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# Robust predictors of flux, pulse, and spin☆

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**Abstract**

Trait predictors for personality constructs that describe intraindividual variability in interpersonal behavior were examined across three event-contingent recording studies. *Flux* refers to variability about an individual's mean score on an interpersonal dimension and was examined for the four poles of the interpersonal circumplex. *Pulse* and *spin* refer to variability about an individual's mean extremity and mean angular coordinate on the interpersonal circumplex. Moderate to high temporal stability was found for pulse, spin, and flux in dominant, submissive, agreeable, and quarrelsome behaviors. Neuroticism was a robust predictor of greater spin. Extraversion was a robust predictor of greater flux in agreeable and quarrelsome behaviors. In contrast, Agreeableness was a robust predictor of less flux in quarrelsome behavior and less spin. Flux, pulse, and spin provide reliable additions for describing individual differences which are related to, but not redundant with, five-factor traits.


*Keywords:* Interpersonal behavior; Interpersonal circumplex; Intrapersonal variability; Lability; Dominant behavior; Submissive behavior; Agreeable behavior; Quarrelsome behavior; Dominance; Submissiveness; Agreeableness; Neuroticism; Extraversion

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## 1. Introduction

Trait theories of personality have emphasized that which is stable about individuals. For example, personality traits are stable over long periods of an adult's life (McCrae & Costa, 1994). Yet, it is also possible to define traits that represent consistencies or patterning in a highly variable stream of states or behaviors. In recent years there has been growing interest in constructing variables that refer to these variable or dynamic qualities of individuals. For example, Larsen (1989) and Brown and Moskowitz (1997) described regularly occurring cycles in affect and interpersonal behavior. More commonly, researchers have tried to capture these fluctuations by examining indices of within-person variability. Researchers have examined intrapersonal variability in affect, traits, self-esteem, and locus of control (Eid & Diener, 1999; Eizenman, Nesselroade, Featherman, & Rowe, 1997; Fleeson, 2001; Kernis, Granneman, & Barclay, 1989; Larson, 1983; Penner, Shiffman, Paty, & Fritzche, 1994; Roberts & Nesselroade, 1986). The work of these investigators has suggested that the extent of fluctuations within the individual on various dimensions constitute meaningful variables to characterize individuals. Recently, we examined intrapersonal variability in interpersonal behavior (Moskowitz & Zuroff, 2004). The purpose of the present study was to extend our previous results with a much larger sample to provide more precise parameter estimates for the stability and the predictors of intrapersonal variability in interpersonal behavior.

The present research examined intraindividual variability in interpersonal behaviors sampled from the domain of social behavior using the interpersonal circumplex model. According to this model, interpersonal behavior can be organized around a circle characterized by the two orthogonal dimensions of agency and communion (Kiesler, 1983; Wiggins, 1979, 1991). Communal behaviors can be conceptualized as behaviors that promote interpersonal ties; agentic behaviors can be conceptualized as behaviors that assert status relative to other individuals. Communion is represented by a bipolar axis ranging from agreeable behavior to quarrelsome behavior. Agency is represented by a bipolar axis ranging from assertive-dominant behavior to passive-submissive behavior (Wiggins, 1991).

Three types of intrapersonal variability were examined: flux, pulse, and spin. *Flux* refers to variability about an individual's mean score on an interpersonal dimension. A standard deviation about the mean was used to operationalize flux. Four flux variables were calculated corresponding to the four poles of the interpersonal circumplex; these variables were flux in dominant, submissive, agreeable, and quarrelsome behaviors. The flux scores would be similar to indices constructed by other investigators who have calculated intraindividual variability using a standard deviation of scores collected in a specified time period on a single dimension. For example, the flux scores for dominant behavior would be similar to temporal intraindividual variability scores for the interpersonal aspects of Extraversion (see Fleeson, 2001).

Using a transformation from Cartesian to polar coordinates, information from all four poles of the interpersonal circumplex were combined to create *pulse* and *spin* scores. The dimensions of agency and communion can be thought of as a Cartesian $(x,y)$ coordinate system defining the space of interpersonal behavior. Polar