

# **The Big Five and Achievement Motivation: Exploring the Relationship Between Personality and a Two-Factor Model of Motivation**

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**ABSTRACT** - The present study examined the relationship between the Big Five and a two-factor model of achievement motivation. Participants ( $N = 777$ ) completed the Big Five Inventory (John & Srivastava, 1999) and a multidimensional achievement motivation scale (Cassidy & Lynn, 1989). Correlation and multiple regression analyses disclosed relations among the Big Five and achievement motivation. Conscientiousness, openness, and extraversion were positively associated with intrinsic achievement motivation, whereas extraversion, conscientiousness, and neuroticism were positively related to extrinsic achievement motivation. Agreeableness was also found to be negatively associated with extrinsic achievement motivation. Conscientiousness was anomalous in that it was positively related to both intrinsic and extrinsic motivation. Results suggest that both forms of motivation may be more complex than originally expected.

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How personality relates to achievement represents a complex issue, and the relationship between personality and motivation remains the focus of much research (e.g., Judge & Ilies, 2002). Relatively few studies, however, focus on describing the link between personality and the various dimensions that underlie achievement motivation. The present study examined the relationship between the Big Five personality traits and a two-factor model of achievement motivation.

The Big Five Personality Trait Taxonomy emerged as a robust, clear, and concise model which was developed by analyzing the thousands of trait adjectives used by individuals to describe themselves or others (John & Srivastava, 1999). The five broad dimensions that arose from this body of research were labeled extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. Extraversion refers to the degree to which an individual actively engages their social environment, represented by such trait descriptors as outgoing, sociable, and adventurous. Agreeableness refers to the degree to which an individual exhibits a cooperative and collectivistic orientation toward others. Kindness, cooperative, and unselfish are all traits associated with agreeableness. Conscientiousness refers to the degree to which an individual follows social norms and engages in goal-directed behavior, and is represented by such traits as responsible, deliberate, and organized. Neuroticism refers to the emotional stability and adjustment of an individual. Traits associated with neuroticism include emotional, temperamental, and anxious. Finally, openness to experience refers to the degree to which an individual accepts new or unconventional thoughts and experiences. Imaginativeness, curiousness, and foresightedness are all traits associated with openness to experience.

Several researchers suggest that the Big Five Personality Trait Taxonomy provides a robust approach for understanding the structure of personality (Goldberg, 1990; John & Srivastava, 1999; Judge & Ilies, 2002). Moreover, the Big Five Personality Trait Taxonomy appears to generalize across samples, rating sources, and methods of measurement (John & Srivastava, 1999). Based on the soundness and utility of this approach, we used the Big Five Personality Taxonomy as the theoretical foundation for the present study.

Establishing and understanding the nature of the relationship between personality and achievement motivation represents an expanding area of research. For example, Paspalanov (1984) found a positive relation between achievement motivation and both extraversion and neuroticism; whereas Heaven (1990) found that achievement motivation was positively related to extraversion, but was inversely related to neuroticism. Conflicting results could be due partly to the complexity of achievement motivation. Achievement motivation was identified by Atkinson and

Feather (1966) as a socially acquired as opposed to biologically-based motive, and there has been a continuing controversy whether achievement motivation is a single dimension or a multidimensional construct. An example of dimensional complexity is evident in Ross, Rausch, and Canada's (2003) finding that agreeableness was positively related to one aspect of achievement orientation (i.e., cooperation), but was inversely related to another (i.e., hyper-competition).

Cassidy and Lynn (1989) developed a measure of achievement motivation consisting of seven dimensions, each of which had some support in the literature and each is outlined below. Cassidy and Lynn referred to pursuit of excellence as an individual's desire to work to the best of their own ability in an effort to attain a personally defined standard of excellence. Work ethic refers an individual's desire to work hard, because the intrinsically reinforcing nature of the work itself. Status aspiration refers to an individual's desire to climb the "social ladder" in an effort to gain power and dominance over others. Competitiveness refers to an individual's desire to compete with and outperform others in an activity. Acquisitiveness for money and material wealth refers to the motivating aspects of money and other material objects. Mastery refers to an individual's desire to solve difficult, challenging problems, whereas Dominance refers to an individual's motivation resulting from a desire to hold a position of authority.

Several researchers have examined how these types of motivation dimensions are related to personality. Musson, Sandal, and Helmreich (2004) found that extraversion, openness to experience, and conscientiousness were positively related to mastery, whereas neuroticism was inversely related to mastery. Furthermore, work orientation (similar to Cassidy and Lynn's work ethic) was found to be positively related to both extraversion and conscientiousness. Musson et al., (2004) also found that both openness and agreeableness were negatively associated with competitiveness.

The Cassidy and Lynn measure is impressive in scope, but Story, Stasson, Mahoney, and Hart (2007) found that the Cassidy and Lynn measure could be collapsed into a popular two-dimensional model of achievement motivation, intrinsic and extrinsic motivation, with little loss of specificity. This two-dimensional, intrinsic and extrinsic, motivation model has been used widely in psychology (Ryan & Deci, 2000; Sansone & Harackiewicz, 2000). A factor analysis of the Cassidy and Lynn scales showed that the scales fit well within this two dimensional framework, with the acquisitiveness, competitiveness, dominance, and status aspiration falling on an extrinsic achievement motivation factor, and excellence, mastery, and work ethic scales on an intrinsic achievement motivation factor (Story et al., 2007).

The present study sought to further clarify the relationship between the Big Five personality traits and achievement motivation. The Big Five Inventory (John & Srivastava, 1999) was used to measure agreeableness, conscientiousness, extraversion, openness to experience, and neuroticism. To provide a more parsimonious explanation of the relationship between the Big Five personality traits and achievement motivation, Cassidy and Lynn's seven scale achievement motivation scale was collapsed into intrinsic and extrinsic motivation measures. Not only does this approach have intuitive and psychometric appeal, researchers often use an intrinsic – extrinsic dichotomy when describing motivation in a wide range of contexts (Ryan & Deci, 2000; Sansone & Harackiewicz, 2000). Extrinsic motivation refers to the desire to work toward a goal in order to attain some external reward or compensation; whereas intrinsic motivation refers to the desire that comes from within the person to work toward a goal. The four factors that comprise the extrinsic achievement motivation (EAM) dimension are consistent with the description of extrinsic motivation, as they all emphasize some form of external reward (e.g., money or praise). In contrast, the three factors that comprise the intrinsic achievement motivation (IAM) dimension emphasize working for work's sake. Taken as a whole, the application of the two-factor model in the present research provides an interesting and innovative framework for understanding the relationship between achievement motivation and the big five personality types.

We generated two hypotheses relating the Big Five and the two-factor model of achievement motivation. First, it was expected that extraversion, conscientiousness, and openness would be positively associated with IAM. In contrast, neuroticism was expected to be negatively related to IAM. No prediction was made for agreeableness and IAM. Second, it was expected that openness and agreeableness would be inversely related to EAM. No formal predictions were made in terms of the relationships between EAM and neuroticism, conscientiousness, and extraversion.

## **Method**

### ***Participants***

Introductory psychology students ( $N = 777$ ) at a large, urban university served as participants in the present study. The sample included 229 male and 528 female participants. Participants completed the study to partially fulfill a course requirement, selecting participation here from a wide range of alternative exercises. All participants were treated in accordance with the American Psychological Association Code of Ethics (APA, 2002).

### ***The Big Five Inventory and the Cassidy and Lynn Achievement Motivation Scale***

The Big Five Inventory (BFI; John & Srivastava, 1999) consists of 44 items designed to measure the Big Five personality traits: agreeableness, conscientiousness, extraversion, openness, and neuroticism. Using a five-point Likert scale (1 – disagree strongly to 5 – agree strongly), respondents are asked to rate the degree to which they see themselves as a person who engages in a variety of affective, behavioral, and cognitive responses (e.g., “Tends to be lazy”).

The Cassidy and Lynn (1989) achievement motivation scale (CLAMS) consists of 49 items. Using a five-point Likert scale (1 – never to 5 – always), respondents are asked to report the degree to which they think or behave in a specific manner (e.g., “Hard work is something I like to avoid”). Seven sub-scales (each with seven items) comprise the achievement motivation scale, representing each of the following facets of achievement motivations: work ethic, pursuit of excellence, status aspiration, competitiveness, acquisitiveness for money and material wealth, mastery, and dominance. Following Story, et al. (2007) these subscales were collapsed into two higher-level constructs, IAM (work ethic, pursuit of excellence, and mastery) and EAM (status aspiration, competitiveness, acquisitiveness for material wealth, and dominance). In this study, we found strong internal consistency among the three IAM subscales ( $\alpha = .82$ ) and among the four subscales comprising the EAM factor ( $\alpha = .86$ ).

### ***Procedure***

The participants completed both the BFI and the CLAMS as a part of a mass-testing prequalification study sponsored by the psychology department. At the end of the mass-testing session, participants were debriefed and thanked for their participation.

## **Results**

The correlation analyses showed that most of the Big Five personality traits were correlated significantly with both IAM and EAM (see Table 1). In order to control for overlapping variability among the Big Five personality traits, multiple regression analyses were performed to see more clearly the independent relations between each trait and each type of motivation. As a set, the Big Five traits were more predictive of intrinsic motivation ( $R^2=.41$ ) than extrinsic motivation ( $R^2=.15$ ). The regressions also showed that IAM was positively associated with conscientiousness, openness, and extraversion; whereas extraversion, conscientiousness, and neuroticism were positively related to EAM and agreeableness was negatively associated with EAM.

**Table 1**  
***Correlation and Multiple Regression Results Predicting Intrinsic and Extrinsic Motivation from the Big Five Personality Characteristics***

Predictor	Intrinsic Motivation			Extrinsic Motivation		
	<i>r</i>	Beta	<i>R</i> <sup>2</sup>	<i>r</i>	Beta	<i>R</i> <sup>2</sup>
Extraversion	.25**	.08*	.41**	.29**	.28**	.15**
Agreeableness	.25**	.04		-.09*	-.17**	
Conscientiousness	.58**	.54**		.21**	.24**	
Neuroticism	-.15**	.03		.03	.12**	
Openness	.32**	.24**		.13**	.04.	

Note: *N*=777      \*\**p* < .01      \**p* < .05

## Discussion

In general, the hypothesized relations were supported. The purpose of the present study was to cast further light on the relationship between Big Five personality traits and achievement motivation. Consistent with predictions, both correlation and regression analyses revealed that individuals high in IAM were elevated in conscientiousness, openness, and extraversion, though the extraversion effect was weaker than expected. The prediction that neuroticism would be negatively associated with intrinsic motivation was not fully supported, as there was no significant association between the neuroticism and IAM after controlling for the other personality characteristics. Consistent with predictions, agreeableness was negatively associated with EAM. On the other hand, we found no support for the predicted negative association between openness and EAM. The presence of a strong positive relation between EAM and extraversion suggests that characteristics associated with extraversion (e.g., gregariousness, superiority-striving, control, dominance) should be associated positively with EAM. An unanticipated positive relation between conscientiousness and EAM was observed, although this relation was much weaker than the expected strong association between conscientiousness and IAM.

Collectively, the Big Five better predicted IAM as compared to EAM. This may occur because extrinsic achievement motivation is more likely to be impacted more by specific situational characteristics (the type and degree of motivators in a particular context), whereas IAM may be a characteristic that is relatively immune from many contextual factors.

The results of the present study have implications for both research and practice. First, the Cassidy and Lynn scale measures achievement motivation on seven different facets, which we collapsed into two distinct factors: intrinsic and extrinsic achievement motivation. The internal consistency of the two-factor motivation model appears adequate suggesting that a two-factor model application of the Cassidy and Lynn scale may provide a more parsimonious, yet informative, measure of the achievement motivation construct. Second, the revealed relationships between the Big Five and achievement motivation are likely to be useful to both educators and human resource personnel. For example, students or employees high in conscientiousness are likely to perform well in environments that both elicit intrinsic motivation (e.g., working on a personally meaningful task) and that also contain extrinsic rewards. Extraverted students and employees, however, may only perform well in situations with extrinsic rewards. Therefore, success in the classroom or on the job may depend on how well one's personality and achievement motivation orientation are congruent with the existing reward system.

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#### **Author Note**

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