



A Big Five model of disposition and situation interaction: why a “helpful” person may not always behave helpfully

Brady Reynolds*, Katherine Karraker

Department of Psychology, West Virginia University, Morgantown, WV 26505, USA

Abstract

A “bottom-up” Big Five disposition–situation interaction model is introduced that highlights the interactive relation between an individual’s behavioral trait tendencies and the different facets of a situation to which he or she may respond. In the proposed model, personality traits are considered markers for how an individual might interpret and respond to different facets of a situation. Given a complex situation with multiple response options, a person will respond to the part of the situation most salient to him or her at that time. The presented model illustrates how interactions between the trait dimensions of the Big Five model with the different facets of a situational context, as well as the intra-individual interactions between the different trait dimensions themselves, determine which facet of a situation will be salient. The model is expected to improve prediction of specific behaviors in specific situations using personality traits. Results from an illustrative study are presented. © 2002 Elsevier Science Ltd. All rights reserved.

Keywords: Big Five model; Five-factor model; Personality traits; Behavior prediction; Helping behavior

1. Introduction

The goal of this article is to outline a theoretical framework for examining the functional relation between trait dispositions (as defined by the Big Five model of personality, e.g., Costa and McCrae, 1985; Goldberg, 1990) and different types of situations in determining behavior. To do this, a clear distinction must first be made

*Corresponding author. Health Communication Research Branch, National Institute for Occupational Safety and Health, 1095 Willowdale Road, MS 4050, Morgantown, WV 26505, USA. Tel.: +1-304-285-6316; fax: +1-304-285-6166.

E-mail address: bhr8@cdc.gov (B. Reynolds).

of a bottom-up approach to understanding individual differences and cross-situational patterns of behavior (i.e., specific behaviors in specific situations). For the social cognitivist, primary interest has been devoted to defining the underlying mechanisms (e.g., different “cognitive-affective-units” activated by different situations) responsible for consistent cross-situational patterns of behavior. Such an emphasis has led to the development of a valuable person–situation framework through which the relation between a number of underlying influences on behavior may be conceptualized and studied.

A “bottom-up-Big-Five-model” approach must similarly involve greater concern for the underlying dynamics between the different variables considered by the model (i.e., the different dispositional dimensions). The model we propose is a bottom-up usage of the Big Five model that emphasizes the intra-individual dynamics between the different trait dimensions of an individual and the situation to which the individual is responding. Developing such a model of personality traits is meaningful in that the concept of personality traits and measures of personality traits dominate the current psychological study of individual differences (e.g., Cervone, 1999). However, as noted by Walsh, Craik, and Price (1992) in their edited book regarding person–environment models, there are no interactive/transactional conceptualizations of the robust Big Five model. Further, they recommend that an “area of [research] development is the reconciliation of person–environment psychology with new research on the robustness of certain personality factors” (p. 267). Introducing such a bottom-up mode of analysis at the level of personality traits stands to have wide-reaching implications and benefits for the psychological study of individual differences.

We add three elements to the Big Five model in our bottom-up conceptualization which allows analyses of certain intra-individual dynamics between the different trait dimensions. These three added elements, which will be elaborated on in Section 2, are (a) the use of personality traits as indicators of what facet of a situation an individual will find personally salient and respond to, (b) a conceptualization of how the temporal ordering of different situational facets can influence the intra-individual dynamics that lead to specific behaviors, and (c) a conceptualization of an interactive relation between the Big Five model dimensions when considering their role in determining a given behavior in a given situation (i.e., more than one trait dimension determining the occurrence or non-occurrence of a specific type of behavior, like helping behavior). As will be seen, these three additions will allow the Big Five model to be used for more bottom-up types of analyses, which should improve the Big Five model for predicting specific behaviors in specific types of situations.

2. The proposed model

An underlying premise of the proposed model is that while disposition and situation must be simultaneously considered as determinants of behavior, the roles of each in influencing behavior are still functionally discrete. Personality functions as a relatively stable system, stemming from an individual’s unique physiology and

correspondingly, the different interpretive evaluations of the situation are likely to lead to different behaviors. Therefore, trait descriptions may serve to not only indicate how a person behaves on average but also how a person is likely to interpret a situation, or what part of a situation will be most significant or salient to a person. In sum, as described in Section 1, the different trait dimensions of the Big Five model generally correspond to different types of situations; and an individual's trait ratings reflect the extent to which the different types of situations will ultimately prove salient for the individual in influencing behavior.

Finally, our model includes the interactive relation between the five dimensions of the Big Five model when considering how each relates to a specific behavior in a specific situation. As already described, the Big Five model as a top-down taxonomy consists of orthogonal trait dimensions; however, as behavioral determinants, these trait dimensions interact. As described above, we propose that the different trait dimensions of the Big Five model are related to, or correspond with, different classes of situations. When a person encounters and attends to a personally salient facet of a situation (facet A), which can be said to have "activated" the relevant trait dimension (and thus led the trait dimension to influence behavior), other trait dimensions possibly relevant to other salient situational facets of the overall situational context (facet B, C, or D) are not likely to be activated until the person is no longer engaged in the initial situational facet (facet A). The different dimensions of the Big Five model interact in a manner, determined by the temporal ordering of potentially salient situational facets, that determines which facet of a situation a person will attend and respond to.

To illustrate, for the characteristically helpful person described earlier who encounters a help-needed situation, the other possible preceding aspects of the situational context were that he or she was late for an appointment or preoccupied with a recent argument. We are proposing that these other temporally preceding facets of the overall situational context may be relevant to other trait dimensions (other than the dimension related to being helpful), and that these other dimensions interact with the dimension responsible for helpfulness in a way as to interfere with or suppress the person actually helping, thus leading this normally helpful person to be less likely to help in this particular instance.

This model is especially relevant to these types of circumstances where a person has to choose between incompatible behaviors elicited by different situational facets. Under these conditions, a person presumably is not capable of responding simultaneously to all aspects of a complex situation. We are arguing that the person is most likely to attend to the first personally salient feature of a situation until that specific situation is resolved in some way—even if at the expense of responding to other potentially important aspects of the overall situational context.

3. An illustrative example

In 1973, Darley and Batson published what has become a classic study demonstrating situational influence on helping behavior. The participants were 40

as highly agreeable were trustful, affectionate, warm, and tender; and that those who were not agreeable were explosive, wild, scheming, sly, and insincere. These are only some of the trait characteristics Goldberg found to be related to the Big Five dimensions of Conscientiousness and Agreeableness, but they are the adjectives within these two factors we think relate most to the Darley and Batson (1973) situation. More specifically, it seems that conscientiousness is most relevant to the high-hurry facet of the situation such that the more conscientious the participant, the more likely he would be to hurry to the second part of the study and thus not help. Also, it seems that characteristics of agreeableness are relevant to the help-needed facet of the situation so that the more agreeable the participant, the more likely he would be to offer help and thus not hurry to the second part of the study.

Ross and Nisbett (1991) speculated that an important component of the situation for the Seminary students may have been that the high-hurry condition led participants to feel “harried and nervous” about getting to and completing the second part of the study, enough so to perhaps preclude them from paying attention to the victim. Conversely, they thought the low-hurry group may have been paying more attention to the surroundings and perhaps even welcomed the diversion of the confederate. We would agree that the high-hurry condition was probably more stressful and distracting than the low-hurry condition. However, as described earlier, part of what would make the high-hurry situation influential would be that it was interpreted as important by individuals rated as highly conscientious. The situational influence of being late may not have been so convincingly demonstrated had less conscientious participants been selected who did not find being late particularly distressing or important, as perhaps the 10% of the high-hurry participants who stopped to help did not.

While Darley and Batson’s (1973) findings did illustrate the strong influence of the situation on helping behavior, it is our supposition that the participants were of a dispositional character to allow for such findings. As put forth in this example, the different trait dimensions of Agreeableness and Conscientiousness were related to helping behavior. In the non-hurry situation, participants rated as highly agreeable (as we believe most of Darley and Batson’s participants would have been) would be likely to help in the absence of other preceding salient facets of the situational context. However, under the high-hurry condition, participants rated as highly conscientious would be more likely to respond to the high-hurry facet of the situation because it would be personally salient (reflected in high ratings of conscientiousness), and it preceded the help-needed facet of the situation. Under this high-hurry condition, otherwise helpful participants would be less likely to help due to their behavioral tendency towards conscientiousness “interfering” with their tendency towards agreeableness, thus leading to behavior more oriented to the high-hurry facet of the situation over the help-needed facet of the situation. Conversely, for participants characterized as less conscientious, this high-hurry condition would influence behavior less (not being as personally salient), and such participants would be more likely to help—provided they were also highly agreeable.

Levene's test of homogeneity of variance showed that the assumption of homogeneous variance was violated for the Surgency and Agreeableness factors.

More importantly, the model predicts that when the participant is put in a more complex situation involving both being in a hurry and encountering a person that needs help, overall Conscientiousness factor ratings should discriminate between participants who do or do not help, whereas overall Surgency, Agreeableness and Intellect factor ratings should not. Again, using Wilks' criterion, the combined dependent variables were significantly related to helping behavior responses, multivariate $F(5, 327) = 2.75, p < 0.05$. Table 2 shows the corresponding univariate F -tests. Conscientiousness was the only factor score that significantly differed between participants who reported that they would help or not help when in a hurry. Participants who reported that they would not help when in a hurry rated themselves higher in conscientiousness than those who reported they would help.

Though the effects sizes were small (see Tables 1 and 2), which we attribute in part to the vignette method of data collection, the pattern of these results do support hypotheses derived from the proposed model. In a simple situation eliciting helping behavior, the most significant personality determinants of helping were traits from the Big Five Surgency, Agreeableness, and Intellect factors—with the Agreeableness factor seeming to be most important. However, when the situation was changed such that the potential helper was in a hurry, personality traits from the Big Five Conscientiousness factor were most important in predicting reported behavior. Being on time or finishing an important task seems to have superceded the tendency to be helpful only for people who were rated as particularly conscientious—even if

Table 2

Univariate F -tests of Big Five factor total scores between participants who reported helping and not helping when in a hurry

Trait factor	Helping response	Means	SD	Univariate F	η^2
Surgency	Help	112.1	20.77	0.90	0.003
	No help	110.0	19.98		
Agreeableness	Help	133.0	15.40	1.73	0.005
	No help	130.5	18.31		
Conscientiousness	Help	115.0	18.71	4.74 ^a	0.014
	No help	119.5	18.66		
Emotional Stability	Help	090.0	19.08	0.12	0.000
	No help	089.0	17.88		
Intellect	Help	120.8	17.63	2.50	0.007
	No help	117.6	19.62		

Note: 181 participants indicated that they would help and 152 indicated that they would not help.

^a $p < 0.05$.

predictive of reported helping behavior when there was no hurry lost their predictive value when conscientiousness was “activated” by the added situational facet of being in a hurry. When in a hurry, conscientiousness seems to have interacted with, and interfered with, the tendency towards helpfulness for those participants rated as highly conscientious. This finding points to a pattern of interaction between different situational facets and different Big Five dimensions, and also between the different trait dimensions themselves.

Future research might be geared towards more clearly delineating the interactive relation between the different trait dimensions as well as between the trait dimensions and different facets of a situational context. However, two fundamental aspects of the proposed model appear to warrant more immediate research attention in any effort to develop the model further. The first is to establish a methodology for relating disposition and situation, i.e., which trait dimensions relate to what types of situations? The reported study of Section 4 may provide a method for relating trait dimensions to specific situations. Using vignettes and personality inventories is a quick and inexpensive way to identify personality/situation relations that can later be used in conjunction with the proposed model to predict behavior across different situations, or when participants are actually put in real situations. The second fundamental aspect of the model requiring more immediate clarifying research is the importance of temporally ordered situational facets in influencing behavior as outlined in the proposed model. As mentioned earlier, studies could be designed to manipulate the temporal order of potentially salient situational facets to examine more explicitly the hypothesis that earlier situational facets are more influential in determining behavior than later facets as long as the person is still engaged in the earlier facet.

However, even with these noted limitations in the proposed model, we believe that we have presented a model that is sufficiently detailed to generate testable predictions. For example, using the proposed model in Darley and Batson’s (1973) study led to predictions as follows: Participants who do not help under the hurry condition may or may not be rated as highly on the trait dimension of Agreeableness as those who do help under the hurry condition, but those who do not help when in a hurry should be significantly higher in factor ratings of Conscientiousness than those who do help. This prediction was supported by the results of the study reported in Section 4, although more ecologically valid research should be done with people in real situations before strong conclusions are drawn. From the reported results, however, it can be concluded that those participants who did not help under the hurry condition were not necessarily less helpful in terms of trait tendency, but rather were more conscientious and therefore responded to a different facet of the situation. *Most importantly*, with the model we are proposing, the fact that many of the highly helpful participants (rated as highly agreeable) did not help under the hurry condition does not represent a failure of personality traits to predict behavior (e.g., Ross & Nisbett, 1991). With the model, we also were able to predict who would not help in the specified high-hurry situation (those rated as highly conscientious) and therefore have increased the explanatory and predictive utility of the Big Five model for more specific behaviors in specific situations. It is our hope that this model will

- Ross, L., & Nisbett, R. E. (1991). *The person and the situation: Perspectives of social psychology*. New York, NY: McGraw-Hill.
- Shoda, Y. (1999). Behavioral expressions of a personality system: Generation and perception of behavioral signatures. In D. Cervone, & Y. Shoda (Eds.), *The coherence of personality: Social-cognitive bases of consistency, variability, and organization* (pp. 155–181). New York, NY: Guilford.
- Shoda, Y., Mischel, W., & Wright, J. C. (1994). Intraindividual stability in the organization and patterning of behavior: Incorporating psychological situations into the ideographic analysis of personality. *Journal of Personality and Social Psychology*, 67, 674–687.
- Walsh, W. B., Craik, K. H., & Price, R. H. (Eds.) (1992). *Person-environment psychology: Models and perspectives*. Hillsdale, NJ: Lawrence Erlbaum.