemas in mature adulthood when burgeoning commitments at work and at home preclude such an active reevaluation of basic beliefs and self-definitions. The revision process blooms again in later adulthood.

People are generally resistant to schema revision that calls into question their core values and assumptions about the self and the world (e.g., assumptions of fairness, efficacy, or control). In considering such fundamental change, Janoff-Bulman (1989) referred to these assumptive beliefs as high-level schemas, and she argued that victimization experiences tend to shatter these schemas. She found clear differences in the content of assumptive schemas between victims of major traumas (such as loss of a loved one, natural disaster, or personal injury) and nonvictims, in randomly sampled college student populations. The victims were also significantly more depressed than the nonvictims even long periods of time after the event, a finding that is also true of adults experiencing bereavement (e.g., Lehman, Wortman, & Williams, 1987).

There are many possible ways in which the shattering of core schemas could be contributing to this personal distress and immobilization. One indirect path of influence is through the repertoire of specific possible selves that an individual constructs as part of the coping process: Porter, Markus, and Nurius (1987), for example, found that individuals who were recovering from a life crisis were distinguished from those who were unable to recover not by the content of their current self-schemas, but rather by the positive possible selves that they could envision in their future. In the absence of positive images of future selves, it may be very difficult to mobilize for specific action in the present. Such paths of influence remain fertile ground for exploration in the area of cognition and coping (Wortman, 1983).

Whereas the schema change precipitated by victimization is decidedly unhealthy, there can be many benefits from self-definitional change that occurs in relatively more innocuous conditions of life transition, social change, or even with certain less threatening personal illnesses. In these instances, the (re)construction of new, perhaps more forward-looking self-schemas may actually be accelerated by the affront to long-held values or beliefs. Such change, in turn, can be critical in determining a person's current life tasks and strategies. I will now discuss that motivational facet of the "doing" side of personality.

Life Tasks and "Doing"

Schemas are important to the dynamics of personality in part because they provide a means of anticipating life

events, of looking forward with expectations about likely outcomes (Neisser, 1976). Recently, the cognitive approach has also emphasized individuals' creativity in framing *tasks* for the self in important domains of social life (Pervin, 1989b). The analysis of these self-articulated life tasks suggests that not only do people differ in the content of their schemas, as Kelly (1955) foreshadowed, but also in their ways of giving personal meaning to basic human pursuits of love and work and power (Murray, 1938). Consideration of individuals' life tasks, of the ways in which they think about their monumental pursuits and their mundane projects, such as "mastering enforced retirement" or "coping with the terrible twos," reveals forward-looking, active features of personality (Cantor, Markus, Niedenthal, & Nurius, 1986; Read & Miller, 1989). These personal projects or tasks, in turn, critically shape the future-oriented action of individuals, guiding the specific goals they set for themselves, the choices they make in terms of situations and activities to pursue, and the outcomes that constitute progress (or defeat) on their tasks (Emmons, 1986; Little, 1983).

Universal Life Tasks

Most theorists find it useful to begin the study of life tasks at the abstract level of universal tasks. In delineating such a set of tasks, the current literature has focused on several dimensions of adjustment that are of traditional concern to personality theorists (see Cantor & Kihlstrom, 1987).

Evolutionary significance. Several theorists (Buss, 1987; Plutchik, 1980) suggest constraining the analysis of personality adjustment to tasks, such as hierarchy negotiation and group cohesion, that have special survival significance. These tasks often map onto traditional motive taxonomies of power, affiliation, and achievement (McAdams, 1982; McClelland, 1961; Winter, 1973).

Developmental significance. In the tradition of Eriksonian models, a fruitful means of delineating tasks is to consider the major developmental turning points, outlining normative tasks that seem critical to adjustment at specific stages in the life span (Caspi, 1987; Erikson, 1950). There is considerable shared knowledge within subcultures about the timing of these age-graded tasks; in fact, pursuing a task at the "wrong" time is often frowned on, as in the adult identity crisis.

Sociocultural significance. Everyday language provides a rich source of knowledge about these culturally-significant life tasks. People talk about the tasks and activities that their social group or culture has delineated as important for adjustment, and in this regard, the "big five" personality factors provide a map to these domains of culturally significant life task activity (e.g., Cantor, Mischel, & Schwartz, 1982; John, Angleitner, & Ostendorf, 1988). Most task sets include some version of love, work, power, and safety, although these basic tasks take on clearly different specific referents in different cultures, age-groups, sets of historical cohorts, and ethnic and gender groups (Veroff, 1983). These age-graded tasks are widely articulated in the media, schools, families, and various social and professional group settings, and it is

assumed that individuals respond to these cultural agendas (Elder, 1975; Havighurst, 1953). Whereas communication within subcultures provides a proximal influence on life task choices, there may also be more distal influences, such as evolutionary pressures (Buss, 1984), that are not necessarily incompatible with the thrust of sociocultural messages.

Individualized Life Tasks

From the perspective of a cognitive personology, these sets of basic tasks provide only a broad framework within which to operate. One begins, specifically, with the tasks that the person sees himself or herself working on and devoting energy to solving during a specified period in life. For example, my colleagues and I (e.g., Cantor, Norem, Niedenthal, Langston, & Brower, 1987) studied the life tasks and problem-solving strategies of a group of 147 University of Michigan honors college students as they made the transition into and out of college, over a five-year period. Our assessment methods relied on both their free-form descriptions of their current life tasks and their self-coding of those tasks into normative age-graded categories, such as "getting good grades," "making and keeping friends," and "being on one's own, away from family." Although the normative task categories provided a good description of most of their task concerns, as assessed through their own codings and in experience-sampling reports of their actual activities, there was still much room for variation in the particular tasks that individuals focused on, in the kinds of situations and activities that they saw as part of a task, and in their appraisals of the experience of working on the task. Such consciously articulated life tasks are certainly not the only tasks on which individuals spend time, nor do they capture the full range of pursuits that give meaning to people's lives (Adler, 1929; Maslow, 1943; Murray, 1938). Nevertheless, it is the case that people can readily articulate some of their tasks, and their appraisals of the ease or difficulty and importance of reaching these life-task goals are quite informative (e.g., Palys & Little, 1983). In particular, these self-articulated life tasks have the advantage that individuals can tell us directly about the concrete activities that they see as relevant to their task goals and thus are likely to pursue.

Individuals' current life tasks or personal projects can be readily linked to the motivational component of characteristic dispositions. For example, Emmons (1989) showed how the trait of narcissism is related to high power motivation and low intimacy motivation and how these motive dispositions in turn are reflected in particular kinds of personal strivings (e.g., "advance up the social ladder," and "spend a large amount of money on my friends"). The links to dispositions can also be drawn in terms of individuals' different ways of pursuing their tasks. For example, Klinger (1989) developed the connections to individual differences in affective reactivity (Larsen & Diener, 1987) by showing how highly reactive individuals selectively focus on emotionally arousing stimuli and experience their current concerns accordingly. Alternatively,

Little (1989) contrasted two other types of orientations toward personal projects: "Assertive Reliabilities pushing projects through to completion and the Self-Consciously Timorous muddling along with, but not quite through, their projects" (p. 11). He suggested that broad dimensions of social competence, such as personal efficacy and personal control (Bandura, 1977; Paulhus, 1983) and optimism-pessimism (Scheier & Carver, 1985), set the stage for these differing orientations toward personal projects.

Life tasks, like schemas, not only provide a cognitive representation for dispositional strivings but also serve to selectively maintain and foster dispositionally relevant activity (Emmons, Diener & Larsen, 1986; Snyder, 1981). Having more or less consciously articulated certain tasks at a particular juncture in their lives, individuals then selectively choose to enter environments, pursue tasks, set specific subgoals, and persist on activities that reflect their task concerns (e.g., Zirkel & Cantor, 1990). The creative side of task expression comes through selective patterns of activity *choice* and of *persistence* at tasks (Klinger, 1975). Occasionally, individuals with a desire to change a negative self-definition—for example, those who downplayed their shyness in Wurf's (1988) research—will also purposely put themselves in situations and activities that conflict with their current predispositions but that reflect, in turn, on their strivings for the future.

Life-Task Analysis

Many investigators have found it desirable to study individuals' life tasks during times of major life transition. Individuals find it easier to report on their life tasks as they enter new life environments, relationships, developmental periods, and the like; times of transition bring goal-directed strivings to the surface, perhaps in the service of gaining some control over the new environment (Stewart & Healy, 1985). This is particularly true for late adolescents, those who are most primed for the task of identity development and least resistant to breaking up the smooth plot of their "identity story" (McAdams, 1989). Life tasks take on special significance during this pivotal transition period, as adolescents strive more or less consciously to become independent persons, leaving behind those old concerns that do not quite match their newly consolidating personal identity (Cantor & Langston, 1989).

In considering life transitions, and in particular the transitions of late adolescence, it is critical that a full view of the evolving process of adaptation is obtained. Stewart (1982) has documented a sequence of emotional stances toward the self and the new environment that begins with a *receptive* stance in which people lose some sense of "who they are" in the flood of new stimuli, gradually evolves through a more *self-centered* assertive stance and then on to a more *integrated* stance in which self-concerns are adapted to the current environment. Because this is an extended process of adaptation, the nature or the extent of purposive life-task striving will likely vary as a function of the person's current emotional stance. For example, Healy, Ratner, and Keates (1989) found that when en-

tering college students were in a receptive emotional stance toward their new life environment, they were oriented positively to their *social* life tasks, whereas an autonomous stance was associated with a positive attitude toward the challenge of *achievement* life tasks. Stewart (1989) noted that individuals in the early receptive stance are likely to adopt quite consensual life tasks, and later on those same persons may be quite idiosyncratic and selective in their life tasks.

In a similar vein, Fleeson and I (Cantor & Fleeson, 1990) analyzed changing patterns of life-task endorsement from 93 participants in our longitudinal study and found that the process of life-task commitment did not involve abandoning the age-graded tasks but instead reflected the students' increasing selectivity over time. These students began with relatively diverse life-task involvements, experimenting with most of the six or so normative categories. By senior year (and often before) they showed a significant shift from experimentation to task focus, with students differing in the content of their one or two central life tasks. Moreover, another important trend in task choice was evident across the four years of college. For those students who shifted clearly from experimentation with the normative categories to a selective focus on one two categories, their task commitments by senior year reflected their first year expectations of task difficulty and challenge. At least among this group of highly competent individuals, the process of life-task adaptation progressed from experimentation to selectivity from among a shared set of age-graded tasks, with one principle of commitment being an increasing involvement in the life tasks perceived as personally challenging and difficult to master.

These data demonstrated considerable unanimity in both the content of the life tasks and in patterns of adaptation to college life. However, it is also the case that from the outset the students in our sample gave even these basic tasks their own meanings, and those meanings, in turn, have been critical sources of data about their activity choices and experiences in college. In a series of papers, my colleagues and I have focused on the unique meanings given to life tasks: to academic tasks by a group of students using a "defensively pessimistic" strategy (e.g., Cantor & Norem, 1989; Norem, 1987), to social life tasks by socially anxious and nonanxious students (Langston & Cantor, 1989), and to the tasks of independence and identity formation (Zirkel & Cantor, 1990). Consideration of how students frame the task of learning to be on one's own without family, provides a good illustration of the process and consequences of constructive alternativism in life-task construal, and I will summarize briefly here our analysis of life-task pursuits in this domain of independence and identity striving.²

Alternate Construals: Being and Becoming Independent

In considering the different ways that individuals uniquely construe age-appropriate life tasks, there are a number

² This summary covers data reported in full in Zirkel and Cantor (1990).

of relevant dimensions of meaning, some structural (e.g., complexity or abstractness of the task; Little, 1983) and some content related (e.g., degree of ambivalence or conflict about the task; Emmons & King, 1988). Zirkel's and my (Zirkel & Cantor, 1990) analysis of the task of "being on one's own without family" revealed individual differences both in the *content of appraisals* of life tasks and in the *level of significance* attributed to the tasks. Approximately one third of the sample began college with considerable trepidations about the process of becoming independent, carving out a separate identity, and succeeding on their own in this competitive (academic) environment, as revealed in their initial appraisals of the independence and achievement life tasks. Both they and their peers viewed these tasks as quite important to tackle, but these particular students expected to find a true obstacle to master, whereas the others appeared relatively less stressed by this aspect of the transition to college. We distinguished between these two groups on the basis of their appraisals of the independence life task and labeled them as the independence absorbed group ($n = 42$) and the unabsorbed group ($n = 84$). These labels reflect the fact that despite their anxieties, the absorbed group continued to pursue these life tasks with considerable vigor, as revealed in experience-sampling data on their daily life activities and choices.

As a next step toward understanding *why* the absorbed, but not the unabsorbed students, expected to find the tasks of independence and academics so stressful and difficult, we coded the content of the situations that they listed as relevant to these tasks. Both groups described the tasks as involving relatively routine and mundane daily life activities—cooking, managing money, doing laundry, studying, preparing for exams, or "getting into the chess club." However, those in the absorbed group were also significantly more likely to list higher level, abstract concerns, such as "not having Mom and Dad to run to," "missing my high school friends," and "dealing with competition on my own." It was clear from these free-form descriptions that the absorbed group had infused their tasks with a broader, more personal meaning, involving both looking backward with homesickness and looking forward with concerns about being independently assertive, than had the modal student in this sample. Little (1989) has argued that individuals are constantly trading off between "meaning and manageability" in their framing of personal projects or life tasks to pursue. The more abstract and personally significant the task framing, the less easily manageable becomes the task (Vallacher & Wegner, 1987). In this regard, it seems that the independence absorbed group, who in some senses framed their current life tasks just as the textbooks suggest, may also have sacrificed easy manageability along the way.

Sources. We do have some ideas—although they are very preliminary—regarding why these particular students were motivated to tackle their new environment at this highly meaningful but perhaps less manageable level. As part of their participation in a set of interviews about their life tasks and problem-solving strategies, a

subset of the Honors Project students as sophomores completed the Moos (1974) Family Environment Scale, a 90-item retrospective self-report measure of family values, structure, beliefs, and styles of interaction.³ Furthermore, as part of a senior year questionnaire, students reported in detail on their social networks and relationship to family members, relatives, and friends. Together these data suggest the following characteristic patterns of family interaction: students in the independence absorbed group reported more closely knit families than did students in the unabsorbed group, but there was no indication of excessive dependence. In fact, those in the independence absorbed group also reported having families that strongly emphasized individual decision making and individual achievement, but, this push for excellence was forcefully balanced by the strong value placed on peaceful, close, well-organized family relations in which open fighting and the expression of negative feelings were not well tolerated. From their retrospective reports, it appears likely that the independence absorbed students did not have a great deal of experience with personal assertiveness, and this may well have been a part of their concerns as college students. They knew how to get along well with others, and this was reflected in their well-functioning college social relationships. Yet, they were more ambivalent about displaying personal power and perhaps worried that this hesitancy would interfere with being successful on their own at college. The absorbed group seemed still to be standing partly in their family world and partly on the brink of personal assertion—a prototypic Eriksonian identity quest. In the meantime, however, they experienced elevated daily life stress and dissatisfactions in college associated specifically with their particular heightened life task concerns, perhaps paying the price of failure to keep their life task concerns “in perspective.”

Consequences. Whatever the sources, it is clear that the initial framing of the independence and academic tasks as highly meaningful but ripe with difficulty had specific consequences for their later college experiences and activities. The pivotal role that these life tasks played in their college experience was apparent both in intensive experience-sampling data gathered early on for a subsample of the group, and in life stress and health data gathered on the full sample in their junior and senior years of college. We observed specific consequences of their concern with independence in the activities that they pursued on a daily level, in their affective experiences of daily life activities, and in the sources of their elevated life stress and anxiety symptoms. Specifically, in the experience-sampling study, the independence absorbed students in this subsample were spending significantly more time than the others in independence-related activities (e.g., doing their own laundry, managing money, running errands, and mulling over decisions), although they spent equivalent time in class and socializing with friends.

³ This subset was small ($n = 67$), including proportional representation of the absorbed ($n = 15$) and the unabsorbed groups ($n = 38$), and therefore the data are preliminary.

Moreover, they experienced significantly more negative affect (e.g., stress, conflict, fatigue, and difficulty) in these independence-relevant activities than did the unabsorbed students, but the same amount of positive affect as did the others. In other words, the absorbed students were in some sense choosing to work on the task of becoming independent, even though the task-relevant activities engendered considerable negative affect for them. A similar but slightly less extreme pattern of stress-engendering activity was observed for the absorbed group in the academic (but not in the social) life task domain—a domain that they had also described earlier as involving broad personal concerns. Although the independence absorbed students continued to perform well academically, they experienced significantly elevated levels of stress and health symptoms associated with their achievement anxieties and derived considerably less satisfaction than did their peers from their (equally impressive) academic performance.

From such data it does appear that verbal reports about life tasks can be a preview to the activity choices and affective experience that give organization and meaning to daily life pursuits (e.g., Csikszentmihalyi & Larson, 1984; Emmons, 1986). When individuals infuse their life tasks with special meaning, appraising them as especially difficult to master, these construals are typically also associated with subsequent problems in adjustment and health (e.g., Emmons & King, 1988). Yet, it is also the case that these particular students managed to contain their anxieties about important life tasks enough to pursue them with vigor and to make some progress on their stress-engendering tasks. In this regard, those initial concerns about life tasks may be the necessary prelude to active attempts to master them, at least for such highly competent individuals. Therefore, the next challenge for a cognitive personology is to capture the diversity and the complexity of people's strategies for handling these difficult life tasks—a challenge to which increasing attention is being accorded in current work, and to which I will now turn.

Cognitive Strategies and “Doing”

In my view, the study of personality and cognition gets closer and closer to Allport's “doing” side of personality as one increasingly considers the strategies that individuals use to work on their life tasks. Responses are strategic because they are self-protective or, at the least, self-consistent, in the light of these personal tasks (Folkman & Lazarus, 1985; Showers & Cantor, 1985). Strategies of optimism, helplessness, vigilance, avoidance, self-handicapping, risk-taking, and more have been shown to play a significant role in domains of achievement, intimacy, and health. Analysis of such strategic problem solving may help fill the gap between the individual's life tasks and observed patterns of individual differences in adjustment and performance. Such an analysis harkens back to Rotter's (1954) recommendation that we psychologists stay focused on the many unique paths that lead to behavioral choices, paths that can get condensed in our effort to abstractly and succinctly describe personality differences.

Strategies involve more than cognition alone; they represent an intricate organization of feelings, thoughts, effort-arousal, and actions. They belong as part of a set of basic cognitive units for several reasons. First, the strategy is a collection of goal-directed behavior unfolding over time in relation to a self-construed task. The strategic response is anchored in a cognitive construction. Whereas it is rarely, if ever, the case that cognitions determine a target behavior in isolation, they are often pivotal to the effective functioning of a problem-solving strategy. Constructive anticipation can, for example, create motivation to pursue hard tasks, as Bandura's (1986) work on self-efficacy has shown, and destructive thinking, such as Vallacher and Wegner (1987) have shown to occur when individuals frame a task at too lofty a level of abstraction, can halt problem solving altogether. The centrality of cognitive effort and cognitive control in effective problem solving prompted Langer (1989) to coin the term *mindlessness* when insufficient thought is given to a problem. Second, as many have noted (e.g., Kuhl & Beckmann, 1985), self-monitoring and planning, core aspects of strategies, involve a constant stream of thought that unfolds almost as a background to action. Although much of this cognitive monitoring actually takes relatively little conscious attention even in personally meaningful task settings (Kihlstrom, 1987), it is still a critical directing force in the behavior stream. One cannot underestimate the significance of post hoc cognitive work, the creative ways that people torture themselves after events with regretful ruminations that add substantially to the impact of a "failed" behavior, and often serve to construct impediments to future life-task ventures.

Whereas strategies are anchored in cognitive work, they do not typically invoke "cold cognition" in isolation from emotion and motivation (Lazarus, 1984; Norem & Cantor, 1990a). Although there may be task situations in which affect is engaged without cognition (Zajonc, 1980), strategic work involves a blending and a reciprocal interaction of cognition and emotion in the service of reaching for an important self-goal. One way to see the integration of cognitive, affective, and motivational elements in these strategies is to consider the diverse functions served by such strategies. Achievement strategies, for example, help people to regulate arousal and anxiety, to maintain and even enhance self-esteem, to gain control over events and outcomes and persist in the face of obstacles, to set goals and make task choices, to learn from experience, and more (Dweck & Leggett, 1988). No strategy can handle such complex, multifaceted tasks without drawing simultaneously on all available resources in the system. A strategy involves a collection of interwoven processes unfolding over time that is tuned to a person's particular construal of a task. The strategic elements serve diverse functions and have both costs and benefits.

Configural Units: The Example of Pessimism

The delineation of strategies as packages or bundles of cognitive-behavioral elements, rather than as isolated

tendencies to make certain kinds of attributions or to exert effort in certain task situations, is a critical feature of this approach and therefore worthy of some discussion. The configural approach follows directly from adopting a problem-solving metaphor in the analysis of social behavior. To the extent that people are invested in working on their life tasks, then it is reasonable to expect that they will make use of a whole variety of processes, skills, habits, and routines in this effort. One makes such an assumption in the analysis of "cold" cognitive problem solving, and it should be even more true for these more ego-relevant projects (Greenwald, 1982).

The achievement task domain provides a ready illustration of the ingenious combinations of strategic elements that individuals create in the service of maintaining self-esteem and motivating performance under pressure. One person, for example, embraces an *optimistic* strategy in which he or she prepares for a test by eliciting self-verifying feedback and social support, selectively recalling personal achievements, and then relaxing beforehand in diversionary activity (Scheier, Weintraub, & Carver, 1986). This strategy is often referred to as *illusory-glow* optimism because the confident optimist engages in attributional maneuvers to enhance or protect self-esteem after the fact (Snyder, Stephan, & Rosenfield, 1978). For example, in one experiment involving false (success or failure) performance feedback, we observed optimists before, during, and after performance on an anagram task. The optimists kept their high performance expectations throughout the task, worked hard to do well, and then protected their self-esteem by denying control post hoc over a "failure" outcome (Norem & Cantor, 1986a). In contrast, other students with equivalently good actual performance histories, whom we called *defensive pessimists*, chose a very different way to maintain self-esteem and ensure effective performance in this "risky" testing situation. They lowered their performance expectations before starting the task, also worked hard throughout the task, and then failed to engage in those post hoc attributional maneuvers, having already prepared in some sense for even a (low probability) "failure" outcome. The defensive pessimists did their characteristic negative thinking in anticipation of any disappointment and then pursued their achievement task with the vigor of an optimist.

In comparing strategies such as defensive pessimism and illusory-glow optimism it is helpful to consider differences in the specific achievement goals, and in the more global dispositions, of individuals for whom each strategy is characteristically appealing and effective, as Norem (1989) has recently done. She argued, on the basis of a variety of college student samples across the country, that the defensive pessimists and the optimists share some very central task goals, as distinct, for example from "real" pessimists: They find achievement tasks to be extremely rewarding, absorbing, and important; they persist in their achievement efforts, even in the face of obstacles (e.g., false negative feedback in the laboratory; unexpectedly difficult tests in the classroom); and they use confrontive

copied to manage their anxieties. Both groups fit well with the background, performance, and aspirations emphasized in a profile of subjects showing a high need for achievement (Atkinson, 1957). Nevertheless, the defensive pessimists appear to have some additional concerns and goals that do not plague the optimists: The pessimists are high in test anxiety, especially before an achievement task, and they generally appraise achievement situations as more stressful and less in their control than do the optimists (e.g., Cantor et al., 1987; Norem & Cantor, 1986b). The defensive pessimists have the additional task of managing their anxieties, working through their fears of failure, and thus "taking control" of the achievement situation. As Self (1988) found, the defensive pessimists expect to gain as much satisfaction from success as do the optimists, but they are also much more concerned about the after-effects of failure than are optimists. In other words, as Norem (1989) concluded, "There is some reason to think that individuals using defensive pessimism might be high in *n Ach* and high in fear of failure: a motive constellation that Atkinson and his colleagues predict should cause immobilization" (p. 4; see also Atkinson & Litwin, 1960). Critically, however, the defensive pessimists have a cognitive strategy of working through the implications of negative outcomes in advance that apparently allows them to harness their anxiety in constructive directions. In fact, in comparing a group of individuals who are defensive pessimists in social situations with a group of moderately depressed college students, Showers and Ruben (in press) found that whereas both groups shared high anxiety and low expectations before their social encounters, the defensive pessimists differed from the depressed students in that they used confrontive (versus avoidant) coping, and they did not ruminate and experience residual anxiety after the event as did the depressed students.

Temporal Unfolding

It is very important, in explicating the full impact of a strategy such as defensive pessimism, to consider the interaction among elements in effecting outcomes. This often involves attention to the characteristic order in which the elements unfold before, during, and after the event in question. Thus, the effectiveness of the defensive pessimism strategy hinges on the preparatory negative appraisals and lowering of expectations that then seem to free the person to energetically take control of the performance situation and ensure repeated successes (Brehm, Wright, Solomon, Silka, & Greenberg, 1983). The critical strategic function played by these anticipatory cognitions became clear in another experiment in which we interfered with the pessimists' preparation for an anagram task by actually telling them that they should do very well on the task (Norem & Cantor, 1986b). The optimists' performance benefited from this manipulation, whereas the defensive pessimists were clearly disturbed by being encouraged just at the moment when they characteristically would take hold of their anxieties via their negative thinking.

In contrast to the effectiveness of the defensive pes-

simists' anticipatory "doomsaying," negative thinking also can be quite debilitating when it is anchored in the effort to explain a failure after the fact (Peterson & Seligman, 1984). For example, Peterson and Barrett (1987) found that students who persistently made negative personal attributions after performance failures subsequently lowered their performance goals and performed more poorly in college. Thus, whereas the defensive pessimists' anticipatory negativity can serve an energizing function, these other students were debilitated by their negative explanatory retrospections. The strategies of defensive pessimism and negative explanatory style invoke some similar processes, but these elements serve very different functions, occur in context with other different elements, and unfold in different temporal orders. Perhaps not surprisingly, they also lead to different outcomes.

Consciousness and Rationality

The strategy label typically implies a level of conscious, self-serving manipulation of one's environment, but this may be misleading. Linville and Clark (1989) have recently provided a very useful translation from the language of cognitive coping strategies, such as defensive pessimism, to the language of rule-based systems in cognitive psychology (i.e., Anderson's (1983) ACT* framework). They suggest that strategies form a core of highly practiced procedural knowledge about *how* to react when certain life conditions are met; sets of if-then pairs that guide specific mental and physical actions in specific conditions. Productions operate at different levels of abstraction and can contain numerous embedded subgoals, as when the defensive pessimist first mentally simulates different possible bad outcomes, sets low personal expectations, and then looks for a way to improve performance by increasing effort and being vigilant about obstacles (p. 135). This representational system is useful in a number of respects, not the least of which is that it allows one to think concretely of strategies as action guides without presuming a controlled process within conscious awareness.

Invoking the term *strategic* does not necessarily mean that people are always aware, at the time, of their strategic choices, nor does it preclude them making self-defeating choices. For example, the observations of Jones and his colleagues (Berglas, 1985; Jones & Berglas, 1978) on self-handicapping under performance pressure suggest that the strategy is probably only effective to the extent that people are unaware at the time that they have voluntarily engaged in self-handicapping. In their experiments, students were willing to use performance-debilitating drugs, rather than take the chance presumably of tarnishing their competence image in future performances. Unfortunately, because people are rarely aware of such a strategy, it is also difficult to convince them that a self-defeating "choice" was made.

The fact that strategies such as self-handicapping are typically used without active awareness of the self-protective goal (or, for that matter, of the potential negative side effects) also makes it more cumbersome to prove

that they do serve a *strategic* function. One avenue of support comes from the discriminativeness with which individuals apply their preferred strategies. For example, self-handicappers only engage in their complicated rituals of anticipatory excuse-giving when those excuses truly serve a strategic purpose; they use excuses only when they are believable as valid impediments to performance (Snyder, 1985). Moreover, strategic cognitive work rarely involves only "one-shot" maneuvers, and when one strategic path does not work, individuals will go to great lengths to affirm the self and to reach their self-goals (Gollwitzer & Wicklund, 1985; Steele, 1988). In the process, it becomes clear that their initial thoughts, feelings, and behaviors were indeed motivated and intended to serve some strategic functions.

A related and perplexing feature of many life-task strategies is that they often seem to work in counterintuitive ways, such that apparently inappropriate thinking paves the way for more functional responses (Bandura, 1986; Taylor & Brown, 1988). This is illustrated by experiments in health psychology showing how healthy individuals deny the seriousness of potential health threats, even as they then accelerate their efforts to gather information on prevention (e.g., Jemmott, Ditto, & Croyle, 1986). The health literature is rich with demonstrations of different versions of strategic self-protection in which patients compare themselves to others who are worse off, selectively recall health crises that have never fully materialized, and deny the potential likelihood of a worst-case outcome (Taylor, 1983; Thompson, 1981). Ward, Leventhal, and Love (1988) recently reported data on the side effects of chemotherapy experienced by cancer patients with different generalized coping styles. They found that *repressors* who used denial strategies reported experiencing significantly fewer side effects of the therapy than did the *nonrepressors* undergoing the same treatment regimen. On the other hand, as Ward et al. noted, repression of sensation, or for that matter any denial strategy, can be problematic when it precludes preventative medicine or early interventions in disease states. Therefore, there is a need to assess the conditions under which individuals combine their self-protective maneuvers with confrontive interventions in truly "rational" health strategies (Miller, Brody, & Summerton, 1988).

Strategic Costs and Benefits

Taking this functional approach and demonstrating it in an analysis that is sensitive to the individual's particular, often peculiar, version of a specific life-task problem provides for a more direct attack on the *adaptive value* of different modes of thought. For example, the defensive pessimist's negative thinking would not be useful for most people, as it typically increases anxiety to focus on low-probability negative outcomes and obstacles (Miller, 1987). However, for defensive pessimists, this anticipatory coping can be beneficial to performance, although it too is not without other side effects for personal health and life stress (Cantor & Norem, 1989).

The microlevel analysis of the workings of a strategy

such as defensive pessimism enables one to make some rather specific observations over time about the "mixed-bag" of effects and side effects engendered by a strategy. The defensive pessimist students in our longitudinal study, for example, managed to do well academically despite their achievement anxiety, but their strategy took its toll. They experienced considerably more ups and downs in stress and in feelings of control in academic situations than did their optimist peers, and sometimes their own intrinsic motivation to perform was weakened from the accumulated exhaustion of their preparatory efforts—efforts that in retrospect seemed a bit unnecessary, even to these ever-vigilant defensive pessimists (Norem & Cantor, 1990b). Most strategic thinking results in just such cost-benefit tradeoffs, and most people find themselves sacrificing in the service of gaining control over a pressing life task.

From this perspective, even the most obviously self-enhancing optimistic strategies may become quite costly if used too generally, without sufficient sensitivity to social repercussions (Lazarus, 1983). For example, illusory-glow optimism is generally a very effective, low-cost strategy in both achievement and interpersonal task domains (Epstein & Meier, 1989; Scheier et al., 1986). However, when the tendency to assertively protect and enhance the self interferes with a person's ability to see another's point of view, then it can be quite costly, especially in intimate relationships. Kelley (1979), in his studies of close relationships, noted a destructive tendency for partners to attribute responsibility for tensions and conflicts in the relationship rather inordinately away from the self and toward the partner. This self-other difference in attributions, whereas normally quite functional, can be devastating if an intimate partner feels unfairly blamed for conflicts and unfairly denied praise for positive efforts and contributions (Fincham, Beach, & Baucom, 1987; Ross & Sicol, 1979).

Strategic Flexibility and Change

Although it is frequently obvious with hindsight, that a particular strategy will have unwanted side effects, individuals are rarely prepared to embrace other alternative strategies (Baumeister & Scher, 1988). This is true of many socially anxious individuals who embrace a highly risk-averse social strategy in which they assume a kind of interviewer's stance (Thorne, 1987), look to others for guidance at every turn, and then still torture themselves after the fact with thoughts of their social passivity (Langston & Cantor, 1989).⁴ Such a strategy is a mixed blessing in that it enables the person to remain actively involved in social life, but it does so at a relatively steep

⁴ In our longitudinal field study, this social constraint strategy was assessed through observer Q-sort ratings of videotaped hour-long interviews in which the students talked about their academic and social life tasks and their ways of handling task-relevant activities and problems (Langston & Cantor, 1989). Experimental studies, often using a "getting acquainted conversation" methodology, have revealed similar strategic efforts on the part of socially anxious individuals to protect self-esteem while simultaneously remaining socially active (see Arkin et al., 1986).

cost. The strategy fuels itself, providing more ammunition each time it is used to support the self-concept as socially ineffective and bolstering the appraisal of social life tasks as risky business (Arkin et al., 1986).

Some of these unwanted costs can be minimized when the person focuses strictly on the concrete "how tos" of the task itself, and avoids ruminations on the abstract causes of outcomes (Meichenbaum, 1977; Showers, 1988). Langston and I (1989), for example, found that self-reflective ruminations as part of this social constraint strategy contributed to the high costs of social anxiety, whereas social anxiety by itself did not inevitably result in distress and dissatisfaction. Unfortunately, such self-criticism is also an integral element in the strategy, and one that takes an act of will to circumvent. Ingram and Hollon (1986) made a related point about cognitive therapy for depression, in which effort is expended to help clients develop compensatory procedures to counteract the debilitating influence of their characteristic negative thinking. As they said, "The 'depression program' still runs, but the addition of a coping routine now modifies its output in a less maladaptive way" (p. 271).

Linville and Clark (1989) have drawn from the expertise literature to make some comments on the flexibility with which individuals might cope with life tasks. On one hand, strategies as productions are, in their words, "relatively small units" applicable to specific task conditions and thus likely to produce some discriminative social responding, as when a person is defensively pessimistic in achievement but not in interpersonal task contexts. However, productions can be generalized and because they are initiated by the individual's reading of a task situation, rigidities will develop as a result of schematic biases of interpretation. For example, when dispositional pessimism is reflected in negative self-schemas that cut across life domains, an individual is predisposed to develop generalized negative thinking strategies (Segal, 1988). As such, the disposition sets the stage for excessive "reasoning by analogy" in the building of coping strategies.

There is another aspect to the expertise-flexibility tradeoff, as Linville and Clark (1989) aptly noted: The typical contexts for social coping present rapidly changing demands with little structured immediate feedback, and under these taxing conditions, individuals fall back on well-worn social routines (Langer, 1989). There are many examples in the literature of self-defeating strategies that persist even in the face of therapy and great personal effort (Nasby & Kihlstrom, 1986). Moreover, these habitual strategies do not go away, as every "adult" who has returned home can attest. Nonetheless, strategic behavior is potentially malleable because individuals do change environments, and in these new environments they construct additional life-task goals on which new production rules are predicated. That is why one can predict more strategy change when individuals face transitions than when they stay within the same contexts with the same life-task concerns repeatedly intruding into working memory (Norem, 1989).

Schemas, Tasks, and Strategies in Action

The assumption that the cognitive substrate of personality involves schemas, tasks, and strategies has its pluses and minuses for socially intelligent behavior. Schemas, tasks, and strategies function quite effectively to guide and control action in line with individuals' basic dispositions and values. Although these units work together, they may be thought of as contributing slightly different features to what Kuhl and Beckmann (1985) called the *processes of action control*: Schemas provide interpretive knowledge with which to frame experience and to anticipate events; tasks represent the world as it could be for the individual and define choices of activities and environments in which to pursue goals; and strategies chart specific procedures for undertaking those tasks in particular life contexts. In a recent book, John Kihlstrom and I (Cantor & Kihlstrom, 1987) depicted a flow of action control from personal values and memories, to current life tasks, to procedural strategies. We noted that although it would be easy to represent schemas, tasks, and strategies in either abstract or concrete form, the specific functions that they are posited to serve suggest a natural ordering of generality from relatively higher level schemas applying across many life domains and life periods ("self-as-achiever"), to more delimited tasks for particular life periods ("becoming a law partner"), to fairly specific strategies conditionally linked to particular kinds of contexts or interactions ("managing anxiety before an important trial with defensive pessimism"). Of course, each unit can be generalized or broken down into more subordinate subunits with different purposes in mind. Individuals differ in their preferred level of cognitive abstraction for schemas, tasks, and strategies. For example, Little (1983) described college students' personal projects that range from "changing Western thought" to "doing well Spring term." Individuals also have selective areas of expertise in which schemas, tasks, and strategies are both richly developed at a concrete subordinate level of "self-in-action-in-context" and also generalized as superordinate principles for living with applicability across diverse contexts and life periods. Thorne (1989) found, for example, that introverts and extroverts have detailed knowledge about the specific interpersonal conditions under which they "become shy" or "act outgoing," and they also report significant consistency in the types of social relationships that they have repeatedly created across different periods in their lives.

At the same time, this expertise is sometimes a disadvantage. When schemas, tasks, and strategies develop early as expressions of high-level beliefs or affect-based dispositions, such as deep-seated personal pessimism or ill-tempered reactivity, and blossom with repeated expression across the life span, then it is difficult to effect change even in self-defeating routines. Caspi, Elder, and Bem (1987), for example, compellingly traced just such continuity in the negative personality of explosive children who damage their relationships with the world in each successive social role across the life course. Here, the expertise becomes a disadvantage precisely because it is so

consistent with and likely to be "energized" by negative predispositions, so well-practiced and easy to execute, and so likely to lead to repetition through the selection of environments that afford continuity (Caspi et al., 1989).

In this regard, the conditions for change seem to require environments conducive to the development of those "compensatory programs" that reorient individuals away from their most self-defeating habits (Ingram & Hollon, 1986). A number of features need to be there for such intervention to work. The demands of the environment can not exceed the individual's competence in that area, or he or she will fall back on dispositionally guided negative behaviors, as Wright and Mischel (1987) have shown happens with aggressive or socially withdrawn children. There has to be room for repeated practice with these alternative scripts (Nasby & Kihlstrom, 1986). The social environment also has to authenticate the individual's strivings for alternative self-schemas and life task goals, as Schlenker's (1985) intriguing work on feasible identities and self-identification demonstrates. Even then, the old stabilities will not have "gone away," but a new microstructure may well have been added, and that possibility provides some hope for improved social functioning under some conditions (Little, 1987).

Thus, in evaluating the potential for corrective change, it seems critical to acknowledge at least two levels to personality phenomena: Wakefield (1989) recently called these primary and secondary stabilities in the intentional system. Whereas primary stabilities such as temperamental dispositions, for example, would presumably stay relatively constant across changing life circumstances, the secondary stabilities that express those traits, such as strategies of emotion regulation, might well change if it became clear that they no longer functioned as expected. There is ample evidence from major longitudinal studies of considerable stability at the broad dispositional level, and these stabilities are significant (McCrae & Costa, 1984). There is also reason to believe that critical changes occur throughout the life span in the microstructure of schema content, life-task priorities, and strategy rules, although much more work needs to be done to demonstrate these changes in the normal course of individuals' lives, along with those precipitated by major social movements or personal traumas or in therapy. Such work is now being pursued on several fronts, for example, in work on the developmental life course of individuals' self-schemas and possible selves (Cross & Markus, in press); on how individuals shift their life-task priorities and personal projects over time (Little, 1989); and on the evolution or devolution of strategies like defensive pessimism and illusory-glow optimism across life transitions (Norem, 1989). Changes in the cognitive microstructure of personality will not likely challenge those primary dispositional stabilities, which Briggs (1987) called the foundation of personality's house, but there are a number of ways to concretely express any disposition, and cognitive change can affect some of what people do by changing some of the more specific knowledge that they have. Whether this dual-level portrait of underlying

coherences and microstructure change is to be viewed as one of personality stability or personality mutability is somewhat akin to calling the cup half empty or half full; what matters more is how these different levels link up in the organization of behavior and in how individuals feel about themselves.

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