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11

Integrating Personality Traits and Processes

Framework, Method, Analysis, Results

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RAINER ROMERO-CANYAS

Although personality psychology over the past several decades has been characterized by many and diverse programs of research (Hogan, Johnson, & Briggs, 1997; Pervin & John, 1999), two major categories of programs are those based on trait accounts and those based on process accounts. Trait approaches tend to emphasize the broad dimensions of differences between persons repeatedly found in natural language and self-reports. Process approaches, in contrast, emphasize regularities in within-person thoughts, feelings, and behavior, often in particular situational contexts. Examples of trait approaches are the personality models underlying the NEO Personality Inventory by Costa and McCrae and the Trait Descriptive Adjectives by Goldberg and colleagues (see John & Srivastava, 1999, for a review). Examples of process approaches are the Carver and Scheier self-regulation model (Carver & Scheier, 1999) and the Cognitive–Affective Processing System (CAPS) model of Mischel and Shoda (1995). It is the latter that was the point of departure for the work described below.

In this chapter, we describe an approach to personality that attempts to integrate trait and process approaches in studies of adjustment processes in daily life. We do not want to argue that ours is the first or

only attempt to do so (see, e.g., Mischel & Shoda, 1999). What we hope is useful about our approach, however, is that it is a concrete demonstration of how this integration can be accomplished at the level of research design, data collection, and statistical modeling.

CAPTURING PERSONALITY PROCESSES

If the worth of a theory can only be gauged with appropriate research designs and methods, there is no doubt that the Wediko study of boys in a summer camp served as a crucial testing ground for Mischel and Shoda's CAPS model of personality. The Wediko data set, comprising behavioral observations of the children in diverse situations over several weeks, permitted the researchers to demonstrate that each child in the study had a distinctive pattern of *if . . . then . . .* behavioral signatures. Some children were highly reactive to peer teasing but not to adult punishment, whereas others showed the reverse pattern. These signatures showed sufficient stability over time to be regarded as within-person patterns of personality organization (e.g., Mischel & Shoda, 1995; Shoda, Mischel, & Wright, 1994).

For those wishing to follow in the footsteps of Mischel and Shoda, the prospect of collecting data as rich as those from Wediko and submitting them to fine-grained, intraindividual analyses must seem truly daunting. We argue in this chapter that advances in data collection and analysis make the investigation and understanding of personality processes a viable prospect for those who do not have the resources to mount another Wediko study. The key requirement is that investigators use intensive repeated-measures methods that permit them to follow persons as they move through a variety of situations. It is with a particular form of those methods, one based on self-reports in diaries, that we illustrate our argument.

Diary methods (also known as experience sampling and ecological momentary assessment) are based on intensive self-report designs that allow the collection of sufficient data to characterize individuals in terms of the situations they encounter and how they think, feel, and behave in those situations. For example, a diary study can have people keep a record of their daily lives over several weeks. They might provide reports one, two, or many times each day, depending on the research design. In addition to self-reports, observer reports and other personal and contextual measures can also be obtained (see Bolger, Davis, & Rafaeli, 2003, for a review of these methods). These types of data provide a basis for assessing the behavioral signatures identified by Shoda and colleagues (1994)—that is, unique patterns of *if . . . then . . .* links between situations and behavior that are the basis of a contextualized model of personality.

HOW CAN PERSONALITY TRAITS AND PROCESSES BE INTEGRATED?

If one has access to intensive repeated-measures data such as can be obtained using diary studies, how can these help integrate trait and process approaches to personality? Consider the repeated-measures data presented in Figure 11.1. Here we see a representation of a simple linear model for a single individual where degree of exposure to a particular type of situation is shown on the *X*-axis and degree of psychological or behavioral response is shown on the *Y*-axis. This could be a graph of the amount of social contact a person has each day (number of people the person interacted with) and his or her anxiety level that day. The essential insight to be gleaned from the figure—and it is common to all linear models—is that the mean of *Y* is perfectly predicted by the mean of *X* multiplied by the *X*-to-*Y* slope (the person's *if . . . then . . .* link) plus the *Y*-intercept (see Kutner, Nachtsheim, Neter, & Li, 2005, p. 24). Thus, a

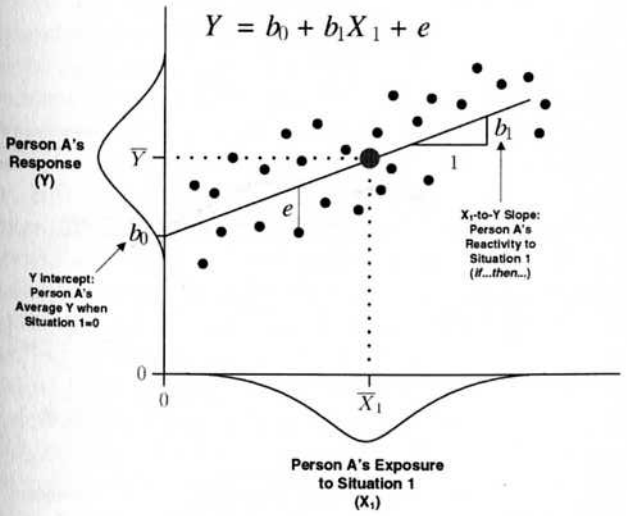

FIGURE 11.1. Relationship between average situation exposure, X_1, *if . . . then . . .* situation reactivity, b_1, and trait level of psychological or behavioral response, $\overline{Y}$, for Person A and Situation 1.

central feature of the CAPS model, the within-person *if . . . then . . .* link, can be used to predict a central feature of trait models, a person's typical level of some psychological variable.

Figure 11.2 expands the model further, to the case of multiple persons with multiple situations such that each person has a profile of multiple *if . . . then . . .* links. This figure shows that the *if . . . then . . .* profiles or behavioral signatures of each person predict the person's mean behavioral or psychological outcomes. What the figure also shows, and what has not been prominent in the CAPS model, is that one must take account of a second behavioral signature, that of situation exposure, in producing mean behavioral outcomes. In other words, it is the particular pattern of situation exposure combined with the pattern of situation–behavior *if . . . then . . .* links (together with an intercept term) that predicts the typical level of outcomes.

$$\overline{Y}_i = b_{0i} + \sum_{1}^{k} b_{ki}\overline{X}_{ki}$$

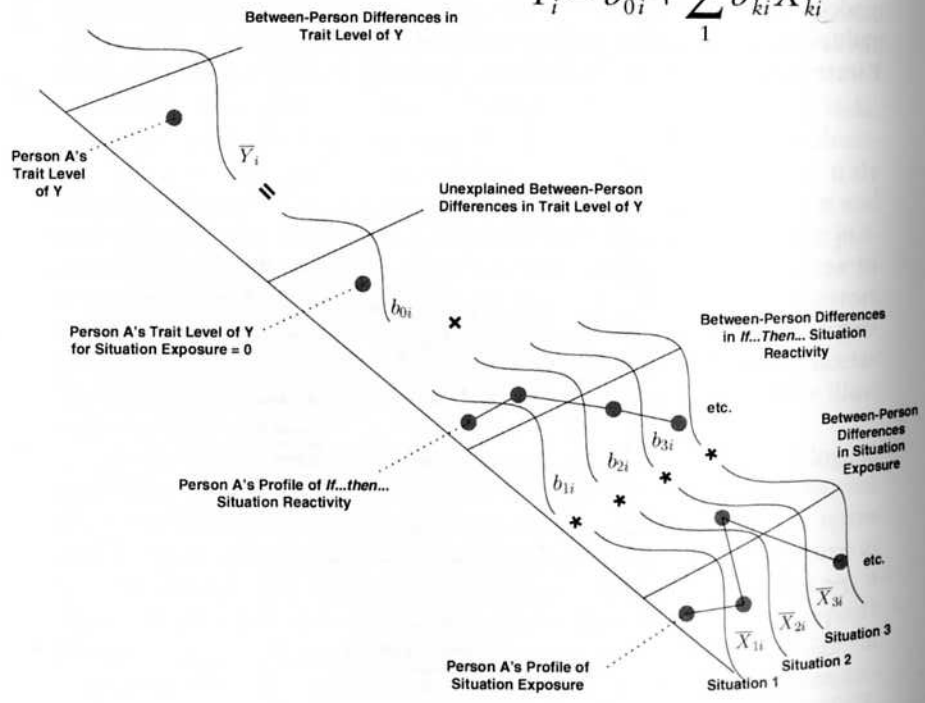

FIGURE 11.2. Relationship of between-person differencines in average situation exposure, $\overline{X}_{ki}$, *if . . . then . . .* situation reactivity, b_{ki}, and trait level of psychological or behavioral response, $\overline{Y}_i$, for many persons i and situation types k.

$$\overline{Y}_i = b_{0i} + \sum_{1}^{k} b_{ki}\overline{X}_{ki}$$

More formally, the idea is represented in the above multiple regression equation, which relates a person's score on Y to his or her exposure to each of k situations, X_1 to X_k. Specifically, each person i's average Y (that is, $\overline{Y}_i$) is perfectly predicted by his or her average exposure to each situation k (that is $\overline{X}_{ki}$) multiplied by his or her *if . . . then . . .* reactivity to that situation (b_{ki}), summed across all k situations, and added to his or her Y-intercept score (b_{0i}).

A critic could argue that traits are causes of psychological outcomes, whereas in the framework above they are regarded as the outcomes themselves. Our response is to say that self-report measures of traits often ask people to report their typical thoughts, feelings, and behaviors and that a summary measure of these in the form of a mean level is a valid assessment of a trait. Moreover, as we show in an empirical example, a trait measure is related to individual differences in the process measures in the expected way, given the model.

A FRAMEWORK FOR STUDYING PERSONALITY IN THE STRESS PROCESS

Statistical developments in the 1980s and 1990s enable us to model intensive repeated-measures data in ways that were previously difficult, if not impossible. First, the development of multilevel models has made it possible to deal with nonindependence due to nesting of observations within persons (Hox, 2002; Raudenbush & Bryk, 2002; Snijders & Bosker, 1999). Second, sophisticated multilevel models for longitudinal data are now readily available in standard software packages (Collins & Sayer, 2001; Fitzmaurice, Laird, & Ware, 2004; Moskowitz & Hershberger, 2002; Singer & Willett, 2003; Walls & Schafer, 2006). Most important for studying personality, these models allow the person to be studied idiographically. More specifically, multilevel models allow the researcher to ask what is common and what is unique about how people are exposed to and react to situations.

In prior work, Bolger and colleagues used the analytical framework presented in Figure 11.2 to show how within-person stress processes explained the link between personality traits and mean levels of emotional outcomes (Bolger & Schilling, 1991; Bolger & Zuckerman, 1995). This work involved the use of intensive daily diary data to explore how exposure to stressors and reactivity to those stressors predicted daily distress. Both exposure and reactivity were important predictors.

These studies also included a trait measure of neuroticism, which is usually regarded as the central personality determinant of negative affect. As might be expected, neuroticism strongly predicted average levels of daily distress. It also predicted average exposure and emotional reactivity to daily stressors, and these daily process variables helped explain the neuroticism–distress relationships.

Figure 11.3 shows data from Bolger and Schilling (1991) on the profile of exposure to daily stressors for high- and low-neuroticism persons. Overall, the figure shows greater exposure among the high-neuroticism group. Even if there were no differences in reactivity (*if . . . then . . .* links) between the two groups, exposure alone could help explain why the high-neuroticism group showed higher average daily distress.

Other research teams that have used diary methodologies to study stress have looked at exposure to stressors as a function of personality characteristics and other individual differences. Gunthert, Cohen, and Armeli (1999) used a 14-day diary to study neuroticism and coping with daily stressors. In their study, neuroticism was associated with exposure to more interpersonal stressors, as was the case in Bolger and Schilling's study (1991). Similar patterns emerged for Suls, Green, and

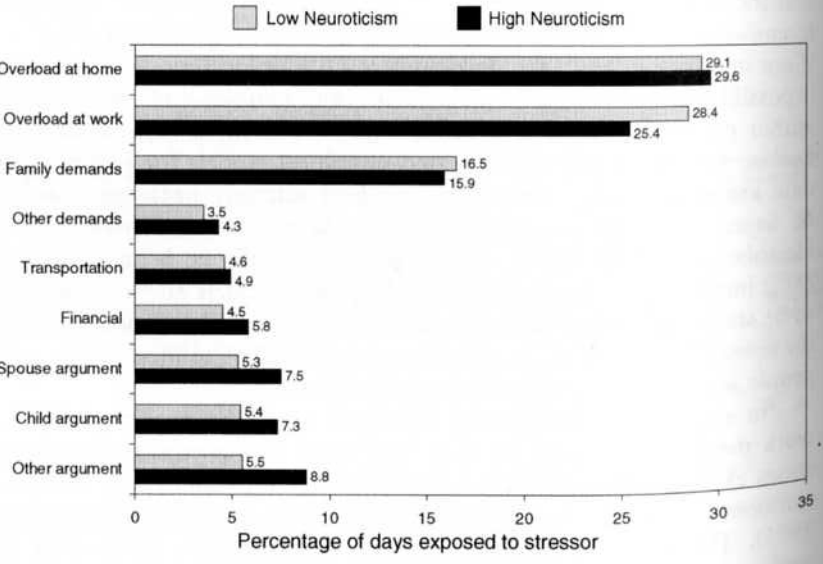

FIGURE 11.3. Daily stressor exposure profiles ($\overline{X}_{1,2,\ldots k}$'s) for low- and high-neuroticism groups.

Hillis (1998) in a study of neuroticism and exposure to everyday problems.

Bolger and Schilling's (1991) study examined *if . . . then . . .* emotional reactivity to specific stressors such as arguments with one's spouse, financial trouble, or work overload and compared the reactivity of those people low and high in neuroticism. As expected, the index of reactivity—the comparison of daily distress on stressor-free days with days when the stressor was present—was generally greater for participants high in neuroticism. These signatures are captured in Figure 11.4, which compares the reactivity of both groups and profiles each of them in a manner similar to that proposed by Mischel and Shoda (1995).

Similar patterns have emerged in the work of other researchers (Mroczek & Almeida, 2004; Suls & Martin, 2005), and some research teams have looked at the extent to which reactivity is predictive of longer-term outcomes. For instance, Felsten (2002) and Cohen, Gunthert, Butler, O'Neill, and Tolpin (2005) have shown that the affective reactivity of college students over the course of a diary study was predictive of the development of depressive symptoms.

More generally, the use of diary methods to examine personality processes has become more widespread. Studies have examined personality variables other than neuroticism as predictors of responses to

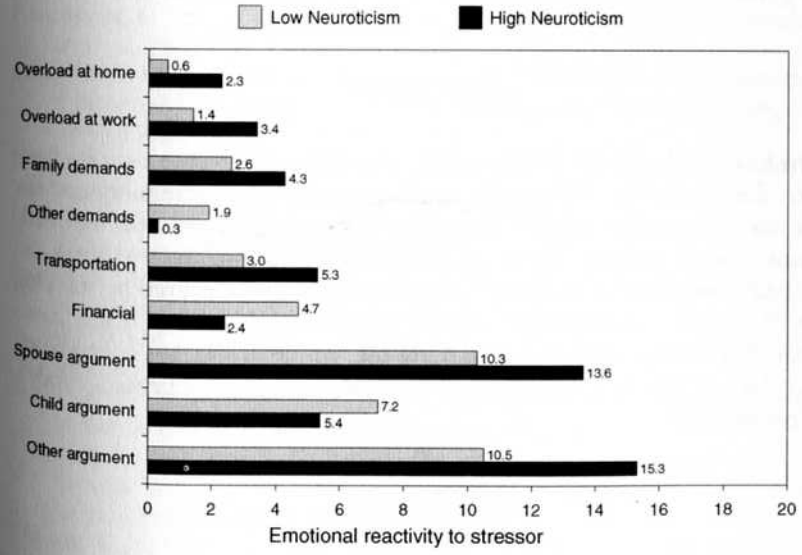

FIGURE 11.4. Daily stressor *if . . . then . . .* reactivity profiles ($b_{1,2,\ldots k}$'s) for low- and high-neuroticism groups.

daily stress (e.g., DeLongis & Holtzman, 2005; Newth & DeLongis, 2004) or general changes in mood (Larsen & Cutler, 1996; Zelenski & Larsen, 1999). Evident in these studies are signatures for reactivity like those shown by Bolger and Schilling.

Individual differences other than personality dispositions can also be used to generate stressor exposure and *if . . . then . . .* emotional reactivity signatures. Birditt, Fingerman, and Almeida (2005) looked at age as a predictor of exposure to interpersonal tensions. In an 8-day diary study they found age differences in exposure to interpersonal tensions such that older adults reported less interpersonal tension than younger adults. The nature of the interpersonal tensions (with family, with children) also varied as a function of age. Other researchers have looked at between-person variables such as marital satisfaction as predictors of reactivity (Tolpin, Cohen, Gunthert, & Farrehi, 2006).

The studies we have cited thus far have focused on negative outcomes. Some researchers, however, have used the diary method to identify situations in which people with particular traits (e.g., neuroticism, agreeableness) are more likely to experience positive mood (Coté & Moskowitz, 1998; Moskowitz & Coté, 1995). Yet other researchers have explored positive daily events and people's responses to them. Zautra, Affleck, Tennen, Reich, and Davis (2005), for example, have identified two processes, engagement and responsiveness, that parallel the processes of exposure and reactivity for negative events and mood.

SUMMARY

Two key developments in personality psychology in recent decades have been the emergence of contextualized conceptions of personality and the rise in the availability of statistical models for intensive repeated-measurement designs. Drawing on these developments, we have described how essential features of personality can be captured by tracking the thoughts, feelings, and behaviors of individuals as they move through a stream of contexts in daily life. In particular, we have shown that data of this kind can be used to reconcile trait and process models of personality.

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12

Toward a Science of the Social Perceiver

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SANG HEE PARK
ALEXANDER O'CONNOR

As many of the chapters in this volume attest, Walter Mischel's contributions to personality science are widely recognized. Less well known are Mischel's contributions to the science of person perception, which is concerned with the ways in which lay perceivers make sense of and infer the personalities of others. In the tradition of Allport (1937), albeit with different methodologies and perspective, Mischel's work on person perception has from the start been predicated on the notion that insights about the nature of personality can be gleaned by listening carefully to the ways that people talk about other people.

At the outset, it is important to place Mischel's contributions to person perception in historical and theoretical context. It can be argued that, for much of Mischel's career, the basic theoretical framework informing person perception research mirrored the traditional view in personality that person forces and situational forces are independent, separable entities. As Gilbert and Malone (1995) summarize:

> [Attribution theories] are grounded in a common metaphor that construes the human skin as a special boundary that separates one set of "causal forces" from another. . . . On the sunny side of the epidermis are the external or situational forces that press inward on the person, and on the meaty side are the internal or personal forces that exert pressure outward. . . . Is the basketball player a graceless shooter, or