REFLEXIVE CHARACTERISTIC ADAPTATIONS PRODUCED INCREMENTAL EFFECTS ON SAMPLE ATTRITION AS COMPARED TO PERSONALITY TRAITS

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Introduction

Are personality traits related to sample attrition? Previous findings on this issue provide a mixed picture.

On the one hand, many correlates between personality traits and sample attrition were obtained. In particular, extraversion, agreeableness and openness correlated with willingness to be followed up in longitudinal research (Dollinger & Leong, 1993). Accordingly, on large samples of returning (N = 2,082) and nonreturning (N = 1,698) individuals (Salthouse, 2014) participants, continuing to participate in a longitudinal study, were found to be more agreeable and open to experience. Extraversion and non-conscientiousness predicted attrition in a Dutch panel study (Lugtig, 2014). Openness was negatively linked with panel attrition in Dutch, German, and New Zealand longitudes (Richter et al., 2014; Saßenroth, 2013; Satherley et al., 2015). Humility negatively correlated with attrition in one study (Satherley et al.). Generally speaking, personality traits can be a substantial predictor of sample attrition. In this vein, using their data obtained on a field study sample (N = 405), Rogelberg and colleagues (2003) asserted that "if the survey concerns topics strongly related to conscientiousness and agreeableness, the respondent sample may not be representative", because the nonreponse bias was related with these traits.

On the other hand, however, Satherley and colleagues (2015) conclude that previous findings "demonstrate a relative lack of consensus among the scarce research on personality and sample attrition" (p.6), whereas Richter and colleagues (2014) point out that effects of personality on sample attrition are minor in terms of effect sizes. Moreover, Roberts et al. (2006) found minimal effects of attrition on mean-level change in personality traits across the life course (N of samples = 92).

Reflexive characteristic adaptations (RCA), in terms of the five-factor theory (McCrae & Costa, 1996, 2013), represent opinions and interpretations by means of which individuals monitor, and reflect on, their personality traits and the personality traits idea in general (Shchebetenko, 2015). Theoretically, being a sort of characteristic adaptations (McCrae & Costa), RCA should mediate the links between personality traits and external outcomes. In this vein, extraversion showed an indirect link with sociometric status via attitudes toward extraversion (Balabina, 2015).

Two types of RCA were addressed in this study: attitudes toward traits and meta-traits. *Attitudes toward traits* are bipolar evaluations of a given trait, without direct reference to any person, including the individual her- or himself. *Meta-traits* are metaperceptual opinions on how significant others see her or his personality.

The problem. Do reflexive characteristic adaptations contribute to the relationships between personality traits and sample attrition incrementally (can these relationships be found at all)?

Method

Participants

1,030 undergraduates aged from 17 to 38 years (*M* = 19.65, *SD* = 1.72), including 691 women (67.1%).

Procedure and Questionnaires

The study consisted of two steps.

Step 1. The undergraduates were invited to participate in a study carried out in a classroom during their study hours. Eleven undergraduates refused to participate in Step 1. The participants were informed of a possibility to further participate in Step 2. The only incentive for the participation in Step was "a more detailed report about the study including your personal profile". Personality traits were measured with a Russian version (Shchebetenko, 2014) of the Big Five Inventory (BFI; John et al., 1991, 2008), αs=.78, .68, .80, .79, .81 (for Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness, respectively). To evaluate RCA, BFI was modified by changing the instructions, the scale, and various phrases. The Attitudes toward traits BFI showed acceptable internal consistency, αs=.69, .69, .72, .71, .77. With regard to meta-traits, students' parents were used as significant others. The instructions were the following: "This time, you are asked to indicate what your parents think of you. Do they believe you are a person who possesses a given trait or not?". The participants rated each item on the conventional 5-point BFI scale anchored from 1 (disagree strongly) to 5 (agree strongly). The meta-trait BFI showed good internal consistency, αs= .81, .75, .86, .81, .83.

Step 2. A month later the participants were debriefed and invited to participate in Step 2 via email. 277 participants (26.9%) aged from 17 to 29 years, including 75 males (27.1%), filled out questionnaires for Step 2 and sent them to the researcher. Participants' sex correlated with the attrition, tetrachoric ρ = .13, p < .001, so that women proceeded to participate somewhat more readily.

Results

Personality characteristics and sample attrition: biserial correlations.

Table 1. Biserial correlations between participation in Step 2 and personality characteristics.

	E	A	C	N	O
			Personality traits		
	-.11	.08	.14	.03	.02
			Attitudes toward personality		
	-.01	.16	.02	-.10	-.00
			Meta-traits		
	-.16	.06	.17	.03	.04

Note. Positive correlations indicate that a trait predicted further participation in Step 2. E – extraversion, A – agreeableness, C – conscientiousness, N – neuroticism, O – openness.

PERSONALITY TRAITS PREDICTED SAMPLE ATTRITION INDIRECTLY VIA REFLEXIVE CHARACTERISTIC ADAPTATIONS. Because Step 2 participation was a dichotomous dependent variable, the covariance matrix was analysed by weighted least squares method.
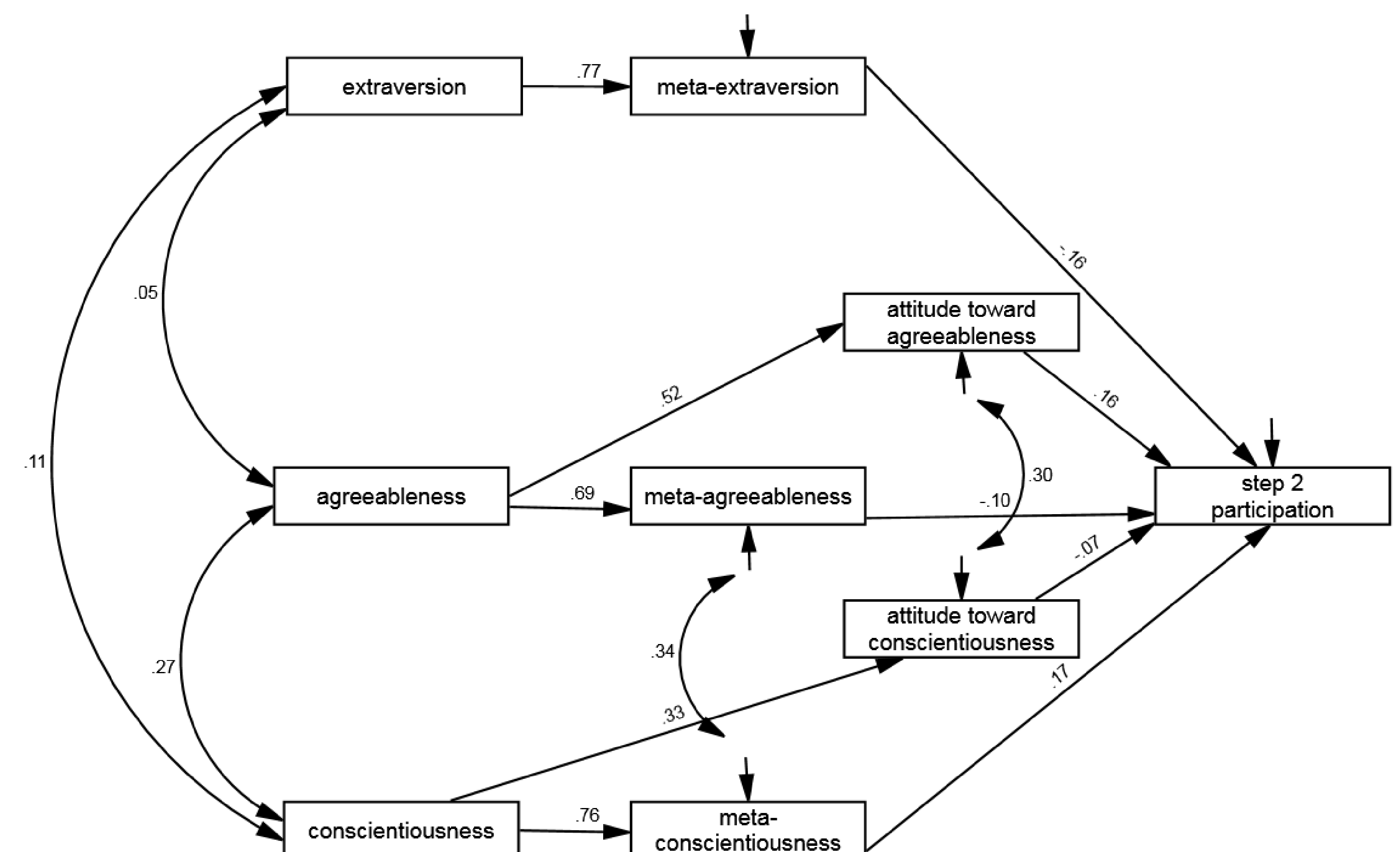
N = 1,030; χ2 (24) = 76.52, p < .001, GFI = .981, AGFI = .959, CFI = .961, RMSEA [90% CI] = .051 [.039; .063]

Figure. Personality traits predicted step 2 participation indirectly via reflexive characteristic adaptations.

Conclusion

The effect sizes of the correlations were constantly small. Therefore, we must accept the conclusion (Richter et al., 2014) that personality traits produce minor effects on sample attrition.

Three personality traits correlated with sample attrition. Sample attrition was predicted by low agreeableness/hostility (presumably regarding the researcher as well), low conscientiousness (presumably disability to complete additional tasks), and high introversion (presumably due to the remote fulfilment of the tests at Step 2).

Although participants' sex correlated with sample attrition, multiple regression showed that sex didn't interact with effects of personality, which is consistent with previous findings (Dollinger & Leung, 1993).

Reflexive characteristic adaptations (RCA) mediated the contributions of traits. Extraversion related indirectly to sample attrition via meta-extraversion; agreeableness and conscientiousness related indirectly via their attitude and meta-trait RCA.

Agreeableness and conscientiousness RCA played an equivocal role in correlations between the respective traits and sample attrition. These findings can be explained in terms of dual-processes theories (e.g., Chaiken & Trope, 1999), including the reflexive-impulsive model (Strack & Deutsch, 2004).