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Self- and parent-rated facets of Conscientiousness predict academic outcomes: Parent-reports are more predictive, particularly for approach-oriented facets☆

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ABSTRACT

Meta-analyses have demonstrated that other-ratings of Conscientiousness are stronger predictors of academic achievement than are self-ratings. The current study ($N = 410$ high school students) examined whether this effect applies for all facets of Conscientiousness. Compared to self-reports, parent-reports showed stronger prediction of GPA and of other school life variables such as disciplinary infractions and involvement in school clubs. The difference between parent- and self-reports was stronger for outcome-linked facets such as Industriousness than for process-linked facets such as Tidiness. We suggest that this difference is due to the different types of information used by the self as compared to observers when rating personality items. Our results help to explain the reporting biases evident in self- and parent-ratings, have implications for the appropriateness of self- and parent-report personality protocols in applied settings (e.g., training, selection), and should provide guidance for educational interventions focused upon goals, habits and motivations.

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1. Introduction

Poropat's (2009) initial meta-analysis of personality and academic performance showed that Conscientiousness correlates at .21 with student achievement in secondary school, compared to −.03 to .12 for the other four Big Five factors. However, this meta-analysis was restricted to self-reports of personality and did not include observer ratings. More recent meta-analyses demonstrate that observer-ratings of personality provide substantially stronger prediction of academic performance—correlations were .38 for Conscientiousness versus .05 to .28 for the other Big Five factors (Poropat, 2014a,b). Similar findings have been observed for the facets of Conscientiousness, particularly Achievement Striving (Ziegler, Danay, Schölmerich, & Bühner, 2010). Other-rated Conscientiousness predicts nearly four times the variability in academic performance as self-rated Conscientiousness. This represents one of the strongest meta-analytic correlations with academic performance ever

reported (cf., Hattie, 2009). In fact, the correlation of other-rated Conscientiousness with academic performance is substantially higher than the association of intelligence with academic performance (Poropat, 2009, 2014b). Moreover, Connelly and Ones's (2010) meta-analysis demonstrates that other-ratings of Conscientiousness have superior prediction to self-ratings across a range of personal and social outcomes in addition to academic performance.

In the present study, we test two possible explanations as to why other-reports provide superior prediction over self-reports: (1) differences in reliability for self- versus other-reports (cf. Balsis, Cooper, & Oltmanns, 2014); and (2) differences in the type of information used by the self versus others in making personality ratings. To address this question, we compare prediction of academic performance and school life variables from self- and parent-reported facets of Conscientiousness. In the passages that follow, we present a framework for interpreting the differences between facets of Conscientiousness in terms of the type of information that may be used to rate items from these facets (approach versus avoidance). We argue that parent-reports may be both more reliable, and more predictive for approach-related facets.

To begin with, we note that self- and other-reports of personality are not perfectly correlated, relating at about $r = .50$ for adults (Connelly, Kavanagh, & Viswesvaran, 2008; Laidra, Allik, Harro, Merenakk, & Harro, 2006) and around $r = .30$ for children and adolescents

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(Barbaranelli, Caprara, Rabasca, & Pastorelli, 2003). Moreover, evidence suggests that the non-overlapping variance is not measurement error but may instead tap into systematic (and quite different) sources of personality variance captured by self and observer ratings. For example, parent- and self-rated scores of the Conscientiousness facet of Industriousness shared only 30% of their variance but predicted 36% of the variation in academic achievement (Fogarty, Davies, MacCann, & Roberts, 2014).

1.1. Explanation 1: other-reports are more predictive because they are more reliable

As yet, it is unclear why other-rated personality should provide so much better prediction of academic performance. Multiple regression analyses have ruled out intelligence and its associated constructs as explanations for this difference (Poropat, 2009, 2014a,b). Our first potential explanation is that observer-reports may simply be more reliable than self-reports, resulting in stronger prediction due to the greater proportion of true score variance represented by the observed scores. Observers may have a more consistent perspective on the target than the target themselves for two reasons. First, observers use one source of information (observed behavior) to evaluate the target's personality, whereas targets are using multiple sources of information (behavior, as well as internal motivations, feelings, and beliefs; Vazire, 2010). Second, most observers will generally observe the target's behavior across a limited range of situations. For example, teachers observe students in the classroom or playground, but not with siblings or family, whereas parents observe their children mainly in home-based interactions with family, and rarely see them in the classroom with their same-age peers. In contrast, the self is privy to its own behavior across all situations that are encountered. If people show systematically different patterns of behavior in different situations (which research on the frame-of-reference effect would support; e.g., Lievens, De Corte, & Schollaert, 2008), then targets should show lower internal consistency on personality ratings than observers. In fact, there is recent empirical evidence that Cronbach's alpha coefficients are higher for other-reports than self-reports for ratings of older adults on the NEO (Balsis et al., 2014). We propose that this phenomenon (higher internal consistency for other-ratings than self-ratings) will also occur for children's versus parents' ratings of Conscientiousness facets. To test whether this reliability-based explanation accounts for differences in prediction for self- and other-reports, we will compare prediction of outcomes using reliability-corrected correlations with achievement.

1.2. Explanation 2: other-reports are more predictive because they are based on different types of information

An alternative explanation is provided by Vazire's (2010) self–other knowledge asymmetry model. This model explains differences between self- and observer-ratings in terms of self-presentation biases and the relative emphasis on different types of information available to these different raters. In part, Vazire's model is linked with Funder's (1995, 2001) argument that the information used by a personality judge can substantially affect their ratings. Vazire argued that other-raters base ratings more upon behaviors and self-raters would have a comparatively greater emphasis on information about thoughts and feelings. However, Poropat (2014b) found that Vazire's model did not account for the differences in correlations of academic performance with self- and other-rated personality. Instead, Poropat (2014b) argued that self–other differences could be explained by the findings of Gill and Swann (2004) who showed that people attend to information that is of pragmatic value to them. This implies that personality ratings will be based upon information of value to the rater, regardless of whether that information is linked with thoughts, feelings, or actions.

We propose that the degree to which observers value different traits may relate to the distinction between *approach-related traits* (focusing on behaviors that approach, cause, or bring about positive outcomes) and *avoidance-related traits* (focusing on avoiding errors, conflict, or negative outcomes). We believe that approach and avoidance-related traits differ in three ways. First, approach tendencies may be more observable than avoidance tendencies, as they are associated with actions rather than the absence of actions. For this reason, approach tendencies may be more accurate for other- versus self-ratings. Second, because others can more easily observe approach tendencies, they can also more easily observe the link between approach tendencies and positive outcomes (as compared to the link between avoidance tendencies and the absence of negative outcomes). For this reason, others may value approach tendencies more than avoidance tendencies—to the outside observer, they appear more valuable. Third, approach tendencies may genuinely be more valuable than avoidance tendencies in predicting positive educational outcomes. For example, learning strategies emphasizing an approach towards goals and achievement (e.g., effort regulation, time/study management, and a strategic approach to learning) show stronger associations with academic performance compared to learning strategies emphasizing the avoidance of error (e.g., organization or rehearsal; Richardson, Abraham, & Bond, 2012). A related line of research distinguishes between approach and avoidance academic goals, with evidence indicating that approach goals are more predictive than avoidance goals (in fact, avoidance goals may show negative relationships with academic performance; Elliot & McGregor, 2001). For these reasons, we propose that it is not the thoughts/feelings versus actions distinction that differs for self- versus other-ratings but rather the distinction between approach versus avoidance content.

Recent research on the underlying facets of Conscientiousness provides an opportunity to test these three differences. MacCann, Duckworth, and Roberts (2009) identified eight facets of Conscientiousness that reliably described differences among school students, and were related to academic outcomes. We propose that these facets differ in the degree to which they reflect *approach* and *avoidance* tendencies. Four of the facets explicitly reflect approach towards goals, tasks, or behaviors: Industriousness (reflecting behavioral engagement with work; e.g., "I accomplish a lot of work"); Perseverance (reflecting maintenance of motivation; e.g., "I give up easily"); Proactivity (reflecting a focus on work tasks; e.g., "I get to work at once"); and Task Planning (reflecting goal focus; e.g., "I make plans and stick to them"). The remaining facets reflect avoidance of errors: Cautiousness (reflecting carefulness and avoidance of mistakes; e.g., "I avoid mistakes"); Control (reflecting the avoidance of impulsive errors; e.g., "I make rash decisions"); Perfectionism (emphasizing freedom from errors or imperfections; e.g., "I detect mistakes"); and Tidiness (reflecting the avoidance of disorder; e.g., "I like to tidy up"). To test this designation, eight graduate psychology students from the third author's institution classified each facet scale as reflecting "Task-focus (approach towards completing tasks)" or "Error-focus (avoidance of mistakes and errors)", without being told the purpose of the exercise. This categorization reliably confirmed expectations: intra-class correlation $= .95$, $p = .000$.

For self-raters, both approach and avoidance facets of Conscientiousness are directly relevant and of personal value, because it is the self-rater's own time and resources that are being committed to the associated behaviors. However, other-raters will find approach facets both more observable and more valuable than avoidance facets. Observers will primarily value approach-related facets because the associated behaviors lead directly to outcomes, which are observable by the presence of desired behaviors and consequences. Avoidance-related facets will be less valuable and less identifiable for other-raters because they can only be identified by the absence of the avoided behaviors and consequences. The presence of a behavior or consequence is inherently both more observable and more interpretable than its absence, in part because absence of observed behaviors and consequences is not always evidence of absence of the associated trait. Regardless of the heuristics used to interpret absence of observations, the interpretations are inevitably