RECONCILING PROCESSING DYNAMICS AND PERSONALITY DISPOSITIONS

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ABSTRACT
Developments in personality-social psychology, in social cognition, and in cognitive neuroscience have led to an emerging conception of personality dynamics and dispositions that builds on diverse contributions from the past three decades. Recent findings demonstrating a previously neglected but basic type of personality stability allow a reconceptualization of classic issues in personality and social psychology. It reconstrues the nature and role of situations and links contextually sensitive processing dynamics to stable dispositions. It thus facilitates the reconciliation within a unitary framework of dispositional (trait) and processing (social cognitive-affective-dynamic) approaches that have long been separated. Given their history, however, the realization of this promise remains to be seen.

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INTRODUCTION

Throughout the history of the field, two different approaches to personality have competed (often bitterly) in the search for an adequate theory of the person as an individual and of the important differences between persons. In this chapter we ask if they can be reconciled in light of developments within personality-social-cognitive psychology in the past three decades and make the case that the answer is affirmative—at least theoretically, although the depths of the splits that have occurred have made such reconciliation difficult to realize.

TWO APPROACHES TO PERSONALITY: PROCESSING DYNAMICS AND BEHAVIORAL DISPOSITIONS

In one approach, personality is construed as a system of mediating units (e.g. encodings, expectancies, goals) and psychological processes or cognitive-affective dynamics, conscious and unconscious, that interact with the situation. In this view, in the past twenty years, the basic question has been to understand how the person functions psychologically in terms of the mediating...
processes that underlie stable individual differences in social behavior and that can make sense of intra-individual variability across situations (e.g. Bandura 1986; Cantor 1994; Cantor & Kihlstrom 1987; Higgins 1990, 1996; Mischel 1973, 1984, 1990; Pervin 1990a,b).

The second approach, dispositional or trait theory, in recent years personified in the Big Five approach (e.g. Costa & McCrae 1997; Wiggins & Trapnell 1997), posits broad stable traits, factors, or behavioral dispositions as its basic units. Its fundamental goal is to characterize individuals in terms of a comprehensive but finite, preferably small set of stable dispositions that remain invariant across situations and that are distinctive for the individual, determining a wide range of important behaviors (e.g. Allport 1937, Funder 1991, Goldberg 1993, Wiggins & Pincus 1992). Thus, traditionally, as textbooks regularly teach, the processing approach tends to focus on the interaction of the specific situation with the social-cognitive-emotional processing system of the individual. The dispositional approach, in contrast, focuses on the broad stable characteristics that differentiate individuals consistently, seeking evidence for the breadth and durability of these differences across diverse situations.

**Divergent Goals**

The uneasy, often even antagonistic relationship between these two approaches over many decades in part reflects that their advocates tend to be committed passionately to different goals that seem to be in intrinsic conflict and even mutually preemptive. Consequently, the field has long been divided into two subdisciplines, pursuing two distinct sets of goals—either personality processes or personality dispositions—with different agendas and strategies that often seem in conflict (Cervone 1991; Cronbach 1957, 1975; Mischel & Shoda 1994). Currently these debates on the relative virtues and limitations of these alternatives occupy center stage in personality theory, with special issues and handbooks devoted both to explicating the distinctive contributions of each of the two approaches and to pointing out the limitations of the other side, as each either critiques or ignores the other (e.g. Cervone 1991, Funder 1991, Goldberg 1993, Pervin 1994, Wiggins & Pincus 1992). A good example of this dualistic approach to personality is seen in pursuit of the question of whether human personality is malleable or stable over the life course, with trait conceptions of personality generally demonstrating stability and process conceptions of personality typically finding change (Heatherton & Weinberger 1994, Heatherton & Ambady 1993).

**Two Fields—Or One?**

The most common, and often justified, critique of processing approaches is that they neglect the stable dispositional differences between individuals and
thus bypass a core aspect of the personality construct. Studies conducted within these approaches tend to focus on the effects of situational characteristics on people in general, and as a consequence they are often viewed as underemphasizing the role of individual differences, or even as relegating them to the role of unwanted, “error” variance. They thus are easily criticized as losing the person and the phenomena of personality in their focus on processes. Objecting to such a neglect, Funder (1991), for example, advocates a return to an intuitively appealing neo-Allportian global dispositional approach, reminding advocates of processing approaches that people are characterizable in broad dispositional terms, as in the person who is always (or mostly) miserable-and-complaining, and arguing that such information has potential explanatory as well as predictive value (Funder 1994). A failure to take account of such differences in temperament or other dispositions on which people differ would at the least highly constrain any personality theory and risks creating an oxymoron.

Even assuming, however, the existence of broad temperamental and other pervasive human characteristics, the question still remains: What is the nature of the basic invariances that form the core of each person’s personality? What are the intra-individual dynamics and psychological processes that mediate between these invariances and their experiential and behavioral expression? As Epstein (1994) put it, articulating his concerns about trait theory generally and the Big Five in particular, “a description of surface attributes, although useful for some purposes, provides a poor basis for understanding process. If one wishes to understand what makes people tick, and what to do about their off-beat ticking, a more dynamic interactive approach capable of elucidating cause-and-effect relations is necessary” (p. 121).

PERSONALITY AT THE CROSSROADS

Given this history, the field is now at a major choice point: to try to carve an overarching framework that integrates the two disciplines to pursue both goals within one field, or to show that such an integration is impossible or unconstructive. Absent such a reconciliation, personality psychology is likely to continue to split itself in half, as the partitions that separate basic processes and individual differences in its mainstream journal already institutionalize, at best indifferent to each other, at worst undermining each other, and in either case risking making it more difficult to become a cumulative coherent science.

A vivid illustration of the unfortunate consequences of this division can be found in research on coping with stress, which traditionally has been pursued
either in a dispositional framework—coping styles—or in a coping processes approach (e.g. Lazarus 1993). The styles approach assumes that each person is characterized by a type of coping strategy consistently across a wide range of situations. It measures the individuals’ typical coping strategy, either by reports of typical strategy use or by averaging behavior in multiple situations into a single coping style index. The process approach, on the other hand, focuses on what people do in a specific stressful encounter, focusing on the change over time and across situations, and asks: What type of coping strategies do people use in what situations?

While each approach makes a contribution, they leave an important gap. One casualty, for example, is the phenomenon of flexibility in adaptation of coping styles (Chiu et al 1995, Shoda 1996). As the process approach stresses, such flexibility may be valuable because no single type of coping behavior is effective in all situations. For example, sometimes it is better to blunt anxiety-provoking events and sometimes it is better to monitor for them, and it is important to discriminate which one to use and when (Chiu et al 1995, Miller 1987). Therefore, a person with a situationally invariant global coping style is bound to be less effective in at least some situations. To capture such differences among individuals in flexible use of coping styles in response to different situational characteristics, however, requires a perspective that focuses on stable individual differences in coping that is situationally contextualized and process connected, “specifying meaningful patterning and regularities in person-environment transactions” (Coyne & Gottlieb 1996, p. 971). That is, it will require the integration of both approaches.

This point is also relevant to, and is being taken increasingly seriously in, behavioral medicine and health psychology (Baumeister & Heatherton 1996; Miller et al 1996a,b; Taylor & Aspinwall 1996). Likewise, the interactional, indeed transactional, perspective has allowed an analysis of emotions as “responses to the appraised person-environment relationship” (emphasis in original) that has reinvigorated the research in that area (e.g. Smith & Pope 1992, p. 32). And in the same vein, current analyses of the self construe it as experienced and defined in part in relation to significant others, again requiring a transactional dynamic perspective (e.g. Andersen et al 1997). Any personality theory that wishes to be relevant to these areas also needs to take that perspective into account. The message here is easy to misconstrue. Dispositions, no matter how conceptualized, are key aspects of the personality construct. The point is that personality theory needs to analyze dispositions in a way that allows us to understand how individuals interact with situations and, most importantly, to identify and assess the dynamic intra-individual processes that underlie these interactions.
Steps Toward Reconciliation

To reconcile the two approaches to personality requires first an understanding of their differences. Some of these differences sound greater than they are and seem more to be matters of differential emphases and preferred levels of analysis than fundamental incompatibilities. Indeed there are grounds for reconciliation. It has long been recognized that the existence of overall enduring important differences between individuals in such qualities as temperament, chronic mood and affective states, and skills does not necessarily create any theoretical conflict with processing approaches (e.g. Cantor 1994; Mischel 1968, 1973, 1990, 1993; Pervin 1990a,b). Nor are process-oriented approaches incompatible with evidence for substantial genetic contributions to personality. On the contrary, they assume such contributions and incorporate them into the framework (Mischel 1993, Mischel & Shoda 1995).

Rather than denying the importance of individual differences in personality and behavior, processing approaches have helped to identify diagnostic situations in which such differences, for example with regard to aggressive tendencies or self-control abilities, are likely to become particularly visible (e.g. Baumsteiger et al 1993, Shoda et al 1990, Wright & Mischel 1987).

Other process-oriented researchers have examined the stable correlates and consequences of individual differences in such social cognitive person variables as the goals and personal projects pursued over time (e.g. Cantor 1994, Cantor & Fleeson 1994), the person’s beliefs and goal structures (Weary & Edwards 1994), and the type of focus primed in goal pursuit such as gain-oriented versus loss-avoidant (Higgins 1996b,c). They even have probed the implications of the person’s own implicit theories about personality in terms of stable traits versus modifiable processes have and shown the importance of these theories for how individuals experience their worlds and act within them (e.g. Dweck & Legget 1988, Dweck et al 1995; Y Hong, C Chiu & CS Dweck, submitted for publication).

Studies of basic cognitive-attentional processes during self-control efforts in young children in the past decade also have identified dramatic threads of long-term continuity and stability in the course of development (e.g. Mischel et al 1989). The results show significant and substantial links between seconds of delay of gratification in certain diagnostic laboratory situations in preschool and behavioral outcomes years later in adolescence and early adulthood (e.g. Mischel et al 1989, Shoda et al 1990). For example, seconds of preschool delay time significantly predicted verbal and quantitative scores on the Scholastic Aptitude Test (SAT) administered in adolescence (Shoda et al 1990). It also correlated significantly with parental ratings of competencies, including ability to use and respond to reason, planfulness, ability to handle
stress, ability to delay gratification, self-control in frustrating situations, and ability to concentrate without becoming distracted. The preschoolers’ self-control strategies in the delay of gratification situations, in turn, seem to be foreshadowed by the types of strategies they use in certain mother-toddler interactions three years earlier (Sethi & Shoda 1997). Such levels of stability and meaningful networks of associated developmental outcomes seem clearly indicative of long-term personality coherence. They also provide support for the construct of social-emotional intelligence (Cantor & Kihlstrom 1987, Goleman 1995, Mischel et al 1996, Salovey & Mayer 1990). Provocative, albeit still tentative, connections to findings on temperament and attention processes early in life are also emerging (e.g. Rothbart et al 1995).

Moves toward integration also are visible from at least some dispositional theorists who increasingly seem to allow room for the contextualized, situation-bound expressions of traits, and who seek to incorporate motivational and processing-dynamic concepts into their models (e.g. Revelle 1995). In one direction is the trait-state distinction, with emphasis on the state that is evoked with the particular context as influencing the behavior within that situation, whereas the broader trait disposition is seen as underlying the types of states likely to be readily activated within the person. Research in this vein increasingly is aimed at specifying the boundary conditions within which traits will be selectively activated (e.g. Stemmler 1997). Most notably, a quiet but potentially profound transformation may be occurring in the very definition of personality dispositions. For many researchers, the construct seems to be moving away from the global and uncontextualized trait construct, criticized thirty years earlier for the empirically unviable assumption of cross-situational consistency (Mischel 1968), to: “likelihood and rates of change in behavior in response to particular situational cues” (Revelle 1995, p. 315)—a definition independent of cross-situational consistency that any process theorist could happily accept.

A viable theoretical reconciliation requires crossing many conceptual and methodological barriers that underlie the historical divisions. That calls, first of all, for a framework for an adequately rich and comprehensive processing model. Such a framework must be capable of dealing with the complexity of human personality and the cognitive-affective dynamics, conscious and unconscious—both “cool” and “hot,” cognitive and emotional—that underlie the individual’s distinctive, characteristic internal states and external behavioral expressions (see Metcalfe & Jacobs 1998). It also requires a reconceptualization of the situation in psychological terms that captures the interaction of context with the dynamic processing system in the generation of those distinctive behavioral expressions. And it requires a conceptual and methodological bridge from the dynamic processing system that characterizes individuals idio-
graphically (when $N = 1$) to the characterization and classification of dispositional types and subtypes nomothetically (when $N = many$). We consider below some of the most relevant developments.

**Evolving Models of Processing Dynamics**

Attempts to build a theory of processing dynamics that respects the complexity of the human mind and its often contrary, conflictful, perplexing behavioral expressions, in the tradition pioneered by Freud and advanced over the century by such theorists as Henry Murray, Gardner Murphy, Kurt Lewin, and George Kelly, continue and seem to be having a resurgence in contemporary personality-social psychology (see Cervone 1991, Gollwitzer & Bargh 1996, Higgins & Kruglanski 1996, Mischel et al 1996, Pervin 1990a,b). Although there are many differences among particular processing models in specific variables, they share a focus on the social-cognitive-emotional mediating processes that underlie, motivate, and guide behavior. Many use language and theoretical constructs that draw extensively on social, cognitive, and social learning theories and concepts as well as on self theories and research (e.g. Bandura 1982, 1986; Baumeister & Heatherton 1996; Cantor 1990, 1994; Dodge 1986, 1993; Downey & Walker 1989; Dweck & Leggett 1988; Fiske & Taylor 1991; Higgins 1987, 1996b,c; Kihlstrom & Cantor 1984; Markus & Kitayama 1991; Mischel 1973, 1990; Scheier & Carver 1988a,b; Shoda & Mischel 1993; Vallacher & Wegner 1987). They tend to be predominantly "social cognitive" in their theoretical language, but they also are sensitive to the role of automatic and unconscious processing (e.g. Kihlstrom 1987, 1990; Uleman & Bargh 1989) and to the goals and motivations that underlie behavior (e.g. Gollwitzer & Bargh 1996, Pervin 1989, Read & Miller 1989a,b, Westen 1990) in interaction with the situation or psychological context.

Most of these approaches draw heavily on information processing models and it is here that some particularly exciting developments for personality theory have unfolded. In recent years models of information processing have become available that promise to have some of the richness and complexity needed to make them relevant for a dynamic conception of personality. Going beyond the “cool cognitions” of the early models based on serial, central, and logical computing analogues, they take account of the fact that personally important information processing is affect-laden, encompassing not just cool cognitions but hot representations and emotional states (e.g. Kahneman & Snell 1990, Smith & Lazarus 1990) that impact profoundly on decisions and behaviors (e.g. Mischel & Shoda 1995, Wright & Mischel 1982).

A key development that makes such processing models germane for the analysis of cognitive-affective personality dynamics is a shift in their focus. The focus now is not just on how much of a particular unit (e.g. self-efficacy expec-
tations or anxiety states or achievement goals) a person has, but also on how the units relate to each other within that person, forming a unique network of interconnections that functions as an organized whole. Such a dynamic interacting processing system can operate rapidly in parallel at multiple levels of accessibility, awareness, and automaticity, able to exceed the limitation of conscious awareness (Kihlstrom 1990). It goes beyond the conceptualization of the individual as a bundle of mediating variables or as a flow chart of discrete procedures and decision rules to a more parallel and distributed (rather than serial, centralized) processing system. It is also congruent with the insights coming from cognitive neuroscience in the past decade, such as the neural network theories and connectionist models (e.g. Anderson 1996, Kandel & Hawkins 1992, Rumelhart & McClelland 1986). The unifying theme is that the key to complex human information processing is in the organization of the relationships among the units through which they are interassociated. These developments make it possible to begin to conceptualize social information processing as a dynamic organized network of interconnected and interacting cognitions and affects (e.g. Kunda & Thagard 1996, Read & Miller 1998, Shoda & Mischel 1998, Shultz & Lepper 1996), operating at various levels of awareness (e.g. Westen 1990).

AN EMERGING CONCEPTION OF THE INDIVIDUAL: THE COGNITIVE-AFFECTIVE PERSONALITY SYSTEM

Growing out of these contributions, a unifying framework has emerged (articulated in Mischel & Shoda 1995) called the cognitive-affective processing system approach, reviewed next.

**Individual Differences in Chronic Accessibility of Units**

In the cognitive-affective personality system (CAPS) approach, individual differences are seen as reflecting in part difference in the chronic accessibility or activation levels of the particular mental-emotional representations—the cognitions and affects—the person has available. For twenty-five years these types of cognitive-emotional mediating units have been conceptualized in terms of five relatively stable person variables on which individuals differ in processing self-relevant information (Mischel 1973). In the intervening years, these units have been enriched, modified, and supplemented by extensive research (reviewed in Mischel & Shoda 1995, Mischel et al 1996) and are summarized in Table 1. These units refer to various types of mental events—thoughts and affects—that become activated characteristically and stably within a given individual in relation to certain features of situations or of the self.

Note that affects and goals, as well as encodings, expectancies, and beliefs, and competencies and self-regulatory plans and strategies constitute the types
of units within the CAPS system. Individual differences in chronic accessibility are reflected in the finding that, for example, some individuals tend to encode ambiguous negative events as instances of personal rejection (e.g. Downey & Feldman 1996), whereas others may be prone to feel angry even when they hear a mumbled greeting (e.g. Dodge 1993), and others characteristically experience irritability and distress (e.g. Eysenck & Eysenck 1985).

Individual Differences in Stable Organization of Relations

In this type of CAPS model, stable individual differences also, and importantly, reflect the distinctive organization of relationships among the cognitions and affects, which characterizes how they change in their salience, or activation, over time and in relation to different situations. It is this organization that guides and constrains the activation of the particular cognitions, affect, and actions that are available within the system in relation to one another and to situational features. And it is this organization that constitutes the basic stable structure of personality and that underlies and reflects the person’s characteristic distinctiveness. This stable organization or network of interrelations is conceptualized as the product of the individual’s cognitive social learning history in interaction with the biological history, such as temperamental, and genetic-biochemical determinants (e.g. Plomin et al 1994, Posner 1997, Rothbart et al 1994, Wachs & King 1994).

The stable structure of personality emerges in the course of development, and it reflects both experience and genetics, generating the distinctive stable patterns of behavior characteristic of the individual (Mischel & Shoda 1995). The system is intrinsically interactive with the social world in which it is contextualized, and it is continuously activated, partly by external features, partly by its own internal cognitive and affective activities—such as its fantasy, daydreaming, planning, and self-regulatory attempts (Mischel et al 1996, Shoda & Mischel 1998). In turn, the behaviors that the personality system generates im-

<table>
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<th>Table 1</th>
<th>Types of cognitive-affective units in the personality mediating system</th>
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<tbody>
<tr>
<td>1. Encodings: Categories (constructs) for the self, people, events, and situations (external and internal).</td>
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<tr>
<td>2. Expectancies and Beliefs: About the social world, about outcomes for behavior in particular situations, about self-efficacy.</td>
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<tr>
<td>4. Goals and Values: Desirable outcomes and affective states; aversive outcomes and affective states; goals, values, and life projects.</td>
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<tr>
<td>5. Competencies and Self-Regulatory Plans: Potential behaviors and scripts that one can do, and plans and strategies for organizing action and for affecting outcomes and one’s own behavior and internal states.</td>
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pact on the social world, partly shaping and selecting the interpersonal situations the person subsequently faces in a dynamic transaction (Buss 1987).

To recapitulate, the CAPS analysis begins with the assumption that individuals differ stably in the chronic accessibility or activation levels of the particular mental representations available to them (e.g. Higgins 1996a, Higgins & Bargh 1987, Mischel 1973) but adds a second assumption—namely, stable individual differences in the distinctive organization of relationships among the cognitions and affects available in the system. The latter is consistent with the emerging connectionist models of social information processing (Read & Miller 1994) as well as with contemporary models of the biological bases of human information processing (e.g. Anderson 1996, Rumelhart & McClelland 1986) and of the brain (e.g. Crick & Koch 1990, Churchland & Sejnowski 1992, Edelman 1987, Kandel & Hawkins 1992).

Dynamic, Transactional System: The Active/Proactive Person

A schematic, highly simplified illustration of such a personality system is in Figure 1, which shows that a personality system is characterized by the available cognitive and affective units (Table 1), organized in a distinctive network of interrelations. When certain configurations of situation features are experienced by an individual, a characteristic subset of cognitions and affects (shown schematically as circles) becomes activated through this distinctive network of connections in the encoding process. Within any individual a rich system of interconnections among the cognitive and affective units guides and constrains further activation of other units throughout the network, ultimately activating plans, strategies, and potential behaviors in the behavior generation process. Within each person, the organization of this system is assumed to be stable and unique. In this type of system, mediating units become activated in relation to some situation features, are deactivated or inhibited in relation to others, and are not affected by the rest. That is, the connections among units within the stable network that characterizes the person may be positive, increasing the activation, or negative (shown as broken lines in Figure 1), which decreases the activation. It should be evident that in this view the personality system is active and indeed proactive, not just reactive—a system that anticipates, influences, rearranges, and changes situations as well as reacts to them. Thus the personality system and the behavior it generates selects, modifies, and shapes the environment in reciprocal transactions (see Mischel & Shoda 1995, Figure 5, p. 264).

Incorporating Context

One important implication of this view of personality is that individuals may differ characteristically in the particular situational features (e.g. being teased,
being approached socially) that are the salient active ingredients for them (Mischel & Shoda 1995). When they are present, they activate the individual’s distinctive dynamics, i.e., their predictable characteristic pattern of cognitive, affective, and behavioral reactions to those situations. However, these dynamics are not just activated by external features of situations (as when milk that is spilled on an adolescent in line at the cafeteria is encoded as a violation) (cf Dodge 1993) but also by feedback from one’s own cognitions and affects activated by such internal events as one’s affective state and thoughts, such as “when sad,” “when lonely” (Wright & Mischel 1988), and from situations that are simply imagined or anticipated (e.g., Cantor et al 1982). Thus, to reiterate, there also are internal feedback loops within the system through which self-generated stimuli (as in thinking, fantasy, daydreaming) activate their distinctive pathways of connections (e.g., Shoda & Mischel 1998). The behaviors the person constructs may in turn affect the interpersonal environment and social ecology, which changes the situational features that are encountered subsequently, in continuous transactions, that connects the behavioral patterns constructed by the personality system back to the situations encountered (e.g., Dodge 1986, 1993, 1997a,b).

The System in Action: Identifying Dynamics and Linking Them to Dispositional Types

To illustrate such a system in action, consider a person for whom potentially conflictful social interactions reliably activate rejection expectancies. When beginning to discuss a troublesome relationship issue with a romantic partner, for example, the individual’s anxious expectations thus trigger scripts such as scanning for evidence of imminent rejection and focusing on those features of the situation most likely to provide such evidence (Downey & Feldman 1996). These expectations, affects, and behaviors interact and combine to lower the individual’s threshold for perceiving rejection. Ambiguous partner behavior thus may be perceived as rejection, leading, within this distinctive processing system, to the activation of behavioral scripts for hostility (Ayduk et al 1997). The individual’s enacted hostility can elicit partner rejection and, ultimately, relationship erosion, thus fulfilling and maintaining rejection expectations in a positive feedback loop reflecting dynamic interaction between the individual’s cognitive-affective processing system and features of the environment (Downey et al 1997). Note that behavior generation ultimately depends both on the situational features and on the cognitive-affective organization of the system. When the relevant situational features are present, characteristic processes become activated in a predictable pattern.

A particular noteworthy characteristic of this pattern is that hostile behavior becomes activated specifically in relation to perceived rejection from a roman-
Figure 1  Simplified illustration of types of cognitive-affective mediating processes that generate an individual's distinctive behavior patterns. Situational features activate a given mediating unit (the encoding process), which activates specific subsets of other mediating units through a stable network of relations that characterize an individual, generating distinctive cognition, affect, and behavior in response to different situations. The relation may be positive (solid line), which increases the activation, or negative (dashed line), which decreases the activation. (Adapted from Mischel & Shoda 1995, Figure 4, p. 254.)
tic partner. The same individual can behave exceptionally caringly in other situations (e.g. early in the relationship). Linking this type of processing dynamic to the dispositional construct—in this case rejection sensitivity (Downey & Feldman 1996)—requires identifying the people who share these cognitive-affective unit organization by assessing the similarity in the if...then patterns that characterize them in their intimate relationships (Downey & Feldman 1996, Wright & Mischel 1987). Such a strategy allows construction of dispositional taxonomies based on the shared dynamic processes that underlie the distinctive if...then behavioral signatures that can distinguish a particular dynamic prototype.

This example illustrates that although intra-individual dynamics exist within a given individual, they need not just be studied idiographically with \( N = 1 \). By categorizing dynamics into types, one can work at a level when \( N = \) many, applying an idiographic person-centered framework to do nomothetic research (Shoda et al 1994). This approach allows one to focus not just on the average overall differences between persons on particular dimensions but also on the characteristic ways they behave distinctively in relation to particular types of contexts. Note also that observers’ dispositional judgments in fact depend on the if...then patterns in which the behavior unfolds in context (Shoda et al 1994), not just on the mean level of a type of behavior observed (e.g. average level of friendly behaviors). If the pattern changes, so does the dispositional judgment (Shoda et al 1989).

COMPLEX BEHAVIORAL EXPRESSIONS OF THE PERSONALITY SYSTEM’S STABILITY

By definition, an information processing system like CAPS is sensitive to changing external and internal conditions. Just as one can say that “if it changes, it must be processes” (Folkman & Lazarus 1985), the reverse in this case may be true: If it is a processing system, then it must respond to changing conditions. But an important and often unrecognized point here is that changes in the behavioral expression of a processing system do not imply that the structure of the system itself is unstable or inconsistent. An extremely stable pattern and organization may characterize and constrain the surface changes in the individual’s behavior. As in a musical piece, the notes played at any moment may change, but they follow a pattern that reflects the underlying structure of the composition. Thus the consistency and stability in the underlying structure of the processing system may be reflected in patterns of change in the observable behavior (Larsen 1989). During the past decade, several empirical approaches to operationalizing consistency at a higher level have been proposed and explored, as indicated below.
Variations Across Situations: Stable Individual Differences in Situation-Behavior If...Then Relations

It follows from the assumptions of the CAPS model that the behavioral variation in relation to changing situations in part constitutes a potentially meaningful reflection of the personality system itself. Whereas different cognitions, affects, and behaviors become activated as the situation and its features change, the interconnections among them remain unchanged across situations. That is, the personality system determines the relationships between the types of situations encountered and the cognitive, affective, and behavioral responses. As the if’s change, so do the then’s, but the relationship between them is stable as long as the personality system remains unchanged.

This assumption leads this approach to expect characteristic, predictable patterns of variation in the individual’s behavior across situations. If personality is a stable system that processes the information about the situations, external or internal, then it follows that as individuals encounter different situations, their behaviors should vary across the situations, reflecting important differences among them in their psychological by active features (Mischel & Shoda 1995). Over time this will generate distinctive if...then situation-behavior profiles of characteristic elevation and shape like those illustrated in Figure 2. To illustrate with a simple example, suppose that in situation A people rarely initiate personal interactions, whereas in situation B such interactions are relatively frequent. Suppose also that Person 1 tends to become irritated when she thinks she is being ignored, whereas person 2 is happier when he is left alone, and even becomes irritated when people tell him personal stories. Then Person 1 will become irritated in situation A, but not in situation B; Person 2 will show the opposite if...then pattern, irritated in situation B but not in A. These affects further activate other cognitions and feelings in each situation, following the pathways of activation distinctive for each person. These individual differences reflect the particular acquired meanings of the situational features in terms of the cognitions and affects associated with them, so that even if both people are similar in their overall levels of “irritability,” they will display distinctive, predictable patterns of behavioral variability in their if...then signatures.

Consistent with the clinical wisdom of such classic processing theories as Freud’s conception of psychodynamics, clues about peoples’ underlying processing dynamics and qualities—the construals and goals, the motives and passions, that drive the individual—may be seen not only in its overall average frequency but also in when and where the person manifests a type of behavior. In short, this type of model expects that the stable patterns of situation-behavior relationships that unfold provide a key to the personality—an expression of personality coherence, not a source of error to be eliminated systemati-
cally by aggregating out the situation. It thus broadens the concept of the invariances in the expression of personality to include the profile of situation-behavior relations that might characterize the person, not just the overall average level of particular types of behavior aggregated across diverse situations.

Empirical Evidence for Stable If...Then Profiles

These theoretical expectations have received direct empirical support in a series of studies of the social behavior (e.g. “verbal aggression,” “compliance”) of children who were systematically observed in relation to the interpersonal situations in which the behavior occurred in vivo in a residential summer camp setting (e.g. Shoda et al 1993a, 1994). To illustrate, some children were found to be consistently more verbally aggressive than others when warned by an adult but were much less aggressive than most peers when peers approached them positively. In contrast, another group of children with a similar overall average level of aggression were distinguished by a striking and opposite pattern: They were more aggressive than any other children when peers approached them positively, but were exceptionally unaggressive when warned by an adult. To test the overall hypothesis, the profile stabilities for each individual were ipsatively computed, and the statistical significance of the group mean stability was tested. The results were highly significant for such behaviors as verbal aggression and compliance (Shoda et al 1994).

It is noteworthy that in classic trait approaches to behavioral dispositions, such intra-individual variations in a type of behavior across situations (after
the main effects of situations are removed by standardization) is assumed to reflect only intrinsic unpredictability or measurement error. From that perspective, the stability of the intra-individual pattern of variation should on average be zero. The obtained findings obviously contradict this expectation and reveal that meaningfully patterned behavioral expressions of personality, contextualized within particular situations, characterize individuals. They yield distinctive profiles of variability for particular types of behavior, forming a behavioral signature of personality (Shoda et al. 1994). Note that such profiles, illustrated in Figure 2, have a meaningful shape as well as elevation. They reflect when a given individual becomes particularly angry or depressed, anxious or relieved, in a stable pattern, such as the following: He A when X but B when Y, and does A most when Z. Ironically, by focusing on the effects of the situation on the organization of behavior in depth and detail it became possible to find this second type of personality stability, enriching rather than undermining the personality construct.

Behavioral Roots of Self-Perceived Consistency

Recent evidence shows that these more-complex manifestations of personality stability and coherence also are linked to self-perceptions of consistency. It is noteworthy that the individual’s self-perception of consistency with regard to a dimension of behavior or trait in recent research has been related to the intra-individual if...then profile stability, not to the level of cross-situational consistency. This was found in a reanalysis by Mischel & Shoda (1995) of the Carleton College field study (Mischel & Peake 1982). In that study, college students were repeatedly observed on campus in various situations relevant to their conscientiousness in the college setting (such as in the classroom, in the dormitory, in the library), assessed over repeated occasions in the semester. Students who perceived themselves as consistent did not show greater overall cross-situational consistency than did those who perceived themselves as variable in conscientiousness.

Mischel & Shoda (1995) reexamined those data to test the hypothesis that the students’ self-perceptions of consistency would be related to the stability of their situation-behavior profiles. As the first set of two columns of Figure 3 show (and as reported in Mischel & Peake 1982), those who perceived themselves as consistent (the first light column) did not show greater overall cross-situational consistency than those who did not. Note, however, that for individuals who perceived themselves as consistent (the second set of columns), the average situation-behavior profile stability correlation was near 0.5, but it was trivial for those who viewed themselves as inconsistent. It is the stability in the situation-behavior profiles, not the cross-situational consistency of behavior, that seems to underlie the perception of consistency.
In sum, such stable situation-behavior profiles reflect characteristic intra-individual patterns in how the person relates to different psychological conditions, forming a sort of behavioral signature of personality (Shoda et al. 1994). Most striking is not so much that this type of behavioral signature of personality exists but rather that it has so long been treated as error and purposefully removed by simply averaging behavior over diverse situations. Whereas such aggregation was intended to capture personality, it actually can remove data that can alert us to the individual’s most distinctive qualities and unique intra-individual patterning.

The Personality Paradox Demystified

The types of if...then situation-behavior relations that a dynamic personality system like CAPS necessarily generates has important implications for the field, particularly the classic “personality paradox” (Bem & Allen 1974). As Bem & Allen noted two decades ago, on the one hand, the person’s behavior across situations yields only modest cross-situational consistency coefficients (Hartshorne & May 1928, Newcomb 1929), but on the other hand, personality theory’s fundamental assumption, and our intuition, insist that personality surely is stable (e.g. Bem & Allen 1974; Heatherton & Weinberger 1994; Krahe 1990; Mischel 1968; Moskowitz 1982, 1994).

This paradox dissolves, however, by recognizing that the variability of behaviors within individuals across situations is neither all “error” nor is it “due to the situation rather than to the person.” Instead, it is at least partly an essential expression of the enduring but dynamic personality system itself and its stable underlying organization. Thus the person’s behaviors in a domain will necessarily change from one type of situation to another because when the if changes, so will the then, even when the personality structure remains entirely unchanged. Just how the individual’s behavior and experience change across situations is part of the essential expression of personality (Mischel & Shoda 1995) and becomes a key focus for personality assessment. From this perspective, the person’s ability to make subtle discriminations among situations and to take these cues into account in the self-regulation of behavior in order to adapt it to changing situational requirements is a basic aspect of social competence, not a reflection of inconsistency (Chiu et al. 1995, Shoda et al 1993a).

This type of discriminative facility seems to be a component of social intelligence, a sensitivity to the subtle cues in the situation that influences behavior. Such discriminative facility, for example, by encoding spontaneously social information in conditional versus global dispositional terms, was found to predict the quality of the person’s social interaction (Chiu et al. 1995). Indeed such discriminative facility is an index of adaptive behavior and constructive func-
tioning, whereas consistency regardless of subtle contextual cues can be a sign of rigidity (Chiu et al. 1995).

Redefining Situations in Terms of Active Psychological Ingredients: The Ifs and Thens of Personality

Situations have been difficult to incorporate into personality theory in part because they have been defined in nominal rather than psychological terms (e.g. “playground,” “arts and crafts”). Specific nominal situations, like school playground, however, may provide information about individual differences only
in relation to such specific places and be of limited interest if they are not generalizable beyond them.

In the CAPS approach, one seeks to analyze situations in terms of their *active ingredients* or *psychological features*, i.e. those in relation to which the person’s characteristic dynamics become activated (Mischel & Shoda 1995, Shoda et al 1994). In the case of rejection-sensitive individuals (Downey & Feldman 1996), for example, such features include criticism or lack of attention in the context of an intimate relationship. In the presence of those diagnostic psychological ingredients, regardless of the nominal setting (at school, at home), the characteristic dynamics and their typical behavioral expressions should become activated and predictable. For example, individuals characterized by dynamics in which angry feelings and aggressive impulses become activated in relation to aversive and frustrating experiences tend to show their prototypic behavior depending on competency demands of the situation (Wright & Mischel 1987). By identifying and classifying diverse nominal situations in terms of their functional equivalence with regard to psychological features (e.g. the types of competencies they demand), it becomes possible to specify the types of diagnostic conditions in which characteristic dynamics and their behavioral expressions will be seen.

To identify such potentially diagnostic *ifs*, one can analyze the open-ended descriptions provided by people who know each other well (Wright & Mischel 1988). Such analyses suggest that even children tend to spontaneously qualify their characterizations of people they know well with conditional modifiers. These modifiers point to the psychological circumstances, both interpersonal (e.g. when teased by peers) and intrapsychic (e.g. when mad) in which the individual’s characteristic behaviors (e.g. verbal aggression) are expressed and contextualized.

In addition to identifying the relevant *ifs*, an analysis of intra-individual dynamics also requires specifying the *thens*. Research from many directions is providing relevant strategies for the assessment of experiences and behaviors (Cervone & Williams 1982, Mischel 1993, Mischel et al 1996). The strategies encompass systematic time sampling of tasks, behavior, and perceptions at the moment in the everyday course of life (e.g. Cantor et al 1991, Moskowitz et al 1994), self-reports of reactions to daily stressors (e.g. Bolger & Shilling 1991), sampling of physical symptoms and emotional reactions to them (Larsen & Kasimatis 1991) as well as records of personal strivings and well-being (Emmons 1991), and therapeutic interventions to facilitate emotional processing of traumatic events (Fo& Riggs 1993). All these methods allow systematic analyses of the types of *ifs* and *thens* significant in the lives of individuals, relevant to different characteristic behavioral patterns generated by the underlying system.
Stable Patterns of Change over Time

Evidence for stability in the patterning of change also comes from studies of the frequency and regularity of daily mood changes over time when individuals are assessed repeatedly (Larsen 1987, 1989). For example, some college students reliably exhibit a pronounced weekly pattern of change in their affects, while others do not (Larsen & Kasimatis 1990). And for some individuals, different affects covary over time so that on some days they might experience most of the negative affects, while on others the positive affects occur. Other individuals, however, are characterized by the fact that their affects do not covary to a high degree, so that on some days they may be happy but not necessarily contented, and on other days they are sad but not angry. Such differences in the degree to which distinct affects covary in turn have been related to emotional reactivity, and among men to psychosomatic complaints (Larsen & Cutler 1996). In a related direction, research by Cantor and colleagues has pioneered ways to make visible the types of psychosocial dynamics that underlie the coping process as people pursue their life projects over time (e.g. Cantor & Fleeson 1994).

CROSSING THE GAP?

So far we have considered the links from dynamics to dispositions. It is, of course, also possible to reconcile the two approaches to personality by starting on the other end and trying to identify the dynamic processes that characterize members of dispositional types. Such a route is particularly appealing to the degree that there is consensus about the dispositional types themselves. Historically and currently such consensus is widely seen as essential for the field of personality psychology. Indeed, the subjective sense of well-being in the field has swung over the years in a series of cycles from depression to euphoria, back and forth, in direct relation to the perceived degree of agreement achieved (or claimed) for that consensus.

From Dispositions to Dynamics

The most popular candidate for such consensus and durability in recent years has been the Big Five approach. Hailed by its enthusiasts as a quiet revolution (e.g. Goldberg 1992), its claim of an achieved consensus for representing the structure of different personalities in terms of the Big Five factors has been widely embraced. This reception is understandable in a field tired of self-criticism and eager to go beyond a potentially endless array of intercorrelated personality constructs to a small set of factors or basic dispositions. Consequently, the Big Five provides a promising taxonomy that could be linked to
the types of processing dispositions conceptualized within the CAPS approach. This connection certainly merits exploration.

Concurrently, however, there also are signs of disagreements in the consensus, and growing concern about the limitations of the approach. In a special journal issue devoted to an analysis of current trait theory and the Big Five approach, for example, Pervin (1994) reviews the claims about the Big Five (e.g. Brody 1988, Goldberg 1993, Wiggins & Pincus 1992) and finds them remarkably discrepant from the data. Pervin’s critique is only one strong voice in a chorus of many, all expressing diverse concerns lest the contributions of this approach be lost among the exaggerated and even preemptive claims made by overenthusiastic advocates. Especially worrisome is the slippage from the summary meaning of trait terms to the causal-explanatory meaning that seems to have developed as the Big Five, originally presented as psycholexical descriptive dimensions about behavior, metaphorphize into the basic units used to explain what underlies and generates those behaviors (see also John & Robins 1993, McAdams 1992). Localizing someone in the factor space defined by psycholexical dimensions does not necessarily help to explain and predict why and when a person behaves in characteristic ways. The goal of explanation in personality psychology includes understanding the intra-individual psychological mediating dynamic processes that underlie individual differences. As Block put it, after a penetrating critique of the Big Five on conceptual, empirical, and methodological grounds, “my final most ambitious suggestion is that, in the conceptual/empirical arguments to be made for specific dimensions, of whatever number, these constructs be situated within a coherent, intra-individual theoretical framework” (emphasis in original) (1995, p. 210).

Because the Big Five are cast at a highly general, global, unconditionalized level, it is understandable that their empirical links to specific behavioral outcomes, such as performance measures, are modest. Relevant to this, for example, Pervin (1994) questions Goldberg’s (1993, p. 31) assertion that “reviews of the literature have concluded that personality measures when classified within the Big-Five domains, are systematically related to a variety of criteria of job performance” and that they are “valid predictors” that show incremental validities over measures of cognitive ability for predicting job proficiency. To illustrate, the best correlations averaged 0.22 for conscientiousness (for the other four trait factors the estimated true correlations ranged from 0.00 to 0.18). To those who still remember how those types of correlations felt when they were first noted in 1968 (e.g. Mischel 1968, Peterson 1968), not to mention earlier (e.g. Vernon 1964), Pervin’s conclusion will seem familiar: “What is clear… is that the personality measures did not show incremental validity over measures of cognitive ability for the measures of core job proficiency…. In areas such as this, I’m still not sure that we have gone much beyond the .30
correlation barrier between trait measures and measures of behavior” (1994, p. 108).

However, such critiques may apply only to the degree that dispositional approaches focus on traits at a very high level of abstraction in which they are not contextualized in relation to the situations in which they function. While the trait construct seems to have become less global and more contextualized for some personologists (e.g. Baumeister et al 1993, Bornstein et al 1996, Larsen 1989, Revelle 1995, Stemmler 1997), such movement toward the conditionalization of dispositions is, of course, contradicted to the degree that researchers focus exclusively on the abstract, broad level of analysis of the Big Five approach without also incorporating more contextualized levels and dispositional subtypes.

The encouraging news, however, for the goal of reconciling dispositional and processing approaches is that a number of researchers are showing how dispositions like those in the Big Five can be analyzed in terms of the cognitive-affective process dynamic characteristic of them. For example, attempts to forge a link between trait and process orientations to personality are exemplified in research by Bolger to delineate several of the processes whereby neuroticism leads to heightened distress (Bolger 1990, Bolger & Schilling 1991, Bolger & Zuckerman 1995). In a series of studies using a daily diary methodology, Bolger and colleagues (1996) found that neuroticism affects distress through increasing both exposure and reactivity to stressful events, especially interpersonal conflict. Furthermore, neuroticism-related differences in reactivity seem to be due in part to differential choice of coping efforts (e.g. high neuroticism people were more likely to use confrontative coping) and differential effectiveness of those efforts (e.g. when used by high neuroticism people, self-control was ineffective in reducing depression).

The search for types of people who differ in the types of behavior they show in relation to different types of situations is also facilitated by a triple typology model and methodology developed by Vansteelandt & Mechelen (1997). Drawing on the conditional analysis of dispositions proposed by Wright & Mischel (1987) and Mischel & Shoda (1995), the triple typology model of individual differences yields typologies of person, situation, and behavior classes. Their method simultaneously identifies clusters of people, situations, and behaviors such that each cluster of people is characterized by distinctive if...then relations, using the clusters of situation identified as the units of ifs and the clusters of behaviors identified as the units of thens. This method makes it possible, for example, to differentiate subtypes of hostile people in terms of the types of hostile behavior they are likely to manifest in different types of frustrating situations (Vansteelandt & Mechelen 1997).
Genetic Determinants of Cognitive-Affective Dynamics

The individual’s cognitive-affective processing system arises in the course of development from a foundation that is both biochemical and psychosocial, genetically guided, as well as shaped by experience and learning in the course of development (Mischel & Shoda 1995). To link processing dynamics and predispositions requires clarifying not only the structure and organization of the cognitive-affective-behavioral processing system but also its biochemical-genetic foundations (Saudino & Plomin 1996). These individual differences in genetic foundations presumably affect how people construe or encode—and shape—their environments, which in turn produce important person-context interactions throughout the life course (Plomin 1994, Plomin et al 1997, Rutter 1997, Saudino & Plomin 1996). Dispositions like those identified in the Big Five approach may be a useful step in that direction, a promising guide for where to look, but it is unlikely to be the conclusion.

The study of the biochemical foundations of dispositions, although still at an early phase, already points to some temperamental characteristics that seem particularly important influences on the structure and organization of CAPS. These largely heritable characteristics, such as activity level, visible early in development, seem particularly relevant to the person’s emotional life (e.g. Bates & Wachs 1994, Buss & Plomin 1984, Plomin et al 1990), and they are likely to have important, albeit complex, links to emotional-attentional-self-regulatory processes (e.g. Posner 1997, Rothbart et al 1994, 1997). Theoretically, these influences should be manifested not just in the mean levels of particular types of behavior as traditional dispositional approaches expect, but also in the patterns of stable if...then relations in which they are expressed, as dynamic processing approaches predict, in ways that are contextualized and interactive with features of situations.

Personality as a Unified Field

To the degree that the boundary between dispositional and process approaches to personality becomes fuzzy and even evaporates, there are theoretical implications for the study of personality that need to be made explicit. Suppose, for example, that the if...then relationship, rather than the unconditionalized global trait, becomes a basic unit in personality assessment and theory. Then the analyses of just how and why variation in the situation is predictably linked to variation in the characteristic response pattern distinctive for the person becomes a fundamental route for personality assessment. That requires recognition of the high cost of decontextualizing personality. It highlights the need for collaboration rather than confrontation with disciplines bifurcated from personality psychology, such as cognitive and social psychology, by a historical
definition of personality that pits it against the situation rather than rooting it within it.

Traditionally, the “situation” has been deliberately eliminated in the assessment of personality in order to distill those stable aspects that characterize the individual, no matter what the context, i.e. across diverse situations. From that perspective, the analysis of situations and of what determines behavior within them becomes the province of social psychology (pioneered by Floyd Allport), whereas the study of individuals and individual differences regardless of the situation becomes the mission of personality psychology, founded by Gordon Allport (the other brilliant brother in the team that created this partition of the two fields). This division seems to have served both disciplines well for many of their early years, but it may have outlived its usefulness, with the boundaries becoming increasingly fuzzy as social psychologists focus on person-situation interactions and personality psychologists incorporate the role of situations into the analysis of dispositions (e.g. Higgins & Kruglanski 1996).

As Gordon Allport (1937, p. 61) emphasized since the start of the field, the stable intra-individual patterns that characterize each person are at the core of personality, yet curiously much of modern personality psychology has searched for dispositions while losing those internal processes and dynamics. The two goals of personality psychology, to understand both dispositions and dynamics, have long had separate histories driven by different conceptions and commitments, more in competition than in the service of building a cumulative coherent science of personality. Might both goals be enhanced if pursued as two sides of the same unitary system within one field?

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