

Measuring OCBs: Reporting Behavior or Rating Narrow Bandwidth Personality Facets?

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Presented at the Annual Conference of the Association for Psychological Science, May 24, 2009, San Francisco, California

The shared variance of organizational citizenship behavior and the Big Five Personality construct was examined with confirmatory factor analysis. A strong relationship of the OCB sportsmanship variable to the Big Five Personality was revealed. This result supports the conjecture that OCB as typically measured may represent a lower level factor of personality.

Through meta analytic studies, organizational citizenship (OCB) and the Big Five Personality factors have been demonstrated to correlate consistently, but at modest levels. Given the similarity in the types of items often used to measure aspects of both, why don't we see larger correlations? I propose that there is, in fact, considerable overlap in aspects of the Big Five Personality and OCB, depending on the type of measurement typically employed for specific components of each construct.

The Big Five Personality Factors

The widely-used five-factor model consists of neuroticism (emotional stability), extraversion, openness to experience, agreeableness, and conscientiousness. Each personality factor can be clarified by a description of the polar opposites of each dimension. People high in *neuroticism* are prone to negative emotions such as anxiety, depression, and anger. Those who score low in neuroticism (i.e., high in emotional stability) are calm and less likely to become upset. *Extraversion* is characterized by assertiveness, activity, excitement seeking, and positive emotions. Extraverts seek out people and stimulation. Introverts are deliberate, quiet and reserved; they prefer time alone. *Openness* to experience includes openness to adventure, feelings, actions, ideas, and values. Those high on this factor are typically intellectually curious and imaginative. Individuals low in this factor are likely to be described as straightforward and conventional. The facets of *agreeableness* include

altruism, compliance, modesty, tender-mindedness, and trust. Agreeable people value social harmony and are friendly; those with a disagreeable personality value their interests above others and are thus less likely to be cooperative. *Conscientiousness* includes achievement striving, competence, order, and self-discipline. Those low on conscientiousness tend toward spontaneous action and a lack of planning.

Conscientiousness is a Big Five Personality factor that emerges as the most reliable predictor of job performance across occupations (Salgado, & deFruyt, 2005), yet typically has relatively small zero order correlations with job performance criteria. One possibility for this result may lie in the "broadness" of the Big Five Personality factors. Conscientiousness as a broad factor probably has multiple facets (or lower order factors) that are related, but not too highly (cf., DeYoung, Quilty, & Peterson, 2007). Hough (1992), a notable critic of the broad Big Five Personality, insists that conscientiousness consists of at least two factors, dependability and achievement, each of which may not be relevant in equal proportion, depending on the context. Dependability refers to the ordered and planned aspect of conscientiousness and achievement refers to the propensity to strive for high standards, work hard, and persist to complete a task. This possibility is made evident by Roberts, Chernyshenko, Stark, and Goldberg (2005) who showed that lower order factors of the Big Five Personality, specifically Conscientiousness, might

be differentially related to outcomes. Their findings are consistent with the idea that narrow bandwidths (Jenkins & Griffith, 2004) or lower level factors (DeYoung, et al., 2007) of the Big Five Personality may be important to identify and, ultimately, more useful to predict organizational phenomena.

Organizational Citizenship Behaviors

Organ (1988) originally defined OCB as “individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system and that in the aggregate promotes the effective functioning of the organization” (p. 4). Borman and Motowidlo (1993), working from the direction of defining the job performance construct, defined contextual performance as “behaviors [that] do not support the technical core itself so much as they support the broader organization, social, and psychological environment in which the technical core must function” (p.73).

There has been continued debate about the dimensionality of OCB with several attempts to assimilate and categorize the divergent views (cf., Coleman & Borman, 2000; LePine, Erez, & Johnson, 2002; Podsakoff, MacKenzie, Paine, & Bachrach, 2000). Williams and Anderson (1991) suggested OCB could be categorized simply into two dimensions: OCB-I and OCB-O that represent behaviors directed toward other people within the organization (OCB-I) and behavior directed toward supporting the organization (OCB-O). Borman, Penner, Allen and Motowidlo (2001) have proposed three basic clusters of citizenship behavior: *personal support*, which is helpfulness directed toward others, *organizational support* which consists of defending the organization and complying with its rules (i.e., organizational compliance), and *conscientious initiative* which is persisting in the face of difficult conditions and finding and completing work not part of one’s duties, including self improvement efforts. Organ (1994) proposed five categories of OCB: altruism, conscientiousness, sportsmanship, courtesy, and civic virtue. The first, *altruism*, represents behaviors that have the effect of helping a specific other person with an organizationally relevant task or problem. *Conscientiousness*

involves behaviors on the part of the employee that go beyond the minimum role requirements of the organization, in the areas of attendance, obeying rules and regulations, taking breaks, and so forth. The third, *sportsmanship*, is the willingness of the employee to tolerate less than ideal circumstances without complaining. *Courtesy* includes behaviors that are aimed at preventing work-related problems with others from occurring. Finally, *civic virtue* is characterized by behaviors on the part of an individual that indicates he or she participates in, is involved in, or is concerned about the life of the company (Podsakoff, MacKenzie, Moorman, & Fetter, 1990).

The commonalities of the different definitions suggest the different facets emanate from a core construct. Although there has been some discussion in the literature that OCB is an aggregate construct (cf., LePine et al., 2002), I support the idea that OCB is a latent construct and agree with LePine et al.’s proposition that the underlying factor is that of a willingness to help and cooperate in organizational contexts.

Big Five Personality Factors and OCB

There is an emerging consensus that elements of personality are related to OCB (Borman et al., 2001; Organ, 1994; Organ & Ryan, 1995) although as already noted, the proportions of variance accounted for are modest (*rs* in the .10s and .20s). Of the Big Five Personality, the two factors that have most consistently correlated with OCB are conscientiousness and agreeableness (Organ, 1994; Organ & Ryan, 1995; Borman, Penner, Allen & Motowidlo, 2001). The Big Five Personality factor of conscientiousness correlates most highly with organizational compliance (similar to Organ’s conscientiousness variable) and with altruism (Organ & Ryan, 1995). Conscientious people are more likely to accept responsibility and be thorough in their approach to life’s tasks; these characteristics translate well into an organizational setting such as following rules and helping others with their work.

Given the types of items that appear on Big Five Personality inventories and those that measure OCBs, I am surprised that scores on the Big Five Personality do not correlate more highly

with OCB. For instance, if one compares items from the typical OCB measure for the conscientiousness facet (e.g., "I believe in giving an honest day's work for an honest day's pay") with an item from a statement based inventory for the Big Five Personality factor of the same name (e.g., "I do just enough work to get by" [reversed scored]), there is considerable similarity in concept. As another example, compare an item tapping Organ's OCB facet of courtesy (e.g., "does not abuse the rights of others") with these items from a statement based Big Five Personality inventory (e.g., "I respect others", "I am concerned about others") measuring agreeableness. (Big Five Personality statements taken from the International Personality Item Pool (2008) for illustration.) These items appear to have considerable conceptual overlap so one might wonder why the correlations are not greater. Based on a review of the *types* of items found on both types of measures, I believe that the measure of the OCB construct could be construed as narrow bandwidth (or lower order) personality factors. I realize the low correlations of OCB with conscientiousness (and other Big Five Personality factors) revealed in meta-analyses would appear to contradict this assertion. However, if one considers the possibility that conscientiousness might have multiple facets that are not necessarily highly correlated (cf, Roberts, et al., 2005), it would make sense that OCBs might correlate at a fairly low level with the broad factor of conscientiousness, but at a moderate level with more narrowly defined facets of conscientiousness.

Purpose of Study

The purpose of this study was to assess the construct overlap of the personality factors of the Big Five Personality and the dispositions represented by OCBs. I expected a significant relationship between the composite constructs of the Big Five Personality and OCB.

Method

Procedure

Participants were recruited from upper-level undergraduate psychology and business school classes offered at a mid-sized university in

southern California. Two instruments measuring OCBs and the Big Five Personality factors were combined into a single survey packet. Instructors of classes were approached and if they approved, students were invited to participate in a survey.

Participants

Participants were 585 students. Nearly half (46%) of the students were seniors and another 32 percent were juniors. Of the sample, 10% of the sample was African-American, 6% were Asian, 42% White, 36% Hispanic, and 6% reported "other". The average age for the participants was 24.9 (SD = 7.5, range 18 to 57) years and women constituted 83% of the sample. Ninety-four percent of the sample had work experience. The average number of months worked was 77.8 (6.5 years, SD=6.3). Of these, 17% had supervisory or managerial experience, 16% were full time non management employees, 38% were part time non management employees, 7% were not currently employed and 23% identified as full time students.

Measures

The Big Five Personality Mini-marker Scale (Saucier, 1994). This instrument is based on the five-factor model of personality (extraversion; agreeableness; conscientiousness; emotional stability and openness). The items consist of 40 single adjectives (e.g., "Systematic"). The response scale is a Likert-type with anchors of 1, "extremely inaccurate" to 9, "extremely accurate." Alphas for the subscales are presented in Table 1.

Organizational Citizenship Behavior Scale (Podsakoff, et al., 1990). The scale is a 24-item Likert-type scale anchored with 1, "strongly agree" and 7 "strongly disagree". This measure assesses the extent to which a person reports engaging in organizational citizenship behaviors. Four or five items are used to assess each of these subscales. To facilitate interpretation, the items were reverse coded so that higher scores represent more of the OCB.

Results

A confirmatory factor analysis (CFA) was performed using EQS (Bentler, 1995). Each of the primary constructs (latent variables) of interest--OCB and Big Five Personality PF--had five indicators. Before conducting the CFA analysis, the data were examined for univariate and multivariate normality. After deleting cases with missing data or outliers, 556 cases remained.

Factorability of the matrix was also assessed. The Kaiser-Meyer-Olkin measure of sampling adequacy was .81 and Bartlett's Test for Sphericity was 1455.55, $p < .001$, indicating the data set was suitable for factoring (Bentler & Dudgeon, 1996).

Means, standard deviations, and alpha reliabilities of the measured variables can be found in Table 1. Zero order correlations of the measured variables are in Table 2.

Model Fit

To identify relationships among factors and measured variables, structural equation modeling was conducted using EQS (Bentler, 1995). Figure 1 shows the model and factor loadings (standardized coefficients) and correlations between the latent constructs. The independence chi-square that the variables were unrelated was easily rejected, χ^2 ($df=45$, $N = 556$) = 1376.56, $p < .001$. Because Mardia's test for multivariate kurtosis was significant ($z=6.39$), the Satorra-Bentler scaled χ^2 test was used. The Satorra-Bentler scaled χ^2 indicated significant differences between the estimated population covariance matrix and the sample covariance matrix, χ^2 ($df=34$, $N = 556$) = 250.57, $p < .001$. The comparative fit index (CFI) indicated a relatively poor fit, $CFI = .85$, as did the RMSEA, .10, based on recommendations by Bentler (1990), Marsh and Han (1996), and Browne & Cudeck (1998). The Lagrange multiplier (LM) test and Wald test were inspected to assess for paths to add or remove. On the basis of the LM test, the measured variable of sportsmanship (OCB) was permitted to cross load on both Big Five Personality and OCB latent factors. Adding this path improved CFI to .90 and RMSEA to .09

[Satorra Bentler χ^2 (33, $N = 556$) = 168.18, $p < .001$; chi-square difference, $\Delta\chi^2$ ($df=1$) = 37.58, $p < .001$]. Another inspection of the LM test suggested adding a path for two correlated errors (openness and extraversion). A chi-square difference test indicated a significant improvement to the model, $\Delta\chi^2$ ($df=1$) = 34.48, $p < .001$, with the addition of this path. The Satorra-Bentler scaled χ^2 test and comparative fit index demonstrated a reasonably good model fit [χ^2 (33, $N = 556$) = 120.86, $p < .001$, $CFI = .93$, $RMSEA = .07$] based on Hu and Bentler's (1999) standard CFI of .95.

See Figure 2 for the revised model. The standardized loadings remained nearly the same as in the initial model for all measured variables with the exception of sportsmanship, which when permitted to cross load, loaded significantly on the Big Five Personality composite construct and became nonsignificant on the OCB composite construct. All other measured variables loaded on their intended latent factors. Both latent factors were significantly correlated, OCB with the Big Five Personality (.65).

Discussion

The model as initially predicted (Figure 1) fit the data relatively poorly. One of the post hoc fit indices suggested a significantly better fitting model with the addition of the OCB measured variable sportsmanship to the Big Five Personality composite. This additional path, based on the data, provides support for my contention that OCBs, as typically measured, may contain narrow bandwidths of personality traits.

Big Five Personality Factor Structure

If one considers the measured variables that loaded most highly on the latent construct as central to the composite (Musek, 2007), I find that agreeableness (loading of .80) best describes the collective personality construct, with conscientiousness (.64) also heavily weighted. Agreeable people are easy going, tolerant, friendly, and value social harmony. Those high in conscientiousness are achievement driven, dependable and prefer to operate from a plan. Openness and emotional stability loaded at a

moderate level. Most notably, extraversion loaded rather low (.28), though significantly, on this composite construct. Musek (2007) has suggested that a composite Big One factor subsumes all of the Big Five Personality into a combination of all personality characteristics that are personally valued. If so, then this composite describes the most valued personality within this sample as very agreeable, conscientious, moderately open and emotionally stable with little surgency.

The low loading of Extraversion is the most surprising result as extraversion has been a commonly extracted factor of the Big Five Personality from the earliest work (Tupes & Christal, 1961). Hough's (1992) work may serve to provide some insight. She has suggested that extraversion has two primary facets: Affiliation and potency. A person high in affiliation is social, outgoing, and likes to be with people; in contrast, those low in the facet are shy, reserved, and uncomfortable in social situations. Potency can be conceptualized as energy with high scorers being active and forceful, and low scorers, lethargic. An inspection of the adjectives in the Mini-marker Big Five Personality measure used (Saucier, 1994) shows that the measured variable extraversion contains both affiliation and potency facets. To explore the possibility that the low loading of extraversion may be a result of a complex factor, I conducted an exploratory principal axis factor analysis (PAF) with varimax rotation of the extraversion items on the Mini-marker Scale. This PAF resulted in two factors that mirrored Hough's two factors of affiliation (i.e., shy, bashful, and quiet) and potency (i.e., energetic, talkative, extroverted, bold, and withdrawn), but the solution is confounded by the fact that three of the four reverse scored items loaded on one factor.

Nevertheless, a complex extraversion variable could explain the relatively strong zero order correlation of extraversion with openness (.38) and yet low correlations (.12, .15) with agreeableness and emotional stability. One might expect a potency facet to correlate with openness but not with agreeableness or emotional stability. Energetic and outgoing individuals would seem to have more curiosity and potential for adventure; however, energy levels and preference for affiliation could be related differentially to

agreeableness or emotional stability. The implication of this finding for organizational behavior is that the two facets of extraversion may operate differentially in predicting work outcomes. For example, an affiliative disposition would be an important foundation for cooperation among co-workers, but potency might interfere with co-worker relationships if there were too much or too little energy among co workers working together on a project.

OCB Factor Structure

A review of the factor loadings for the OCB construct indicated that the measured variables courtesy (.77) and altruism loading highly (.75). This structure compares favorably with previous research that indicates helpfulness is a consistent theme in the meta-analyses as well as the conceptual review of OCBs. Civic virtue and conscientiousness also loaded highly (.58, .69 respectively); both of these measured variables address intentions that can be seen as helpful to the organization, i.e., not taking extra breaks, keeping up to date with changes in the organization.

In the initial model (Figure 1), the lowest loading measured variable was sportsmanship (.36). Permitting this variable (sportsmanship) to load on the Big Five Personality composite led to a significantly better fit of the model to the data. When sportsmanship was permitted to cross load, it loaded significantly on the Big Five Personality composite and became a nonsignificant loading on the OCB composite. This result supports my conjecture that OCBs as typically measured may be more a disposition than a pure sample of behavior. The significant loading of sportsmanship on the Big Five Personality supports the idea that aspects of OCBs as usually measured may represent a narrow bandwidth of personality and would reasonably emerge from a foundation of a broad base of personality traits such as the Big Five Personality framework.

Relationship of the Latent Constructs

The Big Five Personality and OCBs. If one accepts that the "Big One" (Musek, 2007) of the Big Five Personality in this sample was heavily weighted by Agreeableness, that the measured variable OCB sportsmanship would load also on

the Big Five Personality is a logical outcome. Sportsmanship is defined as not complaining about small inconveniences or finding fault with the organization. Sportsmanship is wholly consistent with the idea of being tolerant and adaptive such as we are likely to see in people with the trait of agreeableness. To be a “good sport” means not complaining when a work meeting is running long or when plans need to be changed to accommodate changes in the work situation.

Although OCBs have typically been conceptualized as desired outcomes (i.e., part of job performance, Borman & Motowidlo, 1993), they could also be treated as predictors, especially if conceptualized as facets of personality. I believe the kinds of behaviors described by Organ and others are likely to be more specific representations of personality, especially in how they are usually measured. There is some evidence for this idea in the work of Penner, Fritzsche, Craiger, and Freifeld (1995) who proposed and developed a personality measurement of a prosocial personality construct. Their prosocial personality construct consists of two facets: other-oriented empathy and helpfulness. These two factors can function independently of each other and differentially predict helping behavior. The helpfulness factor better predicts helping behaviors while the other-oriented empathy factor correlates more consistently with personality factors such as agreeableness and nurturance (Penner et al., 1995).

Limitations

Because all data were collected via survey, common method variance could have inflated the correlations (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Spector (1987, 2006) has strongly argued that common, systematic method variance is not as problematic as originally imagined in survey research. Furthermore, the use of a SEM approach also mitigates this concern somewhat (Kline, Sulsky, & Rever-Moriyama, 2000). Although the problem of common method variance is not resolved with SEM techniques, the effects related to measurement error are diminished.

The use of self report measures of personality has also received criticism from several industrial psychologists (cf., Morgeson, Campion, Dipboye, Hollenbeck, Murphy, & Schmitt, 2007) for use within applicant populations. The concern is that applicants will use self-enhancement (e.g., faking) strategies and thus not reveal their true personalities. I recognize this concern but argue that in this data set these participants (anonymous responding) had little to gain by altering their responses to the personality measure.

Conclusion

In this paper, I examined the factorial structure and interrelationships of two individual characteristics: Personality as defined by the Big Five Personality and organizational citizenship behaviors which I argue are usually measured at the level of narrow bandwidths of personality. I found support for my conjecture that OCBs may represent dispositions similar to personality traits in that the latent constructs correlated highly and the OCB measure variable sportsmanship loaded on the Big Five Personality composite construct more highly than on the OCB construct.

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Author Notes

A paper based on an analysis of a greater number of constructs and a subset of these data was presented at the American Psychological Society (now Association for Psychological Science) in Los Angeles, California, May 28, 2005.

The author thanks Hikari Moreno, Toshio Murase, Jeremy Holforthy, and Will Wyatt, who collected and entered data for this project. I especially thank Shinko Kimura who conceptualized the potential for overlap among the constructs of teamwork aptitude, personality, and organizational citizenship behavior.

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Table 1. Means, Standard Deviations, and Alpha Reliabilities of the Measured Variables

Construct	Measured Variable (subscale)	Mean	SD	α
<i>Organizational Citizenship Behavior^a</i>				
	Altruism	4.86	.76	.75
	Civic virtue	3.99	1.15	.72
	Conscientiousness	4.86	.78	.72
	Courtesy	4.88	.77	.65
	Sportsmanship	3.62	.98	.71
<i>Big Five Personality Factors^b</i>				
	Agreeableness	7.29	1.11	.80
	Conscientiousness	6.91	1.14	.78
	Emotional stability	5.71	1.38	.79
	Extraversion	5.84	1.38	.81
	Openness to experience	6.61	1.21	.78

Notes. N = 556

^aMean of item endorsement, 7-point scale

^bMean of item endorsement, 9-point scale

Table 2. Intercorrelations of Measured Variables

Variable	1	2	3	4	5	6	7	8	9
1. OCB-Altruism									
2. OCB-Civic Virtue	.42								
3. OCB-Conscientiousness	.52	.44							
4. OCB-Courtesy	.59	.44	.52						
5. OCB-Sportsmanship	.22	.15	.18	.29					
6. Big Five-Agreeableness	.38	.24	.36	.45	.39				
7. Big Five-Conscientiousness	.28	.19	.35	.27	.32	.55			
8. Big Five-Emotional Stability	.19	.17	.20	.23	.40	.33	.23		
9. Big Five-Extraversion	.17	.16	.10	.08	.12	.12	.25	.15	
10. Big Five-Openness to Experience	.27	.22	.23	.29	.19	.38	.33	.07	.38

Notes. N= 556. Correlations greater than .15 are statistically significant at $p < .01$.

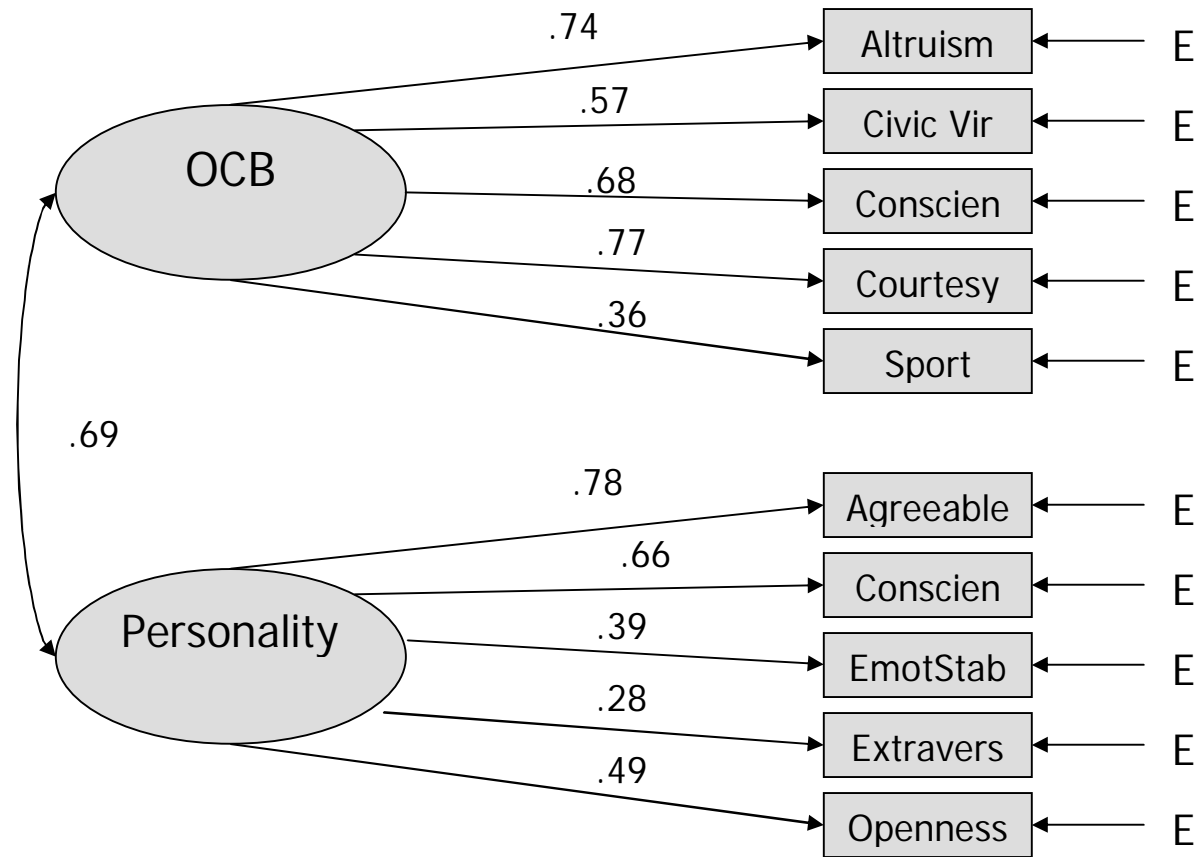


Figure 1. Initial model: Structural model of organizational citizenship behavior and the Big Five Personality.

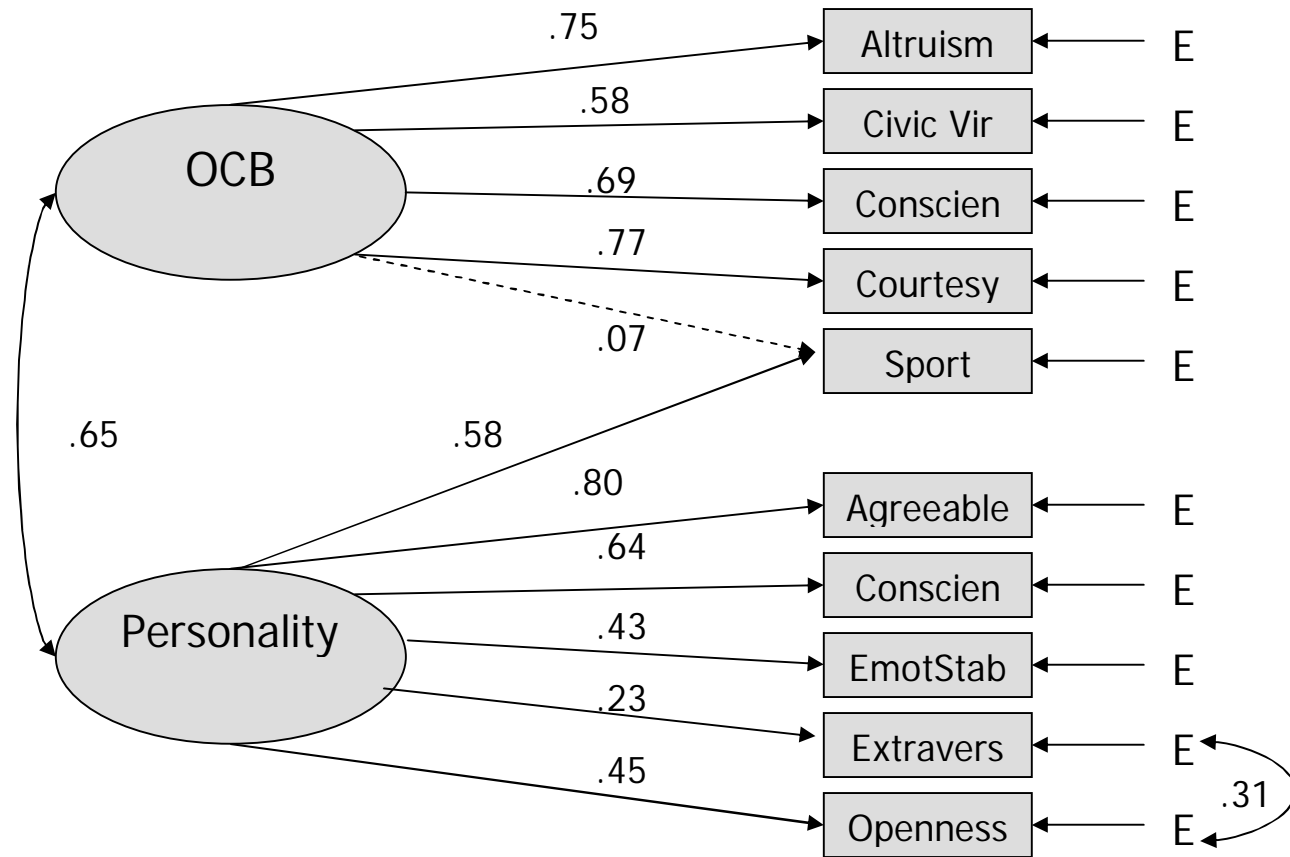


Figure 2. Revised model: Structural model of organizational citizenship behavior, the Big Five personality factors, with sportsmanship path to Big Five Personality and two correlated errors added.