

On Traits, Situations, and Their Integration: A Developmental Perspective

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The question of whether the person or the situation is largely responsible for behavior has plagued psychology intermittently for the last half century. Studies of the heritability, stability, and consensual validity of traits have clearly demonstrated the existence of traits. However, there is continuing controversy about the role of traits and situations in the enterprise of personality psychology. The goal of this article is to describe how insights yielded from adopting a developmental approach can foster the successful integration of the person and the situation across the life span. Five key lessons are described: (a) age matters—studying different age groups can lead to biases for and against traits and situations; (b) if age matters, time matters more—longitudinal and within-participant designs demonstrate that traits and situations are reciprocally related; (c) examine multiple types of change—focusing on one type, such as mean-level change, can lead to inappropriate conclusions about the merits of persons or situations; (d) be sensitive to levels of analysis—the relative breadth of persons and situations may determine the relative influence of the two; (e) pay attention to process—process models lead inextricably to transactional explanations.

The question of whether human behavior is shaped largely by internal attributes or largely by the environment has generated much controversy in a number of areas of psychology as well as in other fields, such as sociology and biology (Pinker, 2002). Within personality and social psychology, arguments over the power of the person versus the situation in the form of the person–situation debate (e.g., Block, 1968; Mischel, 1968) peaked in the 1960s and 1970s and persisted in smaller form thereafter. Recently, a smaller version of the person–situation debate was revisited among investigators concerned with personality development (Caspi & Roberts, 2001; Lewis, 2001a, 2001b; Roberts & Caspi, 2001). We were surprised by the restatement of the original ideas behind person–situation debate given the progress made in personality psychology over the last two decades and the intermittent attempts to find common ground on the debate (e.g., Baumeister, 1999; Kenrick & Funder, 1988; McAdams, 1994; Mischel & Shoda, 1999).

Moreover, it seemed to us that in the intervening years since 1968 that the accumulated body of empiri-

cal evidence provided strong support for the utility of traits. It is now generally accepted that there is a workable taxonomy of traits in the Big Five (e.g., Goldberg, 1993) that can be generalized across a number of cultures (McCrae & Costa, 1997). Personality traits demonstrate remarkably high levels of test–retest continuity over time and age (Roberts & DelVecchio, 2000) and appropriate levels of cross-situational consistency (Funder & Colvin, 1991). It is also widely acknowledged that personality traits predict a number of important social outcomes, including job performance, status, and satisfaction (Judge, Higgins, Thoreson, & Barrick, 1999), relationship satisfaction (Robins, Caspi, & Moffitt, 2000), divorce (Cramer, 1993), delinquency (Miller & Lynam, 2001), personality disorders (Widiger, Verheul, & van den Brink, 1999), self-esteem (Robins, Tracy, Trzesniewski, Gosling, & Potter, 2002), health (Friedman, 2000), and even longevity (Friedman, Tucker, Tomlinson-Keasey, Schwartz, Wingard, & Criqui, 1993). Increasingly, one even finds personality traits being used in conjunction with experimental methods to better understand phenomena such as social power (Anderson & Berdahl, 2002); the effect of anticipated public settings on stereotyping (Lambert et al., 2003); and cognitive processes, such as inhibitory control (Logan, Schachar, & Tannock, 1997).

Despite the accumulated evidence for the utility of traits and the burgeoning practice of using traits in experimental designs, there remains an undercurrent of dissatisfaction with traits and the perception that they are not

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amenable to process-oriented models. For example, a special issue of *Psychological Inquiry* was dedicated to a criticism of traits as being static and lacking dynamic qualities (Pervin, 1994). New theoretical perspectives in personality psychology have defined themselves, in part, in opposition to the “invariant” nature of personality traits (Mischel & Shoda, 1995). In the recent *Handbook of Personality Psychology: Theory and Research*, at least three different essays criticized the scientific utility of traits (Bandura, 1999; Cross & Markus, 1999; Lewis, 1999) and an additional essay pointed out their lack of ability to predict behavior (Weibe & Smith, 1997). More pointed arguments have been made that traits lack scientific utility and should be replaced with social cognitive approaches to understanding personality (Cervone & Shoda, 1999; Zelli & Dodge, 1999). In addition, the Big Five trait domains were characterized as monolithic and invariant means (Cervone, Shadel, & Jencius, 2001). Clearly, there remains an undercurrent of dissatisfaction with our ability to integrate traits and situations and to tie the two together in a process-oriented manner.

Our goal for this article is to outline how a developmental perspective can facilitate the creation of constructive, process-oriented models of traits, situations, and their integration. Developmental psychologists have struggled with similar issues for several decades, as have scholars from other fields such as environmental psychology (Friedman & Wachs, 1999; Walsh, Craik, & Price, 2000). What they have learned, as well as what we have learned conducting longitudinal research, can aid in developing a more integrated perspective on traits, situations, and the processes that link the two.

In this vein, we describe five developmental lessons. First, age matters; studying different age groups can lead to biases for and against traits and situations. Second, if age matters, time matters more; longitudinal and within-participants designs demonstrate that traits and situations are reciprocally related. Third, examine multiple types of change; focusing on one type, such as mean-level change, can lead to inappropriate conclusions about the merits of persons or situations. Fourth, be sensitive to levels of analysis as the relative breadth of persons and situations may determine the relative influence of the two. Fifth, attention to process is important because it leads inextricably to transactional explanations—even when biological or genetic factors are considered. Our goal is to describe how these lessons can move the debate from whether persons or situations are the univocal cause of behavior to how the two can be successfully merged into a more fruitful science of personality and its development.

Lesson 1: Age Matters

The study of development is intrinsically tied to age. Interestingly, much of the research supporting ei-

ther an extreme person or situation perspective is confounded by age. For example, many of the studies critical of traits have been performed on children, adolescents, or college students (e.g., Hartshorne & May, 1928; Lewis, 2001b; Zelli & Dodge, 1999). However, we now have strong evidence that at these stages of development, people demonstrate lower levels of rank-order consistency than in the later years (i.e., between the ages of 22 and 80; Roberts & DelVecchio, 2000). It is quite possible that the data used to refute the idea of dispositions is mostly drawn from people whose personalities are provisional. Children are less likely than adults to see themselves and others in psychological, and particularly trait, terms (for a review, see Rholes, Newman, & Ruble, 1990). Moreover, although adolescents view themselves in more psychological terms than do their younger counterparts, they often experience confusion in their views of themselves (Harter & Monsour, 1992; Meilman, 1979). As a consequence, until children enter adulthood, personality may be in flux, leading children—and even college students—to be ill-suited for studies concerned with identifying the consistency of personality.

Research guided by the objective of supporting the trait perspective often implicitly relies on the assumption that adults are more stable and thus a better sample upon which to draw to document the efficacy of trait concepts. Classic articles establishing the fact that traits are highly consistent were based on adults older than age 20 (e.g., Costa & McCrae, 1988; Helson & Moane, 1987). Furthermore, many of the twin studies, which provide evidence for the genetic basis to dispositions, draw on samples of adult twin pairs (e.g., McGue, Bacon, & Lykken, 1993; Viken, Rose, Kaprio, & Koskenvuo, 1994). The relevant research in industrial-organizational psychology, which sometimes demonstrates strong relations between personality traits and job performance, by necessity, also relies on data drawn from people in young adulthood or older (e.g., Hogan & Holland, 2003; Tett, Jackson, & Rothstein, 1991). Thus, researchers establishing the viability of trait constructs have generally ignored the critical periods before adulthood.

Age not only affects the person, but also the situations people encounter and their effect on psychological functioning (Wachs, 1999). At the most fundamental level, many situations are experienced as novel early in life but not later in life. Moreover, the meaning of situations shifts with age. Speaking in demographic terms, we know that the life course is marked by dramatic shifts in the distribution of experiences and thus exposure to new situations. The preponderance of significant life experiences occurs in late adolescence and early young adulthood, which has been characterized as demographically dense because of the critical mass of experiences and transitions in the domains of school, work, and family (Rindfuss, 1991).

There has been little systematic research on how the experience and meaning of situations change with age, but the research that has been done supports the idea that similar situations have different effects in younger and older age groups. For example, research on persuasion is moderated by age, such that middle-aged adults are less susceptible to persuasion than are either younger or older adults (Visser & Krosnick, 1998). Apparently, middle-aged people are more certain about their attitudes, have more knowledge about issues, and deem the issues more personally relevant than their younger and older counterparts, which makes typical persuasion techniques less effective for this age group. In addition, the meaning of work changes with age and experience (Mortimer & Staff, 2002). People who have the opportunity to work in adolescence find work experiences in young adulthood less stressful, presumably because adolescent work experiences “inoculate” people, rendering subsequent work experiences in young adulthood less consequential. Finally, the effects of significant world events, such as the Great Depression, are moderated by age (Elder, 1979). Younger children were more adversely affected by the Great Depression than were older children and adolescents, presumably because their position in the family differed (see also Stewart & Healy, 1989). Although these studies appear to demonstrate that situations have less effect on psychological functioning in older age groups, the idea needs more systematic attention. Nonetheless, if situations, experiences, or life events have diminished effects on adults, then this would be an important consideration in evaluating the “power” of the situation. Moreover, it would explain, in part, what underlies the strong consistency of personality in adulthood.

It is clear that both persons and situations are affected by age. It is also clear that most of the data to date supporting the prioritization of traits or situations is confounded by age, with narrow attention by each side to a particular stage of development. From a developmental perspective, it is problematic to focus too much attention on either children or adults. The effects of persons and situations cannot be fully understood until both the modest consistency in personality early in life and the strong consistency in personality later in life are considered in conjunction with the situational changes that occur as people progress through life. At the very least, before definitive statements are made about the power of persons and situations, we need to broaden our sampling to include the entire life span, with attention to underlying processes that contribute to development.

Lesson 2: If Age Matters, Time Matters More

Arguably, time is more central to understanding development than is age. In developmental research,

time is generally operationalized in longitudinal designs in which people are followed for some period to investigate the continuity and change of specific psychological or environmental structures. Time in the longitudinal case is more important to developmental psychologists than is age, because it permits the opportunity to track actual changes in psychological constructs and to come to a better understanding of the processes underlying development. Optimally, developmental psychology combines age and time to test the effects of the two simultaneously (Schaie, 1965).

Unfortunately, like age, time is seldom formally incorporated into the research that emphasizes persons or situations. This is not to say that time is an unimportant idea to investigators. For psychologists focusing on traits—relatively enduring patterns of thoughts, feelings, and behavior—time is a critical aspect of the definition. Traits are presumed to be relatively constant, which entails some incorporation of time into the validation of trait concepts (e.g., test–retest stability). Similarly, for researchers focusing on situations, time is important for what it does not affect. When it is assumed that situations hold sway over behavior time is immaterial, as the proximal situation, not someone’s history, will shape people’s actions, thoughts, and feelings (Lewis, 2001b).

In the majority of research, time is used as an assumption in choosing a study design, not as an explicit design feature. For example, investigators typically employ traits as predictors of specific outcomes, assuming that the traits, but not the outcomes, represent stable individual differences. Therefore, the predictive effect is assumed to be invariant across time. This is even the case in longitudinal research. Often, because of time constraints, minimal resources, or the assumption that traits are relatively unchanging, traits are assessed only at the beginning of a longitudinal investigation. Trait scores at the first point are then used as predictors of outcomes assessed months or years later. Measures of conscientiousness administered in childhood or adolescence, for instance, have been used to predict life experiences, such as divorce, earnings, and even longevity (e.g., Friedman et al., 1993). Often, the traits themselves are not reassessed, which renders the effect of time on traits moot. One possibility is that the experiences in adulthood, like divorce, bring about changes in traits such as conscientiousness (Roberts & Bogg, 2004). Given the assumption of most trait models that traits are stable, these types of questions are not asked, nor are the studies designed to test these questions adequately.

Conversely, research inspired by the notion that situations shape behavior, and thus personality, seldom tracks situations over time. Often, “situations” are conceptualized as transitions or life events rather than constructs with a longitudinal life of their own (see Sto-

kols, Clitheroe, & Zmuidzinas, 2000). For example, events like divorce, the death of a spouse, and the birth of a baby are considered changes in a person's environment; yet they are normally measured once and typically with a dichotomous demographic variable (e.g., children: yes or no?). Rather than focusing only on whether or not a situation has occurred, it would be fruitful to also focus on the psychological features of the changed environment. So, in the case of having children, one could assess parents' expectations for changes in their behavior during and after the transition to parenthood. In addition, one could assess attributes of children themselves, given that children's temperament is a clear and compelling feature of parents' environment. Presumably, parents will be affected differently by the transition to parenthood depending on their children's temperamental features.

Moreover, most experiments do not track the effects of experimental manipulations over significant periods of time either within or between people. For instance, it is seldom the case that experimental psychologists bring the same participants back over different time periods to investigate the continuity of the effect of an experimental manipulation. An exception to this may be found in work on persuasion showing that the effects of persuasive messages increase or decrease over time dependent on a variety of factors (for a review, see Eagly & Chaiken, 1993).

The effect of an experimental manipulation across different periods of history could also be examined. So, for example, it would be interesting to test the efficacy of Milgram or Asch's conformity manipulations in today's society, which is apparently more norm-questioning than were previous generations (Veroff, Douvan, & Kulka, 1981). Similarly, culture as it is presently employed is seldom considered a dynamic entity that can change with time, nor is it commonly assessed in psychological terms so that if it did change we would know how and why (c.f., Hong, Morris, Chiu, & Benet-Martinez, 2000; Roberts & Helson, 1997).

Incorporating time into the study of persons or situations can bring new perspectives to the old debate. Consistent with the definition of personality traits, a wealth of research reports high levels of personality consistency across time. Estimates of test-retest consistency in the range of .5 to .7 are not uncommon across spans of time as long as 6 years (e.g., Costa & McCrae, 1988; Roberts, Caspi, & Moffitt, 2001; Robins, Fraley, Roberts, & Trznewski, 2001). Although the levels of consistency are critical to the inference that traits are valid constructs, they do not tell the whole story (see Roberts & Caspi, 2003). Studies examining changes in mean levels of personality traits over time indicate that people change as they progress through life (Helson & Kwan, 2000; Srivastava, John, Gosling, & Cooper, 2003). In one longitudinal study,

college students became more agreeable, conscientious, emotionally stable, and open to experience from age 18 to age 21, and the magnitude of change was often as large as a half of a standard deviation (Robins et al., 2001). Similar trends in people at other stages of the life span have also been found (e.g., Helson, Jones, & Kwan, 2002; Roberts, Helson, & Klohnen, 2002). Without tracking personality traits over time, information concerning the fact that personality traits can and do change is lost.

A key phenomenon intrinsic to understanding change over time is individual differences in change (Mroczek & Spiro, 2003; Nesselrode, 1991). That is, not all people change in the same way, making it important to investigate people's unique patterns of change over time. Unfortunately, little research has taken such an approach. In research that has, up to 25% of people demonstrate "reliable change" for any given trait (change that exceeds what one would expect given the unreliability of the specific measure; Robins et al., 2001). Furthermore, most people demonstrate reliable change on 1 in 5 traits over time spans from 4 to 8 years (Roberts et al., 2001; Robins et al., 2001). That means that at any given time most people are experiencing some form of significant personality trait change in at least one domain (e.g., one of the Big Five). Moreover, there is now evidence that these individual differences in personality trait change persist into old age (Mroczek & Spiro, 2003; Small, Hertzog, Hultsch, & Dixon, 2003). Notably, these individual differences in change are related to life experiences, such as participating in the paid labor force, the onset of motherhood, the experience of the feminist movement, and divorce (Roberts et al., 2002). That is, individual differences in change in personality traits not only exist, but also are related to life experiences that one would assume to affect personality development. Again, the fact that people demonstrate unique individual differences in change would be lost unless time was used objectively to investigate personality development.

It would be both appropriate and important to conduct similar analyses of situations over time. The few representative studies that have tracked environments or situations over time usually track other people in a person's life or work experience. For example, Martin and Fabes (2001) tested how stable play partnerships were in childhood. Factors such as the sex composition of the play partnerships were as stable as traits normally are in adulthood (e.g., correlations above .7). In addition, a meta-analysis by Holden and Miller (1999) indicated that there is temporal consistency in many parenting practices (e.g., correlations over time for parents' use of control and encouragement above .5). Also, like studies of personality traits over time, several studies show that features of the work environment, such as prestige or complexity, are very consistent (Kohn & Schooler, 1978; Roberts, 1997;

Schooler, Mulatu, & Oates, 1999). Unfortunately, the assessment of environments has not been as thorough or systematic as that of psychological attributes, so we do not have the opportunity to catalogue all forms of consistency and change for even a subset of situations or environments.

The point to be taken from this research is that incorporating time into the research design yields a richer, complex, and more interesting understanding of personality and situations than does failing to do so. Personality traits are consistent. Relative to other constructs, such as affect or behavior, they are very consistent (e.g., Conley, 1984). Nonetheless, they also show signs of change at both population and individual levels, even in old age. Similarly, the little data that we have on the continuity and change of environments appears to show comparable patterns.

Some might feel that the statement that traits and situations are both consistent and changeable is a contradiction, especially for traits. It is not. The perspective that traits are unchanging is a relatively recent argument in personality psychology. Most of the original thinkers in this area of psychology did not presume that traits were monolithically invariant. Rather, investigators like Allport, Murray, Eysenck, and Cattell stated quite clearly that personality traits were not only changeable, but also could be influenced by situations. By studying traits and situations longitudinally, we find robust evidence for their more differentiated perspective. Traits do change. Furthermore, it is quite likely that they change because of experiences in situations.

Lesson 3: Examine Different Types of Change

As may be evident by now, the type of consistency and change on which investigators focus is important. Although Block first highlighted that there are various forms of consistency and change in 1971, with others continuing to emphasize this point into the present (e.g., Caspi & Bem, 1990; Caspi & Roberts, 1999), investigators often direct their attention to only one form of consistency or change. Psychologists focusing on the enduring aspect of personality almost always point to the robust rank-order consistency of personality traits across time. For these psychologists, consistency or stability of personality is rank-order consistency. In contrast, psychologists who focus on the role of the situation often point to the compelling changes in behavior across situations, usually in the form of mean-level differences in behavior. Then in the thankless position sit the investigators who attempt to integrate findings and show that within the same sample one can find both consistent rank-ordering of individuals and meaningful mean-level changes in behavior across situations (e.g., Fleeson, 2001; Funder & Colvin, 1991).

From a developmental perspective, there is no debate here, or at least little controversy. All that is needed is a clear articulation of what is meant by consistency and change. There are at least five different types of consistency and change with accompanying statistical techniques for estimation (for a recent review, see Caspi & Roberts, 1999). For the sake of brevity and clarity, we focus on two that are pertinent to both development and the opposing perspectives on the merits of traits and situations: Rank-order consistency and mean-level change. *Rank-order consistency* refers to the level of ordering maintained with in a group over time. It can address the question of whether the differences among people are stable over time. Typically, this is the type of consistency examined when demonstrating that personality traits are consistent over time. *Mean-level change* refers to changes in the quantity of some attribute demonstrated on average by a group over time. Typically, it is used to show that groups change in some attribute over time as a result of maturation or an experimental manipulation.

What are the implications of the different types of consistency for the roles of persons and situations on behavior? First, much of the debate can be cleared up with the simple acknowledgment that investigators focusing on traits or situations prefer different types of consistency and change. Harkening back to the correlational versus experimental distinction (Cronbach, 1957), research focusing on the effect of dispositions tends to emphasize designs that result in the use of correlations. Conversely, research focusing on the effect of situations generally uses designs that result in the examination of mean-level differences. Within developmental psychology, it has been known for quite some time that these different forms of consistency and change can be unrelated to one another (e.g., Block, 1971). For example, it is quite possible for a population to simultaneously demonstrate high rank-order consistency and robust mean-level change (e.g., Roberts et al., 2001). In such a case, self-esteem may increase over the course of development (high mean-level change), but children with the highest self-esteem early on may continue to have such an advantage as they enter adulthood (high rank-order consistency). Conversely, there may be situations in which there is low rank-order consistency coupled with no mean-level change. For example, if people's momentary moods are studied over the course of the life span, people's initial momentary moods may not be strongly predictive of their momentary moods later in life (low rank-order consistency). There may also be little evidence that people's momentary moods change normatively over time (little mean-level change). The important point here is that rank-order consistency and mean-level change can be independent of one another over time and situations.

Given the nature of the methods commonly used by personality and social psychologists, the co-occurrence of rank-order consistency and mean-level change is either not tracked or is ignored. The common mistake is to draw conclusions about the type of consistency or change that is omitted from the analysis. Thus, when high test–retest stability estimates are discovered, it is often inferred that there is no situational variability in behavior or that if it occurs it is error. Likewise, when one finds significant mean-level differences across situations or cultures it is often inferred that there is no rank-order consistency.

Only by being confronted with studies that examine multiple indexes of consistency within the same sample do we find that both positions may be correct. An elegant example of this is found in research on the accuracy of person perception carried out by Funder and Colvin (1991). Funder and Colvin did something deceptively simple that produced profound results. They had participants interact in pairs across two situations. These interactions were then rated by independent sets of coders on 62 behavioral indicators. Consistent with the assumption that behavior is trait-like, 35 of the 62 behaviors demonstrated temporal consistency above the magical barrier of .30. For example, speaking loudly and being expressive correlated .70 and .62 respectively over the two situations. Simultaneously, these same investigators demonstrated significant mean-level differences on 20 separate behaviors that were theoretically consistent with the nature of the interaction tasks and also were often large in magnitude. Consistent with the idea that rank-order consistency and mean-level change coexist, one of the largest changes was in expressiveness. People were more expressive in the second session presumably because they were more comfortable with the lab setting and their partners. Thus, most people increased over the two situations on expressiveness, but the most and least expressive individuals remained the most and least expressive over time.

Fleeson (2001) recently expanded on this point. Fleeson had participants rate personality traits as states in a series of short-term experience sampling studies. Similar to Funder and Colvin (1991), Fleeson found robust interindividual cross-temporal stability (test–retest correlations were uniformly above .90 for aggregates of personality states). Also like Funder and Colvin (1991), Fleeson found that people varied quite widely in their state-like endorsement of personality traits across situations. Much of the variance in state-like endorsement of personality traits was attributable to the situation. However, a significant portion of the state-like variation was attributable to the person. That is, somewhat ironically, variability demonstrated trait-like qualities in that some people are reliably more variable than others.

Coupled with the longitudinal studies described earlier, these studies provide unequivocal evidence that

when consistency and change are examined using different indexes, seemingly opposite stories emerge. These are not contradictory stories. More appropriately, the different findings across different methods of tracking consistency and change are complementary rather than contradictory. Thus, each form of consistency and change provides an answer to a different question. The most important implication of these studies is that the story of consistency and change is much more complex if you examine multiple indexes. It is impossible to come to an either-or conclusion about the role of persons or situations when one must account for more than one type of consistency or change.

Lesson 4: Be Sensitive to Levels of Analysis

Our fourth insight gleaned from taking a developmental approach is that integrating persons and situations becomes easier if one sees it as a level of analysis issue. Focusing on development makes one intimately familiar with different levels of analysis. For example, within personality development there is a clear hierarchy of changeability, such that some attributes are more changeable than others (Ford & Lerner, 1992; Hellervik, Hazucha, & Schneider, 1992). At the simplest level, discrete behaviors, thoughts, and feelings may be more changeable than midlevel constructs, such as self-esteem, or broad constructs, such as personality traits. Generally, investigators have assumed that if you want to study something that changes, you should focus on the narrow end of the changeability continuum. Discrete aspects of psychological functioning may be sensitive to the influence of a single situation; in contrast, an array of situations may be necessary to change more general aspects, given that they are composed of a series of behaviors, thoughts, and feelings. Such differences in sensitivity to environmental influences may be adaptive in that they permit people to adjust to specific situational demands, while also remaining consistent over the long term, thereby allowing for smooth social interactions where others expect consistency.

An analogous dimension of changeability describes contexts. For example, Bronfenbrenner (1979) described different levels of situations that vary from proximal and narrow to broad and pervasive. Narrow situations, or “Microsystems,” define one’s immediate context, such as a social setting or interaction. Mid-level situations (Mesosystems or Exosystems) can be seen as the contexts subsumed in one’s social roles, such as work, school, and relationships. Broad situations, described by Bronfenbrenner (1979) as Macrosystems, encompass community or cultural level phenomena. Presumably, narrow, proximal situations are

more changeable than broader situations because proximal situations may require only a single mechanism of influence, whereas the broader ones may require a more multifaceted approach to change. As was the case for the person dimension, this may have adaptive significance: People may need to be able to change proximal situations to feel in control, but may need Macro-systems to stay relatively stable because such systems set the norms for behavior, which if constantly changing, would leave people not only feeling helpless, but also in a state of chaos.

Despite clear hierarchical models available for both the person and the situation, the systematic incorporation of different levels of breadth of persons and situations is often summarily ignored in much of the research brought to bear on the relative importance of person-centered and situation-centered variables. In Table 1, we cross both the person and situation and their respective levels of analysis, which also presumably corresponds to their levels of changeability. This table can help to identify general trends in research design and to demonstrate potential benefits of understanding both the person and situation across levels of analysis.

At the broadest level are the personality traits found in standard omnibus personality inventories; these are often the traits that make up the now ubiquitous measures of the Big Five. The midlevel of the continuum can be marked by a number of different constructs such as positive emotions (e.g., Diener, 2000), attachment patterns (e.g., Fraley, Waller, & Brennan, 2000), or job satisfaction (e.g., Wilk & Redmon, 1998). These constructs are broader than discrete behaviors but less broad than traits. Presumably, these midlevel constructs are more stable than discrete behaviors and less stable than broad traits because they are more akin to states than traits (e.g., Conley, 1984). At the most narrow level, we find the constituent elements of traits and states: thoughts, feelings, and behaviors.

Likewise, on the situation side one finds at the broadest level the concept of national culture, which we assume to be the broadest conceivable situation. At the midlevel, like the person side, there are numerous possibilities. One could characterize the culture of institutional settings, such as work places or schools, as less broad than national culture but more broad than a discrete situation (e.g., a social interaction). Family settings could also be seen as midlevel social contexts that entail aggregating discrete situations and relationships into a higher order construct. At the lowest end of the changeability continuum we find the proximal situation, such as a social interaction and the contingencies contained therein.

Crossing the hierarchical models of the person and situation provides important insights into the person–situation debates of the past and present. For example, many of the classic studies demonstrating the lack of consistency in personality have focused on behaviors in narrow situations (e.g., Hartshorne & May, 1928). More recently, at the heart of complex models of person-by-situation behavior profiles, as found in the Cognitive-Affective Personality System (Mischel & Shoda, 1995), are behaviors in situations rather than broad dispositions. In addition, the majority of experiments being performed in laboratory settings, by necessity, focus on narrow situations that can be manipulated (i.e., changed easily) and narrow behaviors that can be affected by those manipulations. Coupled with the propensity to avoid longitudinal or within-participant designs, it is easy to see why investigators focusing on this level person–situation interface can, and often do, maintain that people are inconsistent. Conversely, research on higher level phenomena often focuses on the test–retest stability, factor structure, and sometimes the predictive validity of broad trait constructs. More often than not, the modal study is cross-sectional, as it is normally presumed that traits are stable. With the exception of some cross-cultural

Table 1. *Gleaning the Person-by-Situation Interaction.*

Situation Breadth		Person Breadth		
		Narrow	Medium	Broad
Narrow	Proximal situation	Thoughts	Emotional experience	Traits
		Feelings		
		Behaviors		
Medium	Organizational climate	If–then behavior/situation patterns (Mischel & Shoda 1995)	Effect of performance feedback on job satisfaction (Wilk & Redmon, 1998)	Effect of short term interventions on personality trait change (Adams, Robertson, & Cooper, 1966)
Medium	Organizational climate	Research on effect of parental control on children’s task engagement (Ng, Kenney-Benson, & Pomerantz, in press)	Research on the effect of role experiences on marital satisfaction (Campbell & Snow, 1992)	Research on the effect of work on change in personality traits (Kohn & Schooler, 1978)
Broad	Culture	Research on the effect of culture on thinking styles (Nisbett, Peng, Choi, & Norenzayan, 2001)	Research on culture and life satisfaction (Diener & Suh, 1999)	Factor structure of Big Five traits across cultures (McCrae & Costa, 1997)

studies (e.g., McCrae & Costa, 1997), context is almost never explicitly incorporated but nonetheless always exists as none of these studies can be carried out in a cultural vacuum.

The remaining cells of Table 1 point to research that is far less common but no less important because it represents frequently occurring person–situation interfaces. For example, the recent work on the effects of culture on cognition examines the relation between the broad context of culture and the narrow construct of information processing (Nisbett, Peng, Choi, & Norenzayan, 2001). In fact, such research has become quite common (e.g., Cohen, 2001; Heine, Lehman, Markus, & Kitayama, 1999; Markus & Kitayama, 1991), and is often seen as essential for understanding basic psychological phenomena (Miller, 1999). Likewise, recent research has shown that the broad context of culture affects the midlevel concept of subjective well-being or happiness (Diener & Suh, 1999). By its very nature, much developmental research examines the effect of midlevel contexts, such as parenting practices or styles, on narrow or midlevel psychological constructs, such as task engagement, attributional style, motivational orientation, or achievement (e.g., Glasgow, Dornbusch, Troyer, Steinberg, & Ritter, 1997; Ng, Kenney-Benson, & Pomerantz, 2004).

The types of studies identified on the top right corner of Table 1 are quite uncommon. These studies examine the effects of midlevel or narrow contexts on broad personality traits. A handful of longitudinal studies have examined the effects of midlevel social contexts, such as role experiences in work and marriage, on change in personality traits and found that there is a correlation between these experiences and personality trait change (Helson & Picano, 1990; Neyer & Asendorpf, 2001; Roberts, 1997; Roberts, Caspi, & Moffitt, 2003; Roberts & Chapman, 2000; Robins, Caspi, & Moffitt, 2002). Even less common is the examination of narrow environments on broad constructs. This type of study is best reflected in attempts to change personality traits through some experimental or quasi-experimental intervention. Numerous studies of the effects of such diverse interventions as short-term incarceration (Pierson, Cattell, & Pierce, 1966), sensory deprivation (Adams, Robertson, & Cooper, 1966), and marathon group therapy (Young & Jacobsen, 1970) on changes in personality traits were published in the late 1960s and 1970s. Oddly, with the onset of the person–situation debate following the publication of Mischel's (1968) book, this line of research died out; presumably because many researchers gave up on personality traits altogether (Hogan & Roberts, 2001). Several recent findings reinforce the notion that the drift away from intervention studies was premature. For example, studies of clinical interventions showed that a brief set of meetings with a therapist can produce rather large changes in trait measures of de-

pression and anxiety (Lambert & Supplee, 1997; Piedmont, 2001).

Making the hierarchies explicit also helps to explain several conundrums confronted in previous attempts to integrate persons and situations into a coherent research program. The early interactionist paradigm (Magnusson & Endler, 1977) was built on the examination of the dual effects of experimental manipulations and personality traits on thoughts, feelings, and behaviors. As Table 1 illustrates, this entailed pitting narrow situations against broad psychological constructs. If we draw from the literature on the bandwidth-fidelity trade-off, we can see why the resulting findings were less than clear. Broad constructs, such as traits, have low measurement fidelity. That is, they tend to predict a broad array of constructs at a lower level of efficacy, than narrow, high fidelity measures (Hampson, John, & Goldberg, 1986). An experimental manipulation is a high fidelity construct that has a relatively narrow range of effects. This may be one reason why many studies in the interactionist program were equivocal. Given the small sample sizes and lack of power found in most experimental studies (Sedlmeier & Gigerenzer, 1989), it was only by chance that the modest effect sizes of broad personality traits ever hit the mark. Likewise, if investigators failed to pay close attention to the construct validity of the situation they created, their experimental manipulation most likely failed because it did not match the outcome of choice.

The second, and possibly more important, idea implicit in Table 1 is that all constructs employed within personality psychology are related across levels. That is, lower order constructs are related to midlevel constructs, which in turn are related to broad constructs. Furthermore, broad constructs should be related to lower-order constructs at a lower magnitude than they are to midlevel constructs and the relationship should be mediated, in part, by midlevel constructs. For example, although self-efficacy was originally formulated as context specific, when one does aggregate to a generalized self-efficacy, the construct is both related to specific self-efficacy and to the higher order domain of neuroticism (Judge & Bono, 2000). The argument that this level of aggregation is meaningless has to confront the empirical fact that these aggregated versions of self-efficacy have meaningful correlates with real-world behaviors, just as the lower order versions of self-efficacy do (Judge & Bono, 2000).

Conversely, personality psychologists focusing solely on traits often fail to acknowledge several ways in which their higher order aggregate constructs rely on lower order phenomena. For example, content analyses of personality tests show that up to one third of the items contain some reference to behavior in very specific situations (e.g., "I often cheat at solitaire;" Werner & Pervin, 1986). Thus, context is an explicit part of the assessment of many traits. Moreover, systematically

combining typical personality assessment approaches with an overt context (e.g., framing questions within roles, such as work; Roberts & Donahue, 1994), often leads to improved predictive validity. Thus, rather than ignoring context, one route to improving the efficacy of personality assessment would be accomplished by making contexts explicit rather than implicit. In addition, as personality traits often refer to enduring patterns of thoughts, feelings, and behaviors it is difficult to see how we can divorce traits from the range of lower order cognitive structures, such as schemas, that guide specific behaviors.

We would argue that the propensity to turn a blind eye to the “vertical” integration of personality units is another contributor to maintaining extreme views on persons or situations. We choose to offer an alternative interpretation in which all units can be categorized somewhere on the hierarchy of breadth, which in turn means that to some extent all lower order constructs can be subsumed by higher order constructs but that the lower order constructs may be the mechanisms by which the higher order constructs exert their influence (see Graziano, Hair, & Finch, 1997; Graziano, Jensen-Campbell, & Finch, 1997). Moreover, we gain a key understanding into the nature of the relations among the levels of the hierarchy if we acknowledge that each level indicates a certain level of aggregation (Epstein, 1983). That is to say that one moves up a level of breadth, in part, by aggregating lower order constructs. This aggregation results in the common variance among lower order constructs being captured by the level of breadth above it. It also leaves the specific variance, sometimes referred to as “unique” variance at the lower level of breadth. Thus, traits capture only the common variance in thoughts, feelings, and behaviors and leave the unique variance below. To the extent that important unique variance is not captured in the aggregation, the study of lower order constructs is not only quite interesting but also critical. For example, self-efficacy for achieving a certain grade in a course may be predictive of achievement in that course above and beyond a global composite of self-efficacy taken from several domains.

To help capture the differences across levels of analysis we invoke the time-tested weather metaphor and the respective role of meteorologists who study day-to-day fluctuations in the weather and those who study climates (Hogan, Hogan, & Roberts, 1996). Typical meteorologists do their best to predict day-to-day fluctuations in narrow range weather patterns. Those who study climates do their best to predict long-range fluctuations in broad weather patterns. It would be foolish to claim that the two study different, unrelated phenomena. It is common sense to say that at any given time climatological knowledge will not provide much information about daily weather and vice versa. Indeed, at any given time, the correlation between cli-

mate and daily weather is quite low, as is the correlation between a trait and a single behavior—the correlation between batting average and a single at bat is .06 (Abelson, 1995). What one can argue is that the different levels of analysis are germane to different outcomes and serve different but complementary purposes. Knowledge of the day-to-day fluctuations in the weather is invaluable for planning a business trip or simply what to wear. Knowing long-term trends is invaluable for making policy decisions about global warming or for the more personal act of choosing where to retire. Both approaches to weather focus on meaningful constructs that have important implications at two different levels of analysis. Similarly, in personality psychology, higher and lower order constructs focus on different levels of the same phenomenon that provide partially overlapping but still unique information about persons.

In summary, making the person–situation hierarchies explicit, a natural consequence of adopting a developmental perspective, results in several key insights. First, the two most extreme constituencies in the original person–situation debate were working diligently on different levels of analysis. Their apparently contradictory findings across levels are better seen as complementary; a perspective gained only when the hierarchy is made explicit. Second, crossing the variety of person and situation variables makes clear the many nonprototypical studies that need to be done to inform any future integration of person and situation perspectives. So, for example, can certain types of short-term interventions shape personality traits? Third, making the hierarchies explicit should make it clear that separating persons and situations is arbitrary. Person variables (as in stable individual differences) still exist, even if one uses an experimental design. Just because they are ignored in this type of design does not successfully wish them away. Likewise, context variables still exist even in a factor analysis of trait terms. In a simple way, all studies are embedded in a cultural context, even within different areas of the United States (see Cohen, 2001). Ignoring context in our research does not make it disappear. Finally, like the hope for a unified theory in physics, we propose that person and situation factors are hierarchically structured and that making these hierarchies explicit will help to solve many of the issues that continue to impede a successful integration of persons and situations.

Lesson 5: Pay Attention to Process

An important element of taking a developmental approach is a focus on the processes underlying consistency and change (see Pomerantz, Ruble, & Bolger, 2003). For many years, developmental psychologists focused on the question of whether the origins of indi-

vidual differences were biological or environmental. More recently, however, investigators in this arena have begun to turn their attention to the issue of process—that is, they have sought to answer the question of the mechanisms by which biological and environmental influences exert their effects.

It is clear now that many individual differences evident in childhood and adulthood have genetic origins (Plomin & Caspi, 1999). More interestingly, studies are beginning to show how genetic factors contribute to stability and change processes. Several studies now show that the majority of personality consistency over time is genetic in origin, but that the contribution of genetics to personality change is not large (Eley, Lichtenstein, & Moffitt, 2003; McGue et al., 1993). These findings undermine the idea that environments are the sole facilitators of behavioral consistency and beg the question of how phenotypic traits work with environments to produce consistency and how environments affect change.

The finding that most individual differences have some biological origin has subsequently invigorated research on the influence of the environment, with a focus on how the environment serves as a continuity promoting mechanism. The central argument has been that, beginning early in life, genes shape environments (e.g., Scarr, 1992; Scarr & McCartney, 1983). Several investigators have proposed that personality attributes lead people to elicit particular reactions from others that work to maintain or even heighten the original personality attributes (e.g., Bell, 1968; Caspi & Roberts, 1999; Hammen, 1991; Scarr, 1992; Scarr & McCartney, 1983). Consistent with this idea, research has shown that the practices parents use with their children can be accounted for in part by children's genes. Moreover, a number of studies now demonstrate that children's attributes, such as aggression, influence how parents treat them (e.g., Bugental, Caporael, & Shennum, 1980; Grusec & Kuczynski, 1980; Stice & Barrera, 1995). For example, Pomerantz and Eaton (2001) demonstrated that children's low achievement in school was followed by heightened involvement in children's homework on the part of mothers. However, such involvement on mothers' part was followed by enhanced achievement among children.

Another process by which individual differences shape environments, which in turn promotes continuity, is through people choosing environments consistent with their personality (e.g., Allport, 1937; Caspi & Roberts, 1999; Ickes, Snyder, & Garcia, 1997; Scarr, 1992; Scarr & McCartney, 1983). There is a good deal of evidence that people's personality attributes influence the types of situations they seek (e.g., Diener, Larsen, & Emmons, 1984; Emmons, Diener, & Larsen, 1986; Ickes et al., 1997). For example, within the work environment more socially dominant 18-year-olds ended up in higher positions of power when they were

26 (Roberts, Caspi, & Moffitt, 2003). Presumably, following a life path that reflects and rewards one's personality traits will facilitate greater consistency in personality over time (Roberts & Caspi, 2003). This process renders extreme views on persons or situations obsolete in that it suggests that although the continuity of personality has a genetic basis, the process by which genes contribute to continuity is explained at least in part by environmental influences.

Another focus on processes typical in developmental psychology is that aimed at elucidating the mechanisms underlying normative developmental change (e.g., mean-level change). There have been three general trends in studying children's development, which have unfortunately received more theoretical, than direct empirical, attention. The first is to document how cognitive or social-cognitive advances influence changes in children's behavior. An example of this is provided by Nicholls (1978), who showed that age-related differences among children in helpless reactions to failure are paralleled by similar age-related differences in children's understanding of the relation between ability, effort, and performance. Second, investigators have sought to identify biological changes that may account for age-related changes in the adolescent years. Along these lines, several studies have attempted to account for increases in depression during adolescence by investigating pubertal changes at this time (for a review, see Richards, Abell, & Petersen, 1993). Third, investigators have been concerned with identifying the role of social-contextual changes that occur with development. In this vein, Higgins and Eccles (1983) outlined key environmental changes, such as normative expectations for optimal behavior in school and peer groups, that may play a role in the normative changes in social cognition children experience as they progress through the school system. When these three types of change occur later in life, they may contribute to change in personality at this time.

Indeed, similar theoretical positions have been outlined to explain mean-level personality changes in adulthood. For example, normative identity processes can explain both the patterns of continuity and change in personality traits and the meaning and consequences of social environments in adulthood (Pals, 1999; Roberts & Caspi, 2003). Specifically, the development of a strong identity and certain facets of identity structure, such as the certainty with which an identity is held, promote personality continuity in adulthood. Furthermore, with age, a person's identity becomes clarified and strengthened and this helps to explain the increasing continuity in personality traits across the life course. Conversely, choosing an identity entails entering new social roles (one's career, marriage, and community) that involve psychological commitments and investments consistent with becoming more conventional and prosocial. Similarly, normative mean-level

changes in personality traits may arise across diverse cultures because of universal tasks of social living, such as establishing one's social position in society through one's work or forming long-term bonds through the creation of a family unit in young adulthood (Helson, Kwan, John, & Jones, 2002). Both of these perspectives on personality development in adult converge on a "social investment" hypothesis for the generalizable patterns of mean-level trait change found in adulthood (see Neyer & Asendorpf, 2001; Roberts & Wood, in press). Specifically, psychological investments in conventional social institutions in young adulthood may help explain normative increases in traits such as conscientiousness and agreeableness during this age period.

The role of environments is highlighted further when one considers nonnormative development. That is, each individual has experiences that are not universal and are not tied to their genetic heritage or phenotypic personality traits. These events and experiences also affect personality development in significant ways. For example, through socialization practices, parents create environments for their children that cultivate in children stable attributes, which in turn affect children's future experience (e.g., Wachs, 1994). Research suggests that parents engage in practices that provide children with resources that lead them to feel competent in their academic abilities, which in turn may influence their achievement (Glasgow et al., 1997; Grolnick & Slowiaczek, 1994). In a similar vein, theory and research on attachment suggests that parents may play a role in the development of children's attachment style, which may in turn influence their psychological functioning (e.g., Allen, Moore, Kuperminc, & Bell, 1998; Waters, Wippman, & Sroufe, 1979). Finally, individuals who participate in unconventional behavior, such as smoking marijuana, tend not to follow the typical pattern in adulthood, which is to increase in conscientiousness (Roberts & Bogg, 2004). Rather, these individuals tend to decrease in specific aspects of conscientiousness over time.

Possibly the most profound evidence for the importance of environments in the manifestation of personality comes, ironically, from two recent behavior genetics studies. The first study demonstrated the first Gene \times Environment interaction on adolescent and adult delinquent behavior (Caspi et al., 2002). Specifically, Caspi et al. (2002) showed that a gene that affects synthesis of monoamine oxidase (MAO) neurotransmitters is a protective factor for children exposed to abuse. The expression of the gene itself had no direct effect on delinquent behavior. Rather, the genes expression in delinquency was dependent on whether the child experienced abuse. Typically, children who are abused grow up to commit greater levels of delinquent acts than their peers. The presence of the MAO gene buffered the effect of abuse, such that boys with the gene looked

surprisingly like boys who experienced no abuse on a battery of psychological and behavioral indicators of delinquency. Conversely, boys without the gene who were abused showed the highest levels of delinquent behavior in adolescence and adulthood.

In a second study, a behavior genetics design was used to refute the argument that parents and parenting do not influence the personalities of children (Jaffee, Moffitt, Caspi, & Taylor, 2003). Consistent with previous behavior genetics studies, boys' antisocial behavior was partially genetic in origin. Unlike most previous behavior genetics studies, a key environmental variable—fathers' antisocial behavior—was shown to also influence antisocial behavior. Interestingly, boys who grew up with an antisocial father, controlling for genetic factors, were much more likely to commit antisocial acts than even boys who grew up without a father in the house. Thus both genetic factors and environmental factors make significant contributions to individual differences in a child's developing personality. What both of these studies demonstrate is the importance of systematically studying the environment in the context of simultaneously understanding the role of genes.

Finally, we would hypothesize that the hierarchy specified in Table 1 would provide insights into other processes of continuity and change that have yet to be tested. For example, research has already shown that midlevel phenomena, like self-regulation, are associated with personality traits that require monitoring one's behavior such as agreeableness and conscientiousness (Tobin, Graziano, Vanman, & Tassinari, 2000). We would speculate that if followed longitudinally, changes in self-regulation would be associated with changes in traits like agreeableness and conscientiousness over time. Because of the subtle consequences of the person-situation debate, few researchers have examined personality units at multiple levels either cross-sectionally or longitudinally, in part because these units are typically portrayed as competitive rather than complementary concepts (e.g., Cervone et al., 2001). If a multilevel study was to also include key environmental variables, such as experiences within specific relationships across time, then more sophisticated process models could be tested. For example, we might assume that the effect of role-based experiences will affect midlevel phenomena such as self-regulation more directly and broad phenomena, such as personality traits indirectly through their effect on self-regulation.

The process approach taken to personality development has important implications. Perhaps most notably, in such an approach, the person and situation are no longer separate entities that may be pitted against one another. Instead, transactional perspectives have taken precedence in which environments are essential mediators of the influence of personality attributes on behavior, and conversely, personality attributes are me-

diators of the influence of environments on behavior. In essence, given that people reside within social environments, the person and the situation are inseparable. Attention needs to be directed to how the two work together to shape behavior. At first blush, it may seem that such an approach has been taken in several Person \times Situation models (e.g., Baumeister, 1999; Eder & Mangelsdorf, 1997; Graziano et al., 1997; Higgins, 1990; Roberts & Caspi, 2003). However, in these models the two often have been treated as separate entities, with little attention to the fact that the two exert reciprocal influences on one another over time. Although transactional models may leave open the question of what comes first—the person or the situation—they essentially nullify the question of which is more important by implicating both as influential, with personality development continually occurring, whether it be in a direction toward the initial attribute or away from it.

Conclusion

The question of whether people's behavior is shaped largely by their internal attributes or largely by their environment has generated a great deal of controversy over the last several decades. In this article, we have described five lessons pertaining to the role of persons and situations in affecting behavior that comes from adopting a developmental perspective and pursuing developmental research. It is our hope that these lessons will be applied to building models of personality over the life span that take into account both the person and the situation. As we have outlined, such model building, as well as the accompanying research, will require consideration of the level of analysis, time and age, different types of continuity and change, and the processes underlying continuity and change. Although the person–situation debate sparked a great deal of theory and research in recent years, it is time to move on to form more integrative accounts of personality and its development that includes traits, situations, and the processes that link them.

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