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## ORIGINAL ARTICLE

# Unique predictive power of other-rated personality: An 18-year longitudinal study

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## Abstract

**Objective:** What is gained by having others report on one's personality? Research on adult samples has suggested that informant reports are especially informative regarding traits that are highly visible and evaluative (i.e., socially desirable/undesirable instead of neutral), such as Openness, Conscientiousness, and Agreeableness. This 18-year longitudinal study aims to demonstrate the unique predictive power of other-rated personality in adolescence, using life outcomes and personality in adulthood as trait criteria.

**Method:** We examined the unique predictive power of self- and other-rated Big Five personality traits at age 12 and 17 on self-rated life outcomes and personality at age 29 (e.g., educational achievement, work income, depression, moral transgressions, and relationship satisfaction). Participants were 186 German adolescents (53% boys), their parents and friends at age 12, and their mothers and fathers at age 17.

**Results:** Other-ratings showed unique predictive power beyond self-ratings for all Big Five traits, with the most consistent results for Openness, Conscientiousness, and Agreeableness.

**Conclusions:** Results demonstrate the added value of including other-reports on adolescent personality when predicting future life outcomes and personality, especially for highly visible and evaluative traits. The present study sheds light on the predictive power of self- versus other-rated personality and personality–outcome associations.

## KEYWORDS

longitudinal study, personality, predictive power, rating

## 1 | INTRODUCTION

Individuals' personality traits predict various crucial life outcomes in domains such as work, love, and health (Ozer & Benet-Martínez, 2006; Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007; Tackett, 2006). However, earlier studies in this field are predominantly based on personality traits using

self-reports. Although there is some evidence suggesting that informant-reports of personality are also related to later life outcomes (J. H. Block, Block, & Gjerde, 1986; J. Block, Gjerde, & Block, 1991; Moffitt et al., 2011; Shedler & Block, 1990), little is known regarding what is gained by having others report on one's personality. The present study investigated the unique predictive power of adolescent personality

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rated by themselves and their close others (i.e., parents and friends), using longitudinal data spanning 18 years.

## 1.1 | Predictive power of self- versus other-rated personality

Theory and research has suggested that other-ratings provide valuable information regarding one's personality. Building upon previous work by John and Robins (1993) and Luft and Ingham (1961), the Self-Other Knowledge Asymmetry model (the SOKA model; Vazire, 2010) provides a framework outlining the relative predictive power of self- versus other-rated personality. The SOKA model notes that self-ratings are subject to self-bias, which may result in distortions when rating traits that are highly evaluative (i.e., either highly socially desirable/undesirable instead of neutral). Thus, other-ratings may show higher predictive power than self-ratings for Openness, Conscientiousness, and Agreeableness. On the other hand, the self has privileged access to thoughts and feelings that are less visible to others. Therefore, Neuroticism, which mainly concerns individuals' negative thoughts and feelings, might be most accurately judged by the self. Self and others are assumed to be equally accurate in judging personality traits that are both high in visibility and low in evaluativeness, such as Extraversion (Vazire, 2010).

In her article, Vazire (2010) provided empirical support for the SOKA model, such that undergraduate students' friend-ratings showed higher predictive power than self- and stranger-ratings for concurrent Openness-related predictions (e.g., creativity). Self-ratings showed higher predictive power than other-ratings (i.e., friend- and stranger-ratings) for concurrent Neuroticism-related predictions (e.g., anxiety). Furthermore, self- and other-ratings were equally predictive for concurrent Extraversion-related predictions (e.g., talkativeness; Vazire, 2010). However, Conscientiousness and Agreeableness—two moderately to highly visible and evaluative traits (Beer & Vazire, 2017)—were not directly tested in this study. A meta-analysis has shown that other-rated Conscientiousness and Agreeableness, in general, showed higher predictive power than self-ratings, although this depended on the specific trait criterion (Connelly & Ones, 2010).

Thus, according to the SOKA model, other-rated personality should show unique predictive power for highly evaluative traits. This assertion is also based on the findings of the considerable individual differences in the level and direction of self-bias—some people self-enhance, but some self-deprecate, and still some are relatively accurate (Alicke & Sedikides, 2011; Bollich, Rogers, & Vazire, 2015; Campbell & Sedikides, 1999; Paulhus & John, 1998; Vazire, 2010). These individual differences in self-bias weaken the predictive power of self-rated personality. Although informant ratings are not immune to bias, research has shown that they

tend to be more uniformly positive (Leising, Erbs, & Fritz, 2010; Leising, Gallrein, & Dufner, 2014), and therefore, are less disruptive of the rank ordering of individuals.

In addition, based on the principle of aggregation, Hofstee (1994) argued that aggregated ratings of multiple knowledgeable others provide the best available reference for the definition of personality structure as well as for assessing someone's personality. However, little is known regarding whether only adding *one* other-rating to the self-rating can already improve predictions of life outcomes. An exception is a study by Jackson and colleagues, who found that personality judgments by a single friend did not show any longitudinal predictive power on individuals' longevity. In contrast, aggregated (three to eight) friend-ratings of Conscientiousness (for males) and Agreeableness and Emotional Stability (for females) showed greater and unique predictive power than adults' self-ratings on longevity. Also, aggregated friend ratings of Openness showed predictive power for males' longevity, although they were redundant with adults' self-ratings (Jackson, Connolly, Garrison, Leveille, & Connolly, 2015).

## 1.2 | Unique predictive power of other-rated adolescent personality

Previous studies focused on the predictive power of self- and other-rated personality during adulthood, leaving processes during adolescence largely unknown. To the best of our knowledge, no study to date has explored the unique predictive power of other-rated personality during adolescence in a longitudinal framework. The lack of literature is surprising given that the adolescent life stage has been argued to be particularly relevant for the development of committed and stable self-views (Erikson, 1994; Harter, 2007).

According to the SOKA model (Vazire, 2010), informant-ratings may show unique predictive power for highly evaluative traits (e.g., Conscientiousness, Agreeableness, and Openness). However, we could not infer from the SOKA model whether other-ratings would also provide *unique predictive* power for other traits (e.g., Extraversion and Neuroticism). That is, although the SOKA model (Vazire, 2010) proposes that, on average, self-ratings may be equally accurate or even more accurate than other-ratings for these traits, it is still possible for other-ratings to capture unique variance. Other-ratings may pick up valid trait-relevant information that is located at individuals' blind spots.

During adolescence, especially, individuals are just becoming aware of their traits. Their close others (e.g., parents and friends) may have different and particularly informative views on adolescents' personality. First, previous research has shown that self-rated personality in adolescence is less stable, less coherent within a domain, and less differentiated across domains than in adulthood (Luan, Hutteman, Denissen, Asendorpf, & van Aken, 2017; Soto, John, Gosling, & Potter,

2008). Parent-ratings of adolescents' personality have been found to be more stable than adolescent self-ratings (Luan et al., 2017, Study 2) and may, therefore, provide unique predictive power.

Second, adult personality raters may be particularly sensitive in picking up adolescents' behavioral cues that are important for success in the adult world (e.g., get good grades, have healthy lifestyles), as opposed to behavioral cues that are more important to adolescents (e.g., keep promises to friends).

In addition, adolescence is characterized by frequent self-reflection and a heightened need for achieving committed and stable self-views (Harter, 2007), which might result in greater frequency and willingness of adolescents to express and discuss their thoughts and feelings with their close others. Such expression and discussion, in turn, might provide valid information for adolescents' close others to accurately judge their personality, even for Neuroticism. Moreover, adolescents' frequent self-reflection may make the self overwhelmed by the abundant self-relevant information. Adolescents may, therefore, show difficulties in seeing the forest for the trees (Sande, Goethals, & Radloff, 1988; Vazire & Carlson, 2011). For instance, even calm individuals might think of several occasions when they were nervous; and even dominant individuals might think of several occasions when they were deferential (Fleeson, 2001). It may be challenging for the self to mentally aggregate this rich information and form a general self-perception (Vazire & Carlson, 2011). Therefore, personality rated by friends and adults may be particularly informative in adolescence.

### 1.3 | Trait criteria: Future trait-relevant life outcomes and personality

The predictive power of self- and other-rated Big Five personality traits may partly depend on the trait validation criteria (Connelly & Ones, 2010). Although previous studies using cross-sectional criteria provide initial insight into the predictive power of self- and other-rated personality, little is known regarding the longitudinal predictive power of personality judgments from different perspectives.

Abundant research in past decades has shown that Big Five personality traits reliably predict various meaningful aspects of individuals' lives (e.g., Ozer & Benet-Martínez, 2006; Tackett, 2006). The predictive power of personality is similar in size to the predictive power of socioeconomic status and cognitive ability (Roberts et al., 2007). Thus, in the present study, for each trait, we used trait-relevant life outcomes in young adulthood as trait criteria (see below for details). The selection of trait-relevant life outcomes was based on the most consistent findings in the literature, such as results of meta-analyses (e.g., Ozer & Benet-Martínez, 2006; Roberts et al., 2007; Tackett, 2006). Since all trait criteria

were based on self-ratings, the present study is a conservative test to demonstrate the unique predictive power of other-ratings over and above self-ratings.

Specifically, trait criteria for Openness were later educational achievement and work income (Barrick & Mount, 1991; Goldberg, Sweeney, Merenda, & Hughes, 1998; Ludtke, Roberts, Trautwein, & Nagy, 2013; Ozer & Benet-Martínez, 2006). Trait criteria for Conscientiousness were later educational achievement, work income, (less) substance use, and (fewer) moral transgressions (Barrick & Mount, 1991; Bogg & Roberts, 2004; Hampson, Andrews, Barckley, Lichtenstein, & Lee, 2000; Judge, Higgins, Thoresen, & Barrick, 1999; Ozer & Benet-Martínez, 2006). Trait criteria for Agreeableness were later relationship satisfaction, secure attachment to partners, and (fewer) moral transgressions (Lynam et al., 2005; Nofhle & Shaver, 2006; Ozer & Benet-Martínez, 2006; Roberts et al., 2007; Shaver & Brennan, 1992; Wiebe, 2004). Trait criteria for Extraversion were later self-esteem, (lower) depression, relationship satisfaction, and secure attachment to partners (Nofhle & Shaver, 2006; Orth & Robins, 2014; Ozer & Benet-Martínez, 2006; Robins, Tracy, Trzesniewski, Potter, & Gosling, 2001; Shaver & Brennan, 1992; Soto & Tackett, 2015; Tackett, 2006). Lastly, trait criteria for Neuroticism were later (lower) self-esteem, depression, (lower) relationship quality, (less) secure attachment to partners, (lower) educational achievement, and (lower) work income (Judge & Ilies, 2002; Judge et al., 1999; Nofhle & Shaver, 2006; Ozer & Benet-Martínez, 2006; Roberts et al., 2007; Robins et al., 2001; Shaver & Brennan, 1992; Soto & Tackett, 2015; Tackett, 2006).

The aim of the present study was to demonstrate the unique predictive power of other-ratings for each of the Big Five personality traits instead of examining the predictive power of personality for life outcomes—the latter is beyond dispute thanks to a number of recent reviews (e.g., Ozer & Benet-Martínez, 2006; Roberts et al., 2007; Tackett, 2006). Therefore, for each trait, we focused on the most trait-relevant life outcomes that were clearly documented in the literature as trait criteria instead of conducting exhaustive tests for all personality–outcome links to limit the number of analyses (see Beer & Vazire, 2017; Vazire, 2010, where a similar approach was used).

In addition to using later life outcomes as trait criteria, we also examined the unique predictive power of self- and other-rated personality in predicting later self-rated personality. Theories and research have suggested that individuals' self-views develop in transaction with their social environment (Cooley, 1902; Swann, 1987; Swann & Bosson, 2008).

For instance, identity negotiation theory (Swann, 1987; Swann & Bosson, 2008) proposes that people can convince others about their self-views, but they can also be convinced by others to adapt their self-views—a process called *identity negotiation*. The degree to which close others' perceptions of

adolescent Big Five personality traits are later incorporated into individuals' self-views is yet unknown. Therefore, we also explored the predictive power of self- versus other-rated personality in foreshadowing later self-rated Big Five personality traits.

## 1.4 | The present study

We investigated whether other-rated Big Five personality traits in early and late adolescence (i.e., age 12 and 17) could contribute unique predictive power in predicting later trait criteria (i.e., self-rated trait-relevant life outcomes and personality at age 29). The timing for these measurement waves was decided based on research funding. Fortunately, these measurements do correspond to key developmental waypoints. Specifically, age 12 and 17 correspond to early and late adolescence, when most individuals just start their identity exploration and have committed to an identity, respectively (Erikson, 1994; Meeus, van de Schoot, Keijsers, Schwartz, & Branje, 2010). Age 29 is an interesting life stage because most individuals have completed their education and have some romantic and work experiences by this age.

Based on the SOKA model (Vazire, 2010), we expected other-ratings to show unique predictive power for Openness-, Conscientiousness-, and Agreeableness-related predictions. Moreover, for reasons stated above, we explored whether other-ratings would also provide unique predictive power for Extraversion- and Neuroticism-related predictions.

## 2 | METHOD

### 2.1 | Participants

Participants were part of the Munich Longitudinal Study on the Genesis of Individual Competencies (LOGIC; Weinert & Schneider, 1999). The first wave started in the fall of 1984 in the Munich area. The LOGIC sample initially contained 230 children (119 boys) who started preschool in the Munich area at the age of 3 or 4 years old. Their first language was German. Twenty schools were selected from a broad spectrum of neighborhoods, and more than 90% of parents asked gave consent for their child's participation.

The present study included three waves of measurements: when participants were, on average, 12 years old (186 self-ratings, 155 parent-ratings [mainly mother-ratings], and 125 best-friend ratings, tested in 1992), 17 years old (174 self-ratings, 146 mother-ratings, and 128 father-ratings, tested in 1998), and 29 years old (153 self-ratings, tested in 2010). Attrition analyses showed that participants with complete cases scored significantly higher than those with missingness on some items of self-rated Agreeableness at age 12 and

self-rated Openness at age 17, indicated by non-overlapping 95% confidence intervals.<sup>1</sup>

## 2.2 | Measures

Self- and other-rated Big Five personality traits at age 12 and 17 were used to predict self-rated trait-relevant life outcomes and Big Five personality traits at age 29.

### 2.2.1 | Predictors (age 12 and 17)

#### Big Five personality traits

At age 12, Big Five personality traits were judged by participants, one of their parents (mainly mothers), and one same-sex best friend. Neuroticism, Agreeableness, Conscientiousness, Extraversion, and Openness were rated using 40 bipolar adjective pairs obtained from Ostendorf (1990) on a 5-point scale (1 = *totally agree with the adjective word on the left side* to 5 = *totally agree with the adjective word on the right side*); see Asendorpf and van Aken (2003) for details. At age 17, participants and both parents rated personality using the same adjective pairs.

### 2.2.2 | Trait criteria (age 29): Personality and trait-relevant life outcomes

#### Big Five personality traits

The same adjective pairs at age 12 and 17 were rated again by participants themselves. Cronbach's alphas were satisfactory for all judges at age 12, 17, and 29, ranging from 0.67 to 0.93.

#### Self-esteem

Self-esteem was measured by asking participants to fill out a subscale of the German short version of the Self-Description Questionnaire III (SDQ III; Marsh & O'Neill, 1984) based on a 5-point scale (1 = *totally disagree* to 5 = *totally agree*). Cronbach's alpha was 0.77.

#### Depression

Depression was measured by asking participants to fill out a 20-item Beck Depression Inventory (BDI-V-Short; Schmitt & Maes, 2000) based on a 6-point scale (1 = *never* to 6 = *almost always*). Cronbach's alpha was 0.91.

#### Moral transgressions

Moral transgressions were measured by asking the frequency of moral transgressions since the last measurement wave (i.e., six years ago when participants were at age 23). Participants indicated on a 7-point scale (1 = *never* to 7 = *very often*) the frequency with which they had "fare-dodged," "stole (less than €10)," "stole (more than €10)," "drove drunken," "damaged property," "lied intentionally," and "broke a promise." Cronbach's alpha was 0.84.

### Educational achievement

The highest achieved educational level was indicated on a 6-point scale (1 = *junior high school*, 2 = *vocational training*, 3 = *professional school*, 4 = *high school*, 5 = *university of applied sciences*, 6 = *university*). Higher scores represent higher educational achievements.

### Work income

Net monthly work income was rated on a 7-point scale (1 = *up to €500*, 2 = *up to €1000*, 3 = *up to €1500*, 4 = *up to €2000*, 5 = *up to €2500*, 6 = *up to €3000*, 7 = *over €3000*).

### Substance use

Participants answered four questions about substance use (i.e., usage of cigarettes, alcohol, soft drugs, and hard drugs; 1 = *never tried* to 5 = *highly dependent*). Cronbach's alpha was 0.61.

### Relationship satisfaction

Relationship satisfaction with a partner was measured with the Relationship Assessment Scale (Hendrick, 1988). A German version was published by Sander and Bocker (1993). Participants answered seven questions based on a 5-point scale (e.g., "In general, how satisfied are you with your relationship?"), and higher scores indicate higher levels of satisfaction with the relationship. Cronbach's alpha was 0.86.

### Secure attachment

Secure attachment to partner was measured by the Attachment Style Prototypes (Bartholomew & Horowitz, 1991). A German version was published by Asendorpf, Banse, Wilpers, and Neyer (1997). Participants answered to what degree they agreed with the four statements based on a 5-point scale (1 = *not at all* to 5 = *completely*) regarding their attachment to their partners. We focused on the statement regarding secure attachment (i.e., "It is relatively easy for me to become emotionally close to my partners. I am comfortable depending on my partner and having my partner depend on me. I do not worry about being alone or having my partner not accept me.") for the sake of brevity.

## 2.3 | Analytic strategy

### 2.3.1 | Missing data handling and model fit

Data analyses were conducted with Mplus Version 7.31 (Muthén & Muthén, 2015). Missing data were handled using full information maximum likelihood (FIML) estimation, thereby making optimal use of the available data. Model fit

was assessed using the comparative fit indices (CFIs) and standardized root mean square residual (SRMR), with CFI values of 0.90 and higher and SRMR values of 0.08 and lower indicating acceptable fit to the data (Hu & Bentler, 1998).

### 2.3.2 | Unique predictive power of self- and other-rated personality

The predictors (i.e., personality traits) were specified in regression models as latent variables with three parcels, in order to explicitly account for measurement error and improve reliability (Little, Cunningham, Shahar, & Widaman, 2002). The same parcel structure was used across raters and ages to ensure comparability. Similarly, outcome variables measured with more than four items (i.e., Big Five personality traits, self-esteem, depression, moral transgressions, and relationship satisfaction) were all specified as latent variables with three parcels. The only outcome variable that was measured with four items (i.e., substance use) was specified in the models as a latent variable without parcels. Weak measurement invariance (i.e., same factor loadings) for Big Five personality traits was tested and subsequently specified across raters and ages.

Different personality traits (i.e., Big Five traits), ages (i.e., age 12 and 17), and trait criteria were tested in separate models. In each model, the trait criterion was regressed on a self- and other-rated personality trait (e.g., educational achievement regressed on self- and mother-rated Conscientiousness). As previously mentioned, only the theoretically most relevant links between personality traits and trait criteria were tested to reduce the number of analyses.

Specifically, at age 12, trait criteria were regressed on self- and parent- (or friend-) ratings simultaneously to test whether self- and parent- (or friend-) ratings provide any unique predictive power. Similarly, at age 17, trait criteria were regressed on self- and mother- (or father-) ratings simultaneously to test whether self- and mother- (or father-) ratings provide any unique predictive power.

## 3 | RESULTS

Regression coefficients in Tables 1–5 present the unique predictive power of self- and other-ratings for each trait separately, using later self-rated trait-relevant life outcomes and personality as validation criteria. Zero-order correlations of all research variables can be found in Table S1 of the supplemental materials. Next, we report results of predicting later trait-relevant life outcomes and personality separately.

**TABLE 1** Unique predictive power of self- and other-rated Openness

Self-rated personality and life outcomes at age 29	Personality at age 12				Personality at age 17					
	Judge	b	p	SE	β	Judge	b	p	SE	β
Educational achievement	self/parent	-0.15/ <b>0.96</b>	.654/<.001	0.33/0.21	-0.05/0.45	self/mother	0.30/ <b>1.04</b>	.202/<.001	0.23/0.16	0.11/0.55
	self/friend	-0.04/ <b>0.68</b>	.904/<.001	0.30/0.21	-0.01/0.34	self/father	0.25/ <b>0.95</b>	.289/<.001	0.24/0.19	0.10/0.48
Work income	self/parent	0.78/0.58	.187/.117	0.59/0.37	0.16/0.18	self/mother	-0.24/ <b>1.15</b>	.601/<.001	0.46/0.28	-0.06/0.42
	self/friend	0.78/0.67 <sup>†</sup>	.127/.063	0.51/0.36	0.18/0.22	self/father	-0.14/ <b>0.81</b>	.768/.019	0.46/0.34	-0.04/0.27
Openness	self/parent	0.20/0.17 <sup>†</sup>	.161/.058	0.15/0.09	0.16/0.20	self/mother	<b>0.58/0.17</b>	<.001/.021	0.11/0.08	0.49/0.21
	self/friend	0.15/ <b>0.31</b>	.289/.003	0.14/0.10	0.12/0.34	self/father	<b>0.58/0.13</b>	<.001/.152	0.11/0.09	0.50/0.14

Notes. SE = standard error. The table represents the unique predictive power of self- and other-rated Openness when entered into the model simultaneously (e.g., the unique predictive power of self- and parent-rated Openness at age 12 in predicting self-rated Openness at age 29). Significant results ( $p < 0.05$ , two-tailed) are in boldface.  
<sup>†</sup> $p < .10$ , two-tailed.

**TABLE 2** Unique predictive power of self- and other-rated Conscientiousness

Self-rated life outcomes and personality at age 29	Personality at age 12				Personality at age 17					
	Judge	b	p	SE	β	Judge	b	p	SE	β
Educational achievement	self/parent	-0.47/ <b>0.59</b>	.025/<.001	0.21/0.16	-0.24/0.40	self/mother	-0.64/ <b>0.79</b>	<.001/<.001	0.17/0.15	-0.41/0.61
	self/friend	-0.13/0.18	.444/.300	0.18/0.17	-0.07/0.11	self/father	-0.64/ <b>0.72</b>	<.001/<.001	0.18/0.16	-0.41/0.55
Work income	self/parent	0.14/0.35	.720/.223	0.39/0.29	0.05/0.16	self/mother	0.54 <sup>†</sup> /0.24	.071/.370	0.30/0.27	0.24/0.12
	self/friend	0.48/-0.14	.113/.619	0.31/0.28	0.18/-0.06	self/father	0.20/ <b>0.61</b>	.571/.046	0.35/0.30	0.09/0.32
Substance use	self/parent	-0.19/-0.06	.143/.549	0.13/0.10	-0.18/-0.07	self/mother	-0.17/-0.25	.135/.036	0.11/0.12	-0.18/-0.32
	self/friend	-0.20 <sup>†</sup> /-0.07	.072/.501	0.11/0.11	-0.19/-0.08	self/father	-0.17/-0.23 <sup>†</sup>	.184/.088	0.13/0.13	-0.18/-0.29
Moral transgressions	self/parent	-0.39/0.05	.009/.680	0.15/0.11	-0.30/0.05	self/mother	-0.10/-0.15	.428/.153	0.12/0.11	-0.09/-0.18
	self/friend	-0.27/-0.20 <sup>†</sup>	.024/.100	0.12/0.12	-0.22/-0.19	self/father	-0.10/-0.13	.454/.240	0.13/0.11	-0.09/-0.15
Conscientiousness	self/parent	0.27/ <b>0.22</b>	.037/.027	0.13/0.10	0.23/0.24	self/mother	<b>0.51/0.15<sup>†</sup></b>	<.001/.081	0.10/0.08	0.54/0.18
	self/friend	0.35/ <b>0.25</b>	<.001/.018	0.11/0.11	0.30/0.25	self/father	<b>0.46/0.20</b>	<.001/.023	0.10/0.09	0.48/0.24

Notes. SE = standard error. The table represents the unique predictive power of self- and other-rated Conscientiousness when entered into the regression model simultaneously (e.g., the unique predictive power of self- and parent-rated Conscientiousness at age 12 in predicting self-rated Conscientiousness at age 29). Significant results ( $p < 0.05$ , two-tailed) are in boldface.  
<sup>†</sup> $p < .10$ , two-tailed.

**TABLE 3** Unique predictive power of self- and other-rated Agreeableness

Self-rated life outcomes and personality at age 29	Personality at age 12					Personality at age 17				
	Judge	<i>b</i>	<i>p</i>	<i>SE</i>	$\beta$	Judge	<i>b</i>	<i>p</i>	<i>SE</i>	$\beta$
	Relationship satisfaction	self/parent	<b>0.41</b> /-0.24	<b>.050</b> /.121	0.21/0.16	0.29/-0.20	self/mother	0.06/-0.16	.662/.240	0.15/0.14
Secure attachment	self/friend	0.26/0.06	.148/.578	0.18/0.12	0.19/0.07	self/father	-0.10/ <b>0.38</b>	<b>.455</b> /.026	0.13/0.17	-0.09/0.35
	self/parent	<b>0.65</b> /-0.16	<b>.003</b> /.396	0.22/0.18	0.34/-0.10	self/mother	0.10/-0.03	.538/.856	0.17/0.16	0.07/-0.02
Moral transgressions	self/friend	<b>0.56</b> /-0.07	<b>.002</b> /.570	0.18/0.13	0.30/-0.06	self/father	-0.02/0.25	.925/.164	0.16/0.18	-0.01/0.17
	self/parent	-0.51/0.13	<b>.010</b> /.421	0.20/0.16	-0.29/0.09	self/mother	<b>-0.51</b> /0.27 <sup>†</sup>	<b>.001</b> /.051	0.16/0.14	-0.36/0.22
Agreeableness	self/friend	-0.39/ <b>-0.32</b>	<b>.019</b> /.009	0.17/0.12	-0.23/-0.28	self/father	<b>-0.40</b> /0.10	<b>.006</b> /.535	0.15/0.15	-0.29/0.07
	self/parent	0.13/ <b>0.29</b>	<b>.258</b> /.003	0.12/0.10	0.13/0.34	self/mother	<b>0.33</b> /0.09	<b>.001</b> /.349	0.10/0.09	0.38/0.11
	self/friend	<b>0.24</b> / <b>0.16</b>	<b>.021</b> /.045	0.11/0.08	0.24/0.23	self/father	<b>0.34</b> /0.07	<b>&lt;.001</b> /.514	0.09/0.11	0.39/0.08

Note. *SE* = standard error. The table represents the unique predictive power of self- and other-rated Agreeableness when entered into the regression model simultaneously (e.g., the unique predictive power of self- and parent-rated Agreeableness at age 12 in predicting self-rated Agreeableness at age 29). Significant results (*p* < 0.05, two-tailed) are in boldface.

<sup>†</sup>*p* < .10, two-tailed.

**TABLE 4** Unique predictive power of self- and other-rated Extraversion

Self-rated life outcomes and personality at age 29	Personality at age 12					Personality at age 17				
	Judge	<i>b</i>	<i>p</i>	<i>SE</i>	$\beta$	Judge	<i>b</i>	<i>p</i>	<i>SE</i>	$\beta$
	Self-esteem	self/parent	0.15 <sup>†</sup> /0.05	.086/.587	0.09/0.08	0.18/0.06	self/mother	0.13/-0.01	.101/.869	0.08/0.07
Depression	self/friend	<b>0.17</b> /-0.01	<b>.034</b> /.927	0.08/0.10	0.21/-0.01	self/father	0.16 <sup>†</sup> /-0.06	.074/.504	0.09/0.09	0.20/-0.09
	self/parent	-0.34/0.11	<b>&lt;.001</b> /.221	0.10/0.09	-0.35/0.13	self/mother	<b>-0.18</b> /0.02	<b>.038</b> /.822	0.09/0.07	-0.20/0.02
Relationship satisfaction	self/friend	<b>-0.27</b> /-0.00	<b>.002</b> /.978	0.09/0.10	-0.29/-0.00	self/father	-0.18 <sup>†</sup> /0.00	.058/.984	0.10/0.09	-0.20/0.00
	self/parent	0.02/-0.05	.897/.628	0.12/0.10	0.02/-0.06	self/mother	<b>0.20</b> /-0.10	<b>.037</b> /.225	0.10/0.08	0.24/-0.15
Secure attachment	self/friend	-0.05/0.11	.636/.305	0.10/0.11	-0.05/0.13	self/father	0.10/0.15	.385/.229	0.12/0.12	0.12/0.20
	self/parent	0.18/-0.08	.144/.481	0.13/0.12	0.15/-0.08	self/mother	0.10/-0.05	.346/.580	0.11/0.10	0.09/-0.06
Extraversion	self/friend	0.15/-0.02	.199/.899	0.11/0.13	0.12/-0.02	self/father	0.04/0.11	.737/.351	0.12/0.12	0.04/0.11
	self/parent	<b>0.40</b> /0.13	<b>.001</b> /.235	0.12/0.11	0.32/0.12	self/mother	<b>0.49</b> /0.11	<b>&lt;.001</b> /.228	0.10/0.09	0.43/0.12
	self/friend	<b>0.44</b> /0.04	<b>&lt;.001</b> /.735	0.11/0.13	0.35/0.04	self/father	<b>0.44</b> /0.21	<b>&lt;.001</b> /.041	0.11/0.10	0.38/0.21

Note. *SE* = standard error. The table represents the unique predictive power of self- and other-rated Extraversion when entered into the regression model simultaneously (e.g., the unique predictive power of self- and parent-rated Extraversion at age 12 in predicting self-rated Extraversion at age 29). Significant results (*p* < 0.05, two-tailed) are in boldface.

<sup>†</sup>*p* < .10, two-tailed.

**TABLE 5** Unique predictive power of self- and other-rated Neuroticism

Self-rated life outcomes and personality at age 29	Personality at age 12					Personality at age 17				
	Judge	<i>b</i>	<i>p</i>	<i>SE</i>	$\beta$	Judge	<i>b</i>	<i>p</i>	<i>SE</i>	$\beta$
Educational achievement	self/parent	0.45 <sup>†</sup> /-0.62	.094/.002	0.27/0.20	0.18/-0.34	self/mother	0.18/-0.71	.355/<.001	0.20/0.18	0.09/-0.41
	self/friend	0.12/-0.06	.615/.754	0.23/0.20	0.05/-0.04	self/father	0.19/-0.41	.341/.019	0.20/0.18	0.09/-0.24
Work income	self/parent	-0.21/-0.63 <sup>†</sup>	.635/.067	0.45/0.34	-0.06/-0.23	self/mother	0.03/-0.50	.941/.102	0.35/0.30	0.01/-0.19
	self/friend	-0.47/-0.73	.204/.020	0.37/0.31	-0.13/-0.27	self/father	0.09/-0.97	.784/<.001	0.33/0.27	0.03/-0.38
Self-esteem	self/parent	-0.04/-0.08	.799/.464	0.15/0.11	-0.03/-0.09	self/mother	-0.09/0.11	.404/.321	0.11/0.11	-0.09/0.12
	self/friend	-0.10/0.07	.425/.502	0.12/0.11	-0.08/0.08	self/father	-0.05/-0.10	.675/.332	0.11/0.10	-0.04/-0.12
Depression	self/parent	<b>0.36</b> /-0.02	<b>.028</b> /.880	0.16/0.12	0.25/-0.02	self/mother	<b>0.31</b> /0.02	<b>.009</b> /.822	0.12/0.11	0.26/0.02
	self/friend	<b>0.35</b> /-0.09	<b>.011</b> /.437	0.14/0.12	0.25/-0.09	self/father	<b>0.28</b> /0.09	<b>.017</b> /.412	0.12/0.10	0.24/0.09
Relationship satisfaction	self/parent	-0.08/0.01	.655/.964	0.19/0.13	-0.06/0.01	self/mother	-0.25 <sup>†</sup> /0.01	.059/.963	0.13/0.13	-0.22/0.01
	self/friend	-0.09/0.08	.557/.501	0.16/0.12	-0.07/0.09	self/father	-0.19/-0.18	.142/.210	0.13/0.14	-0.18/-0.19
Secure attachment	self/parent	<b>-0.40</b> /-0.12	<b>.046</b> /.441	0.20/0.15	-0.22/-0.09	self/mother	-0.26 <sup>†</sup> /-0.14	.085/.325	0.15/0.14	-0.17/-0.11
	self/friend	<b>-0.45</b> /-0.03	<b>.008</b> /.859	0.17/0.14	-0.26/-0.02	self/father	-0.25 <sup>†</sup> /-0.28	<b>.078</b> /.034	0.14/0.13	-0.17/-0.22
Neuroticism	self/parent	<b>0.34</b> /0.03	<b>.044</b> /.822	0.17/0.13	0.24/0.03	self/mother	<b>0.64</b> /0.01	< <b>.001</b> /.948	0.11/0.10	0.52/0.01
	self/friend	<b>0.38</b> /-0.09	<b>.010</b> /.481	0.15/0.13	0.26/-0.09	self/father	<b>0.62</b> /-0.01	< <b>.001</b> /.895	0.12/0.09	0.52/-0.01

*Note.* *SE* = standard error. The table represents the unique predictive power of self- and other-rated Neuroticism when entered into the regression model simultaneously (e.g., the unique predictive power of self- and parent-rated Neuroticism at age 12 in predicting self-rated Neuroticism at age 29). Significant results (*p* < .05, two-tailed) are in boldface.

<sup>†</sup> *p* < .10, two-tailed.

### 3.1 | Predicting later trait-relevant life outcomes

#### 3.1.1 | Openness

Table 1 shows the unique predictive power of self- and other-rated Openness at both ages. The second to the sixth columns present the unique predictive power of self- and other-rated Openness at age 12, and the seventh to the eleventh columns represent the same associations at age 17. Taking the outcome variable educational achievement as an example, at age 12, self-ratings did not show unique predictive power in predicting (self-rated) educational achievement at age 29, whereas other-rated Openness did (parent-rating:  $b = 0.96$ ,  $p < .001$ ,  $SE = 0.21$ ,  $\beta = 0.45$ ; friend-rating:  $b = 0.68$ ,  $p < .001$ ,  $SE = 0.21$ ,  $\beta = 0.34$ ). In addition, at age 12, neither self- nor other-ratings significantly predicted self-rated work income at age 29. At age 17, self-ratings did not predict (self-rated) educational achievement or work income at age 29, whereas other-rated Openness showed significant unique predictive power in predicting both educational achievement and work income.

#### 3.1.2 | Conscientiousness

Table 2 shows the unique predictive power of self- and other-rated Conscientiousness at both ages. At age 12, self-ratings significantly predicted (lower) educational achievement and (fewer) moral transgressions at age 29. Parent-ratings showed unique predictive power in predicting self-rated educational achievement at age 29. It should be noted that the unique predictive power of self-rated Conscientiousness in predicting educational achievement was in the opposite direction to the literature (i.e., our data showed that higher self-rated Conscientiousness predicted *lower* educational achievement). This association only emerged after controlling for parent-rated Conscientiousness. The zero-order correlation between self-rated Conscientiousness and educational achievement was non-significant ( $r = -0.03$ ,  $p > .05$ ; see Table S1 of the supplementary materials), suggesting that personality trait ratings from different sources could act as mutual suppressors under some conditions (Paulhus, Robins, Trzesniewski, & Tracy, 2004; Zeigler-Hill, Besser, Myers, Southard, & Malkin, 2013).

At age 17, again, self-ratings significantly predicted educational achievement, but the unique predictive power of self-ratings was in the opposite direction to the literature (i.e., higher self-rated Conscientiousness predicted *lower* educational achievement), suggesting a suppression effect. Again, the zero-order correlation between self-rated Conscientiousness and educational achievement was non-significant ( $r = -0.08$ ,  $p > 0.05$ ; see Table S1 of the supplementary materials). Other-ratings showed unique predictive

power in predicting self-rated educational achievement, work income, and (less) substance use at age 29.

#### 3.1.3 | Agreeableness

Table 3 shows the unique predictive power of self- and other-rated Agreeableness at both ages. At age 12, self-ratings significantly predicted self-rated relationship satisfaction, secure attachment to partners, and (fewer) moral transgressions at age 29. Other-ratings showed significant unique predictive power in predicting (fewer) self-rated moral transgressions. At age 17, self-ratings significantly predicted (fewer) moral transgressions at age 29. Other-ratings showed unique predictive power in predicting relationship satisfaction.

#### 3.1.4 | Extraversion

Table 4 shows the unique predictive power of self- and other-rated Extraversion at both ages. At age 12, self-ratings significantly predicted self-esteem and (lower) depression at age 29. Other-ratings did not show any significant unique predictive power. At age 17, self-ratings significantly predicted (lower) depression and relationship satisfaction at age 29. Other-ratings again did not show any unique predictive power.

#### 3.1.5 | Neuroticism

Table 5 shows the unique predictive power of self- and other-rated Neuroticism at both ages. At age 12, self-ratings significantly predicted depression and (less) secure attachment to partners at age 29. Other-ratings showed unique predictive power in predicting (lower) educational achievement and (lower) work income. At age 17, self-ratings significantly predicted depression at age 29. Other-ratings showed unique predictive power in predicting educational achievement, work income, and (less) secure attachment to partners.

### 3.2 | Predicting later personality

#### 3.2.1 | Openness

As shown in the last rows of Table 1, at age 12, self-ratings did not show unique predictive power in predicting self-rated Openness at age 29, whereas other-rated Openness did. At age 17, both self- and other-ratings showed unique predictive power in predicting self-rated Openness at age 29.

#### 3.2.2 | Conscientiousness

Table 2 shows that both self- and other-ratings at both ages (i.e., age 12 and 17) showed unique predictive power in predicting self-rated Conscientiousness at age 29.

### 3.2.3 | Agreeableness

Table 3 shows that at age 12, both self- and other-ratings showed unique predictive power in predicting self-rated Agreeableness at age 29. At age 17, only self-ratings showed unique predictive power, whereas other-ratings did not.

### 3.2.4 | Extraversion

Table 4 shows that self-ratings showed unique predictive power at both ages in predicting self-rated Extraversion at age 29. For other-ratings, only father-ratings at age 17 showed unique predictive power.

### 3.2.5 | Neuroticism

Table 5 shows that self-ratings showed unique predictive power at both ages in predicting self-rated Neuroticism at age 29, whereas other-ratings did not show any unique predictive power.

## 4 | DISCUSSION

Previous cross-sectional evidence with adult samples suggested that other-ratings can provide unique information about one's personality, especially for traits that are highly visible and evaluative, such as Openness, Conscientiousness, and Agreeableness (Beer & Vazire, 2017; Funder, 1995, 2012; Vazire, 2010). Our results provided longitudinal support for this notion by demonstrating that other-rated personality in early and late adolescence showed unique predictive power, even when trait criteria were based on self-ratings. Below, we discuss results of predicting later life outcomes and personality separately.

### 4.1 | Predicting later trait-relevant life outcomes

Consistent with the predictions derived from the SOKA model regarding highly visible and evaluative traits (Vazire, 2010), we found that other-rated Openness, Conscientiousness, and Agreeableness provided unique predictive power in predicting several life outcomes, covering the domains of educational achievement, work income, substance use, relationship satisfaction, and moral transgressions. Since these trait criteria were all based on self-reports, our results strongly suggest that valuable information can be gained by asking others to report on adolescents' Openness, Conscientiousness, and Agreeableness. The SOKA model notes that self-ratings for these highly evaluative traits are likely to be influenced by various types of self-bias (Beer & Vazire, 2017; Vazire, 2010).

Concerning Neuroticism and Extraversion, although according to the SOKA model self-ratings may be, on average, equally accurate or even more accurate than other-ratings for these traits (Vazire, 2010), it is still possible for other-ratings to maintain some unique insights. For instance, other-ratings may pick up trait-relevant information that is unavailable to the self and thereby contribute valid information that is located at individuals' blind spots (Luft & Ingham, 1961). Also, adolescents' frequent self-reflection and heightened need for self-view clarity (Harter, 2007) might make them more frequently express and discuss their thoughts and feelings with their close others. Meanwhile, adolescents may be overwhelmed by the abundant self-relevant information and show difficulties in seeing the forest for the trees (Sande et al., 1988; Vazire & Carlson, 2011). Moreover, previous research has shown that adolescents' self-rated personality is less stable and less coherent than adults' (Luan et al., 2017; Roberts & DelVecchio, 2000; Soto et al., 2008), which may limit the predictive power of adolescent personality ratings. These reasons raise the possibility that other-ratings in adolescence might also contribute unique predictive power for Neuroticism and Extraversion.

We found some support for this. Specifically, other-rated Neuroticism at age 12 and 17 showed significant unique predictive power in predicting (lower) self-rated educational achievement and (lower) work income at age 29. Also, other-rated Neuroticism at age 17 showed unique predictive power in predicting (less) secure attachment. One explanation is that adolescents themselves may be overwhelmed by the huge amount of information that is relevant to judge their levels of Neuroticism. For example, perhaps even the calm adolescents could think of several occasions when they feel nervous (but do not necessarily show it). Therefore, adolescents may have a hard time mentally aggregating the rich self-relevant information and form a general self-perception (Vazire & Carlson, 2011). In comparison, perhaps close others base their judgments more on observable behaviors and are less likely to be overwhelmed by adolescents' thoughts and feelings. Also, close others' perspective may be more similar to the perspectives of recruiters and interviewers during administration interviews, which, in turn, may predict individual educational achievement and work income.

The great majority of the associations between personality traits and life outcomes we found were in the expected direction based on the literature (e.g., Ozer & Benet-Martínez, 2006; Roberts et al., 2007; Tackett, 2006). The only exception was that although the literature consistently shows a positive association between Conscientiousness and educational achievement (Ozer & Benet-Martínez, 2006; Roberts et al., 2007), at both ages, after the significant and positive predictive power of parent-rated Conscientiousness was controlled for, the unique predictive power of self-rated Conscientiousness significantly but *negatively* predicted

educational achievement at age 29. These results suggested that personality trait ratings from different sources could act as mutual suppressors under some conditions (Paulhus et al., 2004; Zeigler-Hill et al., 2013).

## 4.2 | Predicting later personality

We explored the predictive power of self- and other-rated personality in foreshadowing later self-rated personality. Identity negotiation theory (Swann, 1987; Swann & Bosson, 2008) proposes that individuals can convince others about their self-views, but they can also be convinced by them. We found that other-rated personality showed unique predictive power in predicting how these adolescents would perceive themselves more than a decade later on Openness, Conscientiousness, and Agreeableness. Occasionally, other-ratings also showed unique predictive power in foreshadowing later self-rated Extraversion (i.e., father-ratings at age 17). Other-rated personality did not contribute any unique predictive power in predicting how neurotic individuals would later perceive themselves to be.

Our results suggest that individuals do not passively internalize the perceptions other people have of them because in that case, other-ratings should show unique predictive power for all Big Five traits. Instead, individuals might be more like “personality scientists (Robins & John, 1997)” —they are curious about their own personality, they collect data (e.g., ask for interpersonal feedback, observe their own behaviors, and reflect on their past experience), and they continuously update their beliefs regarding how they really are.

## 5 | LIMITATIONS AND FUTURE DIRECTIONS

Taken together, our results showed that other-ratings provided unique information for all Big Five personality traits, especially for traits that are high in visibility and evaluativeness. To the best of our knowledge, the present study provides the first longitudinal evidence regarding the unique predictive power of other-rated personality in adolescence. However, several caveats need to be mentioned. First, despite our efforts in trying to minimize the number of analyses, a considerable number of personality–outcome associations have been investigated, increasing the probability of a chance finding. Future studies are needed to replicate and extend our findings.

Second, our sample size is modest, which plausibly has limited our statistical power to detect some unique predictive power of other-rated personality that is less salient. Future studies with larger sample sizes are needed to fully capture the predictive power of other-rated personality and explore additional interesting questions, such as the potential

moderating effects of characteristics of targets, judges, and their relationship.

Third, we did not have (complete) multi-method data for all outcome variables. All of our trait criteria were measured by self-ratings, and therefore our study was a conservative test in demonstrating the unique predictive power of other-rated personality. Future research with both personality and life outcomes measured with multiple methods is crucial to more thoroughly examine the predictive power of self- versus other-rated personality. Future studies could, for example, use peer nomination to measure popularity and incentivized economic paradigms to measure prosocial behaviors.

Furthermore, it would be interesting for future studies to examine the reasons why other-ratings showed unique predictive power for some traits and life outcomes. For example, building upon the Brunswikian lens model (Brunswik, 1956), the realistic accuracy model (Funder, 1995; 2012) proposes that accurate personality judgment can be achieved when trait-relevant behavioral information is available to and detected by the personality judge who subsequently utilizes that information effectively. One explanation for the unique predictive power of other-ratings is that perhaps others were better at detecting or utilizing some valid behavioral cues and thus made more accurate personality judgments. More specific to our adolescent sample, parent-ratings might be more based on the dominant evaluative criteria in the adult world. For instance, parent-rated Conscientiousness and Openness may be more dependent on their children’s behaviors in the academic domain (e.g., finish homework on time, get good grades). In comparison, self-ratings may be more dependent on their behaviors in the social domain (e.g., be responsible to friends, try novel recreational activities). Future studies could combine quantitative and qualitative approaches to shed light on the processes of adults’ and adolescents’ personality judgments. For example, it would be interesting to examine age- and role-related differences in the detection and utilization of trait-relevant cues (Funder, 1995, 2012) that are in either the academic or the social domain.

Since others are important aspects of individuals’ social environment (Back et al., 2011; Srivastava, 2012), another explanation for the unique longitudinal predictive power of other-ratings is that perhaps parents’ perceptions influence their parenting and adolescents’ subsequent development. Research has shown that others’ perceptions of individuals’ attributes could impact their subsequent development (Denissen, Schönbrodt, van Zalk, Meeus, & van Aken, 2011; Rosenthal & Jacobson, 1968). It is possible that close others’ perceptions of one’s personality, even when they do not reflect the target’s “true” personality trait, can still influence the target’s developmental outcomes (Back et al., 2011). For one thing, others’ untrue perceptions may change the target’s personality over time (e.g., through social interaction/exclusion) and become the

truth. For example, peers' untrue perceptions of someone's personality—based on stereotypes of the social group the target belongs to—over time may become his or her “true” personality as a result of peer exclusion (i.e., a self-fulfilling prophecy). For another, it is possible that the reputation itself matters for some outcomes (e.g., popularity, income), regardless of how much truth is in it. Thus, it is important for future studies to shed more light on the process of personality judgment and its link with various life outcomes.

## 6 | CONCLUSION

The present 18-year longitudinal study demonstrated the unique predictive power of other-rated personality in adolescence, using self-rated life outcomes and personality in young adulthood as trait validation criteria. To our knowledge, our results provide the first longitudinal support for the importance of including other-reports on adolescents' personality, especially for highly visible and evaluative traits (i.e., Openness, Conscientiousness, and Agreeableness). The present study sheds light on the criterion validity of personality judgments from various sources, and it contributes to a better understanding of associations between personality and life outcomes.

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## CONFLICT OF INTERESTS

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Additional supporting information may be found online in the Supporting Information section at the end of the article.

## ENDNOTES

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## SUPPORTING INFORMATION

Additional Supporting Information may be found online in the supporting information tab for this article.

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