Idiographic Traits: A Return to Allportian Approaches to Personality

Emorie D. Beck[1]

Joshua J. Jackson

Washington University in St. Louis

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Correspondence concerning this article should be addressed to Emorie D Beck, 1 Brookings Dr.,

St. Louis, MO 63130. Email: edbeck@wustl.edu.

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Abstract

Since its beginnings, personality psychologists have pursued both nomothetic and idiographic questions, with nomothetic approaches capturing a majority of attention in the last century. This paper demonstrates how recent measurement and modeling techniques provide an avenue for testing idiographic propositions about the dynamic features of a personality system. Findings indicate that people have unique structures of personality and that these structures are sensitive to situations people encounter. At the same time, these unique, mutable systems show longitudinal consistency for some, but not all, people.

Keywords: idiographic, personality, traits, structure, dynamics

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Whatever individuality is, it is not the residual ragbag left over after general dimensions have

been exhausted (Allport, 1968, p. 88).

From its inception, the core focus of personality psychology has been measuring and

modeling persons. Despite this, the last century has seen the rise of approaches to understand

people that focused on the dimensions that differentiate people within a population (variable-

centered, nomothetic) rather understanding a person as a holistic unit (person-centered,

idiographic). The former focuses on the *consistency* of behavior across people, time, and

situations whereas the latter emphasizes the *dynamics* and variability of behavior within and

across people, time, and situations (Beck & Jackson, 2019a).

Factor analysis, coupled with Gordon W. Allport's and Raymond B. Cattell's adoption of

traits propelled the study of nomothetic traits, opening up questions regarding the number,

nature, and organization of traits – in other words, the structure of personality. Evidence that

traits show long-term consistency and predict numerous life outcomes (e.g., Soto., 2019)

cemented the nomothetic approach as the dominant paradigm. Until recently, idiographic

measurement and modeling methods lagged behind, but methodological and quantitative

advances suggest that idiographic approaches are poised for a resurgence.

In this paper, we outline how idiographic approaches complement, not replace,

nomothetic approaches, as Allport foreshadowed nearly a century ago. As Allport (1937) defined

it, personality is "*the dynamic organization within the individual of those psychophysical systems*

that determine his unique adjustments to his environment" (p. 48). Below, we elaborate on the

implications of the definition for personality science, describing how new methodological tools

and recent work on the topic provide a return to an Allportian conceptualization of idiographic traits.

Within-Person Organization

Allport frequently noted the utility of using factor analysis to reduce the massive set of possible individual differences to a more parsimonious set that served to define the lowest level structure, or units, of personality between-people. Despite noting the practicality of the between-person approach, Allport believed that deterministic, or causal, personality is "within the individual," meaning that the structure of personality is unique to a person and does not necessarily exist between people (i.e. the ecological fallacy). As Allport (1968) wrote, in idiographic approaches "there is no reference to common dimensions, no comparison with other people" (p. 59). Instead, the person is considered relative to only themself.

Despite a well established between-person personality structure in the Big Five, there is not a agreed upon within-person structure. Recently, we extracted within-person structures using *P*-technique factor analyis (Cattell, 1946) in the largest sample of individuals to date in an idiographic investigation (N = 343, total assessments = 17,715; Beck & Jackson, 2019b) and a second sample (N = 123, total assessments = 4,823; Beck & Jackson, 2019c) that included the largest number of personality indicators in an idiographic investigation (P = 60). Consistent with previous studies (Borkenau & Ostendorf, 1998; Molenaar, 2004), both found that the within-person structure, including the number of within-person factors, rarely matched the between-person structure. Both the number of factors and and the membership of indicators varied. These findings question the utility of between-person constructs for within-person questions.

To explain *why* people do what they do (i.e. identify underlying mechanisms) using the Big Five or another taxometric structure rather than just describe general tendencies or predict

likely outcomes, between- and within-person structures need to be the same (Borsboom, Mellenbergh, & Van Heerden, 2003) and to be ergodic (Molenaar, 2004). That these two structures are rarely the same has an important implication: that lower level (i.e. idiographic) patterns of psychological processes underlie regularities between person, which are unlikely to share common causes. In other words, similar behaviors may have different causes and different behaviors may have similar ones. As a result, broad traits cannot *explain* behavior. If two people do not have the same causal underpinnings of Conscientiousness, then Conscientiousness is not a good candidate for explaining why they excel at school or have excellent health (c.f. Hill & Jackson, 2016).

Moreover, idiographic assessment also facilitates expanding personality beyond the traditional trait space (i.e. the traditional set of variables in personality inventories). Although much personality research looks beyond the Big Five, the examination of a narrow range of indicators in isolation, Big Five or otherwise, will never capture the full structure of idiographic personality, as the crux of idiographic traits is that they are not shared across people. These other dimensions of individual differences that are not captured within the Big Five, such as humor (Paunonen & Jackson, 2000), abilities, goals, and values, may be more informative in explaining someone's daily behavior. Despite this, there has been almost no work delineating procedures for creating scales for repeated measures data (c.f. Zimmerman & Wright, 2018, for an exception).

Personality is a System

Allport (1937; 1960) envisioned the organization of personality as a system, meaning that defining appropriate personality units was simply the first step. The next step is defining how the units relate to one another over time. Although several theoretical models of personality proposed dynamic features of a personality system, few quantitative methods are able to account

for three key features of a systems account of personality: (1) bidirectional relationships (i.e.

feedback loops) among components *within* time (e.g. *while* being more sociable, I worry less,

which makes me more sociable) (2) and *across* intervals of time (e.g. *if* I am more sociable now,

then I will worry more later, which will make me less sociable even later) and (3) identifying

how combinations, or patterns, of relationships among specific components may have important

properties in their own right (Beck & Jackson, 2019d).

New tools allow personality scientists to model personality idiographically as a system of

interacting components. Smart phones, for example, have facilitated idiographic data collection,

and network approaches (e.g. Cramer et al., 2012) have offered a solution to the parsimony-

complexity tension inherent within a systems perspective. Importantly, what makes a network is

not an estimation procedure but the methods that can be applied to data or results structured as

(square) matrices (Beck & Jackson, 2019d). Essentially, the rows and columns indicate the nodes

(or variables) under investigation while the cells of the matrices represent the edges (or

relationships) among the nodes. Figure 1 visualizes the steps from raw data to representing

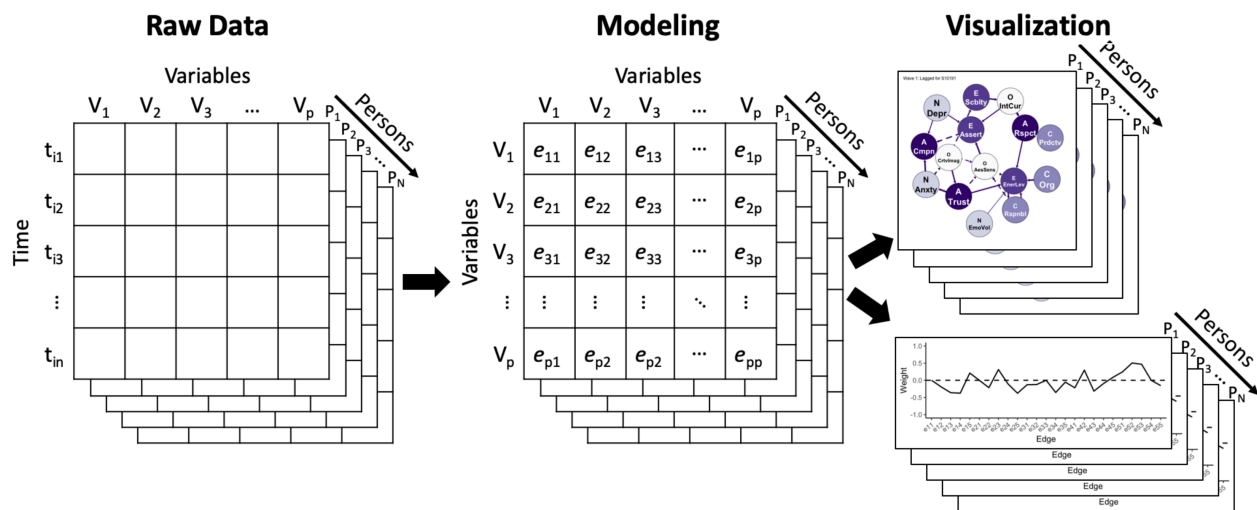within-person correlations as a network.

Figure 1. A simplified analytic procedure for using network tools on idiographic time series data from raw data (left) to modeling relationships among variables (V_1 to V_p) and formatting them as a matrix (middle) to visually displaying them as a network (top right) or profile of relationships (bottom right).

　　If nodes represent personality units, the question of defining the relationships among them remains. Although there are many techniques for estimating edges, new techniques for cross-lagged vector autoregressive (VAR) models (e.g. Beltz & Gates, 2017; Wild et al., 2010) hold great promise. Unlike most previous investigations that have examined univariate or bivariate relationships, these models estimate multivariate relationships among large sets of predictors, which satisfies the three features of a systems approach to personality mentioned above.

　　Using longitudinal ESM data, we recently examined the utility of idiographic models in personality (Beck & Jackson, 2019b). For each participant, we estimated idiographic relationships among Big Five indicators both contemporaneously (within-time) and lagged (across time). We conceptualized these models in the language of conditional frameworks of personality (Wright & Mischel, 1987). Lagged relationships represent *if…then* contingent relationships, while contemporaneous associations capture *while* relationships. As seen in Figure 2 in Subject 1's lagged network, for example, *if* they feel lazy now, *then* they are likely to report being less rude later (a negative relationship). Indeed, the rude node has the most and strongest connections to other nodes, which, in turn, have almost no connections to other nodes. Notably, these are in a single direction – rude appears to be the *result*, meaning that how rude Subject 1 is now depends on previous behaviors. Moreover, these models account for other indicators, rather than the zero-order association between only two. Thus, when we say that other nodes predict

being rude, that is controlling for the other bidirectional associations. In other words, these

idiographic models test for conditional associations that account for the influence of other

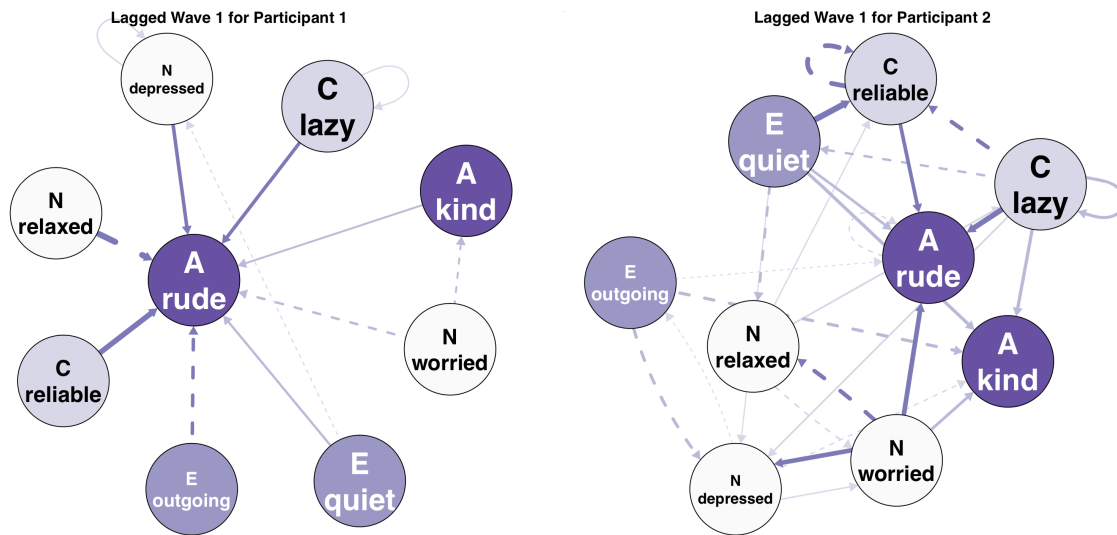psychological variables, as Allport (1937) proposed.

Figure 2. Lagged models from graphical VAR models for two sample participants for nine Big

Five indicators.

We found considerable heterogeneity in idiographic structure across people. This can be

seen visually in Figure 2 in the differences in number, pattern, and direction of relationships

between the two participants. Across all participants, we find that some participants have similar

structures, but most participants strongly differed. Moreover, comparing each idiographic

structure to the average, between-person structure revealed that the between-person structure

failed to fit many individuals. That the within-person structure differs across people again

indicates the importance of dynamic idiographic personality assessment.

Dynamic

To begin to address the consistency of personality systems, we examined the longitudinal

consistency of idiographic networks (Beck & Jackson, 2019b). Rather than testing the

consistency of different personality dimensions separately, we examined whether the idiographic

network structure was consistent one year later. Figure 3 presents the density distribution of

profile correlations between participants' structures one year apart. On average across all

participants, we found longitudinal consistency for contemporaneous, within-time relationships.

In general, people's contemporaneous structures can be thought of as a stable individual

difference variable. However, there was weak consistency for lagged, across-time relations.

Despite this, we saw individual differences in consistency, with some people showing almost

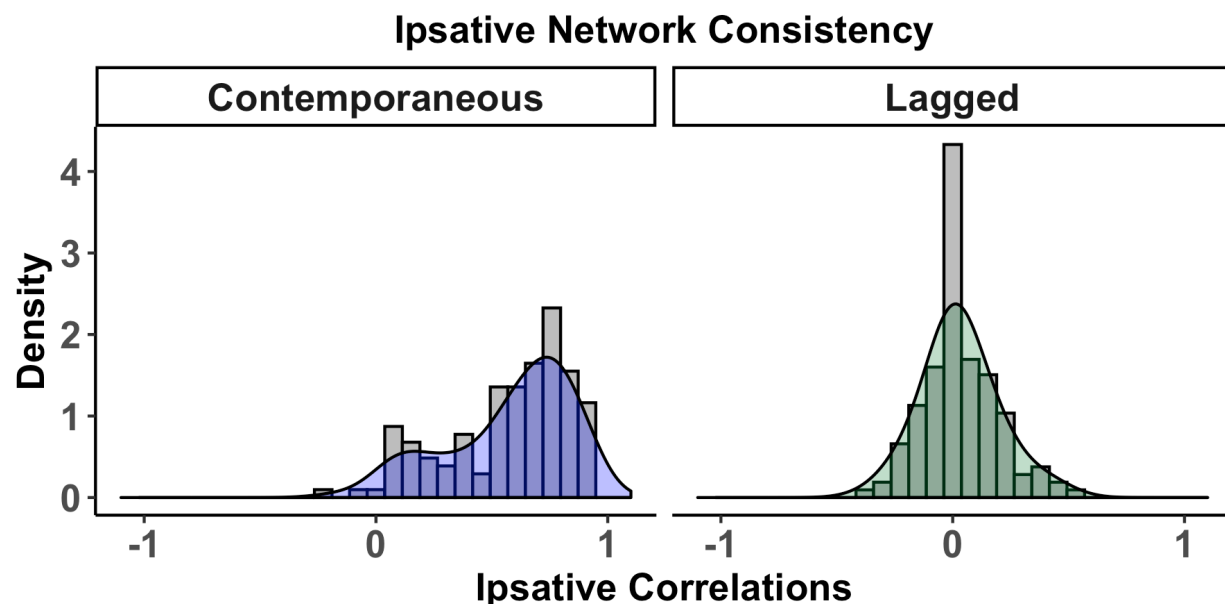perfect consistency and others appearing to be nothing like their former selves.[2]

Figure 3. Density histogram of ipsative (profile) stability of idiographic networks across waves

contemporaneously (left) and lagged (right).

The average consistency of idiographic structure suggests that contemporaneous

personality is stable (for some). At whatever timescale these processes unfold, there is enough

within-time commonality to show consistency in the pattern of momentary reports over a year.

Yet the lack of average lagged consistency (i.e. two-year *if...then* consistency) suggests that

personality may be more dynamic than what contemporaneous structures capture. Standard

lagged models estimate fixed associations, assuming the timescale at which all relationships occur is equal, but associations between personality manifestations likely occur at different timescales for different people, with, for example, how quickly depression impacts rudeness for Participant 1 occurring on the same timescale as how quickly being quiet impacts rudeness. The result is a difficulty in understanding *if...then* associations, and the present challenge is to describe change at the correct timescale and to separate change from error. Indeed, modeling associations at the wrong timescale can result in attenuated or exaggerated associations among variables, which threatens the inferences drawn from empirical work.[3] At present, error in these models is controlled using techniques like regularization (Epskamp, Waldorp, Mottus, & Borsboom, 2018) and model selection (Beltz & Gates, 2017), but the best way to capture error is unknown.

Recently, the concept of "emergence" has become a popular link between within- and between-person models and highlights the importance of estimating relationships at the correct timescale (Baumert et al., 2017). Essentially, emergence is an observable outcome of interactions among components in a complex system. In personality, this means that observed between-person levels of a personality trait are an emergent property of relationships among manifestations within-person (Revelle & Condon, 2015) because the temporal relationships among indicators has direct implications for the frequency and duration of personality manifestations. Indeed, the observation that average levels of personality manifestations tend to correspond to between-person trait levels (Fleeson, 2001) underscores this. But to model emergence, the (1) indicators must be correct and (2) relationships among indicators must be modeled at the correct timescale (Beck & Jackson, 2019d). However, the critical takeaway is that

nomothetic and idiographic approaches should be considered as complementary approaches, with idiographic patterns underlying nomothetic ones.

Adjustments to the Environment

Despite the promise of modeling personality as an idiographic system, any model of personality must incorporate situations. At present, most personality research incorporating situations examine person by situation (PxS) interactions. However, PxS studies find largely null effects, with personality and situations demonstrating additive, not multiplicative, effects (Sherman et al., 2015). PxS assumes that which personality features are relevant are constant, both between-people and within-person across time. An alternative approach is *if...then* contingencies, which can be viewed as idiographic because the patterns, or behavioral signatures, are specific to the person (Cervone, 2005; Fournier, Moskowitz, & Zuroff, 2008). Indeed, when considering that some features of situations may (1) only be relevant for some people, (2) have impacts on different behaviors, or (3) have different impacts on the same behavior, it becomes clearer why most PxS studies find largely null effects.

Idiographic approaches provide an alternative method for incorporating person and situation features. These models can directly incorporate situations and test whether and for whom relevant psychological features are consistent across time and situations. In other words, these models empirically capture *if...then* contingencies (Beck & Jackson, 2019b). In doing so, Figure 4 presents a simplified example of the profile of two participants comparing a model that only contains personality manifestations (solid line) with one that contains a situation (interacting with someone; dashed line). Where the dashed and solid lines diverge indicates areas where situational contexts influenced the magnitude or relevance (i.e. the solid line = 0 but the dashed line ≠ 0) of different components. For both participants, there are differences between the

solid and dashed line, indicating that the situational context influenced their behavior. However, the pattern of differences is different, suggesting that interacting with someone differentially influenced those patterns. If repeated across people, we find similar effects, with considerable heterogeneity in which features matter for which people in some situations, which may explain why most PxS interactions are null. Although some people show similar patterns of influence, others do not, resulting in almost no effect, on average (Beck & Jackson, 2019d).
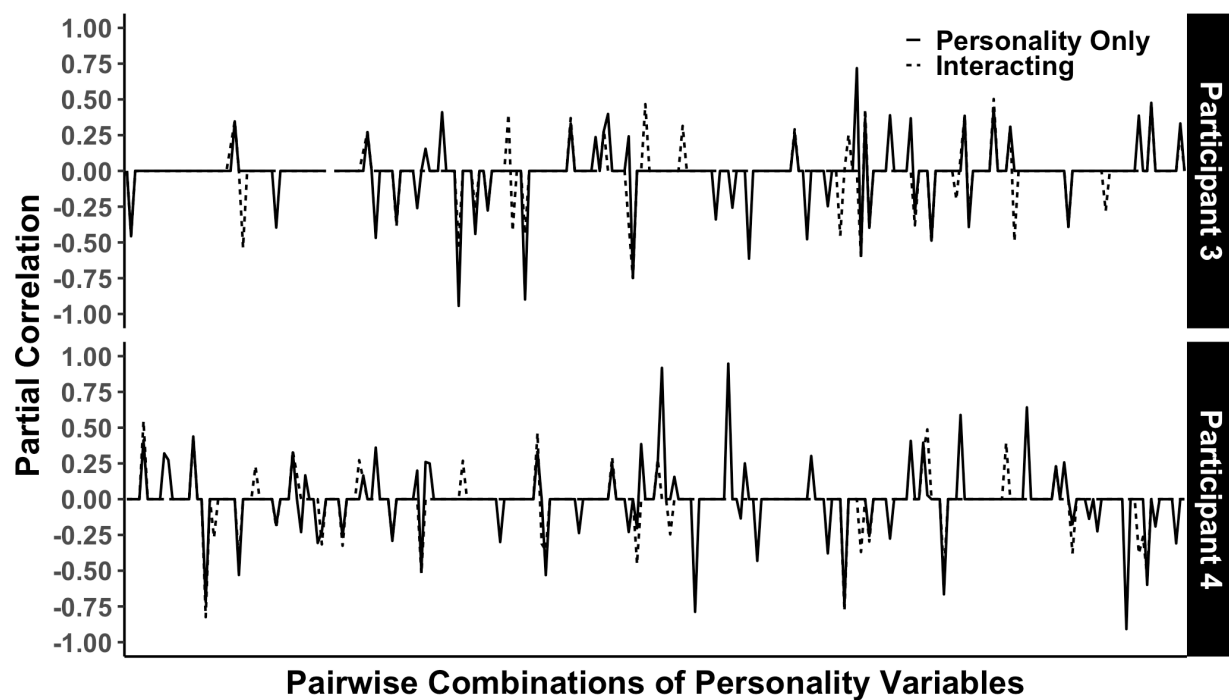

Figure 4. Profile of idiographic lagged partial correlations (Y-axis) between personality manifestations when accounting for the situation of interacting with others (dashed line) or not (solid line). The X-axis represents pairwise combinations of personality variables (e.g. E: Sociability → C: Productivity.

Conclusion

Dimensions are dimensions, and people are people (Allport, 1937, p. 400).

Idiographic personality systems have been key to psychological theory since the field began. But a lack of quantitative models to capture idiographic dynamics made testing such theories untenable until recently. We find that idiographic personality structures diverge from standard taxonomies of between-person personality and that people have markedly different idiographic structures of personality. These idiographic structures are sensitive to situations but still demonstrate longitudinal consistency for some, but not all, individuals.

Despite a recent surge in progress on idiographic modeling, there are number of remaining issues and questions. First, the creation of procedures for defining idiographic units has been understudied relative to idiographic modeling procedures. Second, research should investigate the timing of the measured phenomena in terms of both measurement and modeling. Third, as of yet, there have been no true theoretical or statistical tests of emergence as the link between nomothetic and idiographic personality. While novel methodological tools have moved the field closer to understanding consistency and change in personality to bridge the gap between between- and within-person personality, a number of open questions remain.

Notes

2. We also looked at the split-half reliability within waves to assess estimate reliability and found very similar results to longitudinal consistency, indicating that contemporaneous models are quite reliable, while lagged models are less reliable.

3. These models have additional downsides, including a relatively large number of assessment points and convergence issues.

References

Allport, G. W. (1937). Personality: A psychological interpretation.

Allport, G. W. (1960). The open system in personality theory. *The Journal of Abnormal and Social Psychology*, *61*(3), 301.

Allport, G. W. (1968). The person in psychology: Selected essays.

Baumert, A., Schmitt, M., Perugini, M., Johnson, W., Blum, G., Borkenau, P., ... & Jayawickreme, E. (2017). Integrating personality structure, personality process, and personality development. *European Journal of Personality*, *31*(5), 503-528.

Beck, E. D., & Jackson, J. J. (2019a). Within-Person Variability. In Rauthmann, J., editor, *Handbook of Personality Dynamics and Processes*. Elsevier, 1st edition. https://doi.org/10.31234/osf.io/kavbp.

Beck, E. D., & Jackson, J. J. (2019b). Consistency and change in idiographic personality: A longitudinal ESM network study. *Journal of Personality and Social Psychology*.

Beck, E. D., & Jackson, J. J. (2019c). Planned Missing Personality Using ESM. Retrieved from osf.io/pj9sy.

Beck, E. D., & Jackson, J. J. (2019d). Network Approaches to Representing and Understanding Personality Dynamics. In Wood, D., Read, S., Harms, P., and Slaughter, A., editors, *Measuring and Modeling the Person and Situation*. Elsevier, 1st edition. https://doi.org/10.31234/osf.io/8qws9.

Cattell, R.B. (1946). *The Description and Measurement of Personality*. New York: World Book Co.

Beltz, A. M., & Gates, K. M. (2017). Network mapping with GIMME. *Multivariate behavioral research*, *52*(6), 789-804.

Borkenau, P., & Ostendorf, F. (1998). The Big Five as states: How useful is the five-factor

model to describe intraindividual variations over time?. *Journal of Research in

Personality*, *32*(2), 202-221.

Borsboom, D., Mellenbergh, G. J., & Van Heerden, J. (2003). The theoretical status of latent

variables. *Psychological review*, *110*(2), 203.

Cervone, D. (2005). Personality architecture: Within-person structures and processes. *Annu. Rev.

Psychol.*, *56*, 423-452.

Cramer, A. O., Van der Sluis, S., Noordhof, A., Wichers, M., Geschwind, N., Aggen, S. H., ... &

Borsboom, D. (2012). Dimensions of normal personality as networks in search of

equilibrium: You can't like parties if you don't like people. *European Journal of

Personality*, *26*(4), 414-431.

Fleeson, W. (2001). Toward a structure-and process-integrated view of personality: Traits as

density distributions of states. *Journal of Personality and Social Psychology*, *80*(6), 1011.

Fournier, M. A., Moskowitz, D. S., & Zuroff, D. C. (2008). Integrating dispositions, signatures,

and the interpersonal domain. *Journal of Personality and Social Psychology*, *94*(3), 531.

Hill, P. L., & Jackson, J. J. (2016). The invest-and-accrue model of conscientiousness. *Review of

General Psychology*, *20*(2), 141-154.

Mischel, W., & Shoda, Y. (1995). A cognitive-affective system theory of personality:

reconceptualizing situations, dispositions, dynamics, and invariance in personality

structure. *Psychological Review*, *102*(2), 246.

Molenaar, P. C. (2004). A manifesto on psychology as idiographic science: Bringing the person

back into scientific psychology, this time forever. *Measurement*, *2*(4), 201-218.

Paunonen, S. V., & Jackson, D. N. (2000). What is beyond the big five? Plenty!. *Journal of Personality*, *68*(5), 821-835.

Revelle, W., & Condon, D. M. (2015). A model for personality at three levels. *Journal of Research in Personality*, *56*, 70-81.

Sherman, R. A., Rauthmann, J. F., Brown, N. A., Serfass, D. G., & Jones, A. B. (2015). The independent effects of personality and situations on real-time expressions of behavior and emotion. *Journal of Personality and Social Psychology*, *109*(5), 872.

Soto, C. J. (2019). How replicable are links between personality traits and consequential life outcomes? The Life Outcomes of Personality Replication Project. *Psychological Science*, *30*(5), 711-727.

Wild, B., Eichler, M., Friederich, H. C., Hartmann, M., Zipfel, S., & Herzog, W. (2010). A graphical vector autoregressive modelling approach to the analysis of electronic diary data. *BMC Medical Research Methodology*, *10*(1), 28.

Wright, J. C., & Mischel, W. (1987). A conditional approach to dispositional constructs: the local predictability of social behavior. *Journal of Personality and Social Psychology*, *53*(6), 1159.

Wright, A. G., & Zimmermann, J. (2019). Applied ambulatory assessment: Integrating idiographic and nomothetic principles of measurement. *Psychological Assessment*.

Recommended Readings

Beck, E. D., & Jackson, J. J. (2019). Consistency and change in idiographic personality: A

longitudinal ESM network study. *Journal of Personality and Social Psychology*.

A recent empirical article examining idiographic personality structure and longitudinal

consistency using a variety of idiographic modeling techniques.

Beck, E. D., & Jackson, J. J. (2019). Network Approaches to Representing and Understanding

Personality Dynamics. In Wood, D., Read, S., Harms, P., and Slaughter, A., editors,

Measuring and Modeling the Person and Situation. Elsevier, 1st edition.

https://doi.org/10.31234/osf.io/8qws9

An exhaustive review of the past, present, and future of dynamic idiographic approaches to

personality.

Molenaar, P. C. (2004). A manifesto on psychology as idiographic science: Bringing the person

back into scientific psychology, this time forever. *Measurement*, *2*(4), 201-218.

A classic review paper underscoring the importance of using idiographic techniques in

psychology, with an emphasis on quantitative approaches.

Revelle, W., & Condon, D. M. (2015). A model for personality at three levels. *Journal of

Research in Personality*, *56*, 70-81.

A review article that provides a cogent explanation for the explanatory links between- and

within-person personality.

Wright, A. G., Gates, K. M., Arizmendi, C., Lane, S. T., Woods, W. C., & Edershile, E. A.

(2019). Focusing personality assessment on the person: Modeling general, shared, and

person specific processes in personality and psychopathology. *Psychological

Assessment*, *31*(4), 502.

An empirical paper demonstrating links between personality and psychopathology from an idiographic perspective using GIMME models.