

Network Models in the Organization of Personality

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Abstract: The network perspective illustrates an important cautionary point concerning the interpretation of inter-item relationships. However, its complexity comes at a price, including a possible lack of robustness and replicability, and difficulties in interpretation and achieving psychological insight. The most interesting and important manifestations of personality are diverse and consequential behaviours that are related because they really do reflect common underlying traits. Thus, the target article can serve as a reminder of the importance of ranging beyond self-report questionnaires to the much more difficult, expensive and important world of behaviour. Copyright © 2012 John Wiley & Sons, Ltd.

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The network perspective proposed by Cramer and colleagues (2012) makes an important point. Indicators of personality, such as items on a self-report test, may be related to one another for linguistic, logical or causal reasons rather than because, as in a classic view, they are all influenced by a common, underlying or ‘latent’ trait. For example, if a test includes an item reading ‘I like to go to parties’ in addition to an item reading ‘I enjoy social contact’, then the items are likely to be correlated because parties are significant sources of social contact. For another example, items reading ‘I like to take physical risks’ and ‘I am injured more often than most people’ are likely to be correlated for causal reasons; risks may lead to injury.

In the view of personality–behaviour relations underlying classical test theory, behaviours are related to each other only to the degree that they are manifestations of the same underlying trait. An individual’s trait score is typically computed as the simple sum (or average) of the trait’s behavioural indicators, which are usually self-report items. The relations among items that might arise for linguistic, logical or causal reasons are typically ignored. The network perspective advanced by Cramer and colleagues provides a way to account for this complexity. The overall point made by the target article is reminiscent of Cattell’s (1973) concept of ‘bloated specifics’, which describes a situation in which test items are so similar to one another that the overall score, although highly reliable in a statistical sense (coefficient alpha), may measure a construct so narrow as to be of little importance or interest in any larger sense. The target article may remind us that repeating the same item over and over with small variations is not so different from including items that are nearly synonymous, are logically connected or causally lead to one another. Associations among such items

do not necessarily indicate the presence of a common causal trait. Although this point is important, it is not entirely new.

The target article discusses complex network models loaded with numerous nodes and intricate relations, perhaps doing justice to the richness of personality better than simple trait models. However, such complexity comes at a price, running the danger of confusing random error or noise for meaningful patterns of relationships. Even Quek and Moskowitz (2007)—who used empirical event-contingent recording data to validate network models—acknowledged that only by simplifying the networks would their models replicate, leaving each with just a few nodes. Complex models often fit data well, but model selection based solely on fit can result in overfitting, leading to poor replicability and low generalizability. They are also difficult to interpret or to use for psychological insight.

Finally, the data considered by Cramer and colleagues appear largely limited to self-report test items. However, personality is manifested in far more diverse and consequential ways, especially meaningful patterns of behaviour across situations, and over time. Some such patterns of behaviour are, like self-report items, sometimes associated for reasons of semantic similarity, logic or causality. For example, conscientious behaviours are related to longevity not because acting conscientiously and living for a long time manifest the same latent trait but because conscientious behaviours such as careful driving and avoiding binge drinking can extend the lifespan (Friedman, 2011). On the other hand, notice that careful driving and avoiding binge drinking are not related because of any semantic, logical or causal relationship between them but very probably because they both *do* manifest the same underlying latent trait of conscientiousness.

Many other interesting patterns of behaviour can only be accounted for by the existence of a single underlying trait. Years ago, Blum and Miller (1952) showed that children who ate the most ice cream also were prone to seek their teachers’ approval more often. There is no semantic, logical or causal relationship between these behaviours, suggesting

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that they might well be manifestations of the same underlying trait (in this case, oral dependency). More recently, Nave *et al.* (2010) found that children who exhibited unrestrained talkativeness in elementary school displayed dominant and socially adept behaviours as middle-aged adults whereas those who showed adaptability as schoolchildren were cheerful and intellectually curious as adults. Connections among diverse behaviours such as these, widely separated in space, time and eliciting context, are the most convincing

way to reveal the underlying, latent traits that remain of central interest to the field of personality psychology. The target article's best service may be its implicit reminder that personality research will make better progress in the future by turning some its attention away from self-report items that are often necessarily inter-related for semantic, logical and causal reasons and towards the overt behavioural manifestations that make personality important (Baumeister, Vohs & Funder, 2007).