



## Mentoring receipt and personality: Evidence for non-linear relationships

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**Mentoring Receipt and Personality:  
Evidence for Non-Linear Relationships**

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## **Abstract**

The research investigates the relationship of the Big-Five of personality with mentoring receipt with the use of two independent studies. The findings of the studies show substantial consistency. Equations of quadratic form describe half of the tested relationships better than linear equations. The association of openness to experience and agreeableness with mentoring receipt is of inverted U-shape. The benefits of being open and agreeable for mentoring receipt cease to exist at high values of these traits. On the other hand, emotional stability and conscientiousness demonstrate exclusively positive linear relationships with mentoring receipt. The form of the relationship of extraversion differs between the two studies, but the overall trend is positive. The substantial quadratic component in the association of personality with receipt of mentoring means that research hitherto may be grossly underestimating the effects of personality on developmental relationships because earlier studies assume strictly linear associations. Parts of the results also imply that the associations of certain personality traits with mentoring receipt may depend upon the occupational context.

**Keywords:** Mentoring receipt; protégés; personality; Big-Five; quadratic; inverted U-shaped; multi-source; context; common method

## **Mentoring Receipt and Personality: Evidence for Non-Linear Relationships**

Mentoring in the work place is a developmental relationship between two individuals, the mentor and the protégé. Within that relationship the mentor provides a variety of career-related (e.g., challenging assignments, exposure and visibility, coaching) and socioemotional (e.g., friendship, counseling, role modeling) functions for the protégé (Kram, 1985).

Substantial empirical research on mentoring in the past quarter of a century demonstrates its connection with outcomes that are of benefit to individuals, including career success of protégés (e.g., Allen, Eby, Poteet, Lentz, & Lima, 2004) or mentors (Bozionelos, 2004a; Allen, Lentz, & Day, 2006); firms, including work attitudes of protégés and mentors (e.g., Bozionelos, Bozionelos, Kostopoulos, & Polychroniou, 2011; Dawley, Andrews, & Bucklew, 2010; Lentz & Allen, 2009; Richard, Ismail, Bhuian, & Taylor, 2009); or both individuals and organizations, as mentoring receipt relates to better learning results for protégés (Lankau & Scandura, 2002).

Apart from outcomes, however, antecedents of mentoring are also important. For example, identification of individual characteristics that increase the likelihood of mentoring receipt can contribute towards advice and development programs to assist those with deficits in those features. Personality is an individual characteristic that deserves attention in this sense. Mentoring reflects interpersonal processes. Personality influences such processes (Wiggins & Trapnell, 1996) and, hence, personality traits must play a role in mentoring receipt (Tokar, Fischer, & Subich, 1998; Turban & Lee, 2007). In particular, personality manifests itself through motives and behaviors (e.g., Winter, John, Stewart, Klohn, & Duncan, 1998). These should affect receipt of mentoring both because of actions of protégés (e.g., actively approaching a mentor in order to enhance their own image or seeking the views of an existing mentor in order to satisfy their inquisitiveness) and because of actions of

mentors towards protégés (e.g., an industrious employee may attract a mentor or a mentor may prefer to provide more advice to a receptive than to a non-receptive protégé).

The idea that personality plays substantial part in interpersonal processes and outcomes, such as mentoring receipt, adheres to the dispositional perspective to organizational behavior (e.g., see Staw, Bell, & Clausen, 1986; Staw & Cohen-Charash, 2005). The dispositional view asserts that enduring dispositional traits, such as personality, determine individual outcomes across situations and settings, and through time. With respect to the present theme, this means that individuals with similar personality profiles must show consistency across settings and over time in the extent to which they receive mentoring. Hence, information on one's personality can enable the informed prediction of whether this individual will develop mentoring relationships.

However, despite the importance of the issue, empirical research on the link between mentoring receipt and personality is limited, as authors stress (Dougherty, Cheung, & Florea, 2007; Turban & Lee, 2007). Most important, extant research, albeit certainly contributory, has two drawbacks. First, that research is inconsistent in utilization of personality framework. Existing studies utilize a variety of frameworks, including the instrumentality-expressiveness (Fagenson, 1989; Kirchmeyer, 2002; Scandura & Ragins, 1993) and the needs model (Fagenson, 1992; Fagenson-Eland & Baugh, 2001), isolated traits (Allen, Johnson, Xu, Biga, Rodopman, & Ottinot, 2009; Wang, Tomlinson, & Noe, 2010) or collections of isolated traits (Aryee, Lo, & Kang, 1999; Turban & Dougherty, 1994). This hinders the extraction of parsimonious conclusions because of different degrees of compatibility between personality frameworks and overlap between their traits. For example, extant studies employ the traits of instrumentality, locus of control, Type A personality, need for power, and self-monitoring. These traits overlap in various degrees (e.g., Lippa & Connely, 1990; Morrison, 1997). However, neither do these traits refer to the same construct, nor do they share the same

characteristics, nor do they overlap to the same degree. Therefore, utilization of a single personality framework that contains mutually orthogonal traits and provides a comprehensive description of human personality will improve clarity and enhance understanding.

Second, research so far investigates only relationships of linear nature between personality and mentoring receipt. However, the presence of curvilinear relationships is within reason. Ignoring the presence of curvilinearity can lead to erroneous conclusions over the nature and magnitude of associations (e.g., Trevor, Gerhart, & Boudreau, 1997; Iversen, Malchow-Moller, & Sorensen, 2010), and that includes associations between personality and its outcomes (Vasilopoulos, Cucina, & Hunter, 2007). These limitations suggest that additional investigations on the subject may be beneficial.

### **The Present Research**

The research here investigates the relationship between personality and mentoring receipt from both a linear and a quadratic (in particular, inverted U-shaped) perspective with the utilization of the Big-Five personality framework. The Big-Five, which contains the five mutually orthogonal traits of emotional stability, extraversion, openness to experience (hereinafter “openness”), agreeableness and conscientiousness, has accumulated extensive empirical support on its validity (e.g., Digman, 1990; Goldberg, 1993; McCrae & Costa, 1996; Wiggins & Trapnell, 1997). Furthermore, the Big-Five possesses the critical properties of parsimony and comprehensiveness, because the model describes human personality in terms of a manageable number of traits that encompass virtually every aspect of the personality sphere (see, for example, Ashton, Lee, & Goldberg, 2004; O’Connor, 2002). In addition, the structure of the Big-Five is robust across cultures (McCrae & Costa, 1997; Schmitt, Allik, McCrae, Benet-Martinez, Alcalay, Ault, Austers, Bennett, Bianchi, Boholst, Cunen, Braeckman, Brainerd et al., 2007). This signifies that conclusions on the relationship between personality and mentoring within a particular culture can serve as reference point in

the consideration of that relationship within other national cultural contexts. This is of importance in light of the state of globalization today (e.g., Al Ariss, 2010).

Because of the above critical properties, the Big-Five holds the status of the most acceptable trait personality theory (Barrick, Mount, & Judge, 2001; John, Naumann, & Soto, 2008). An illustration of its widespread acceptance as parsimonious descriptor of human personality is that serious criticisms of its validity and comprehensiveness virtually ceased after the mid 1990s (see review by John et al., 2008). This recognition accompanies the model in organizational research too, where authors use the Big-Five as the personality framework of reference (see, for example, Ones, Dilchert, Viswesvaran, & Judge, 2007). To illustrate, meta-analytic research employs the Big-Five to conclude on the link of personality with a host of processes and outcomes in the work environment, ranging from key constructs such job performance (Barrick, Mount, & Judge, 2001; Chiaburu, Oh, Berry, Li, & Gardner, 2011), work motivation (Judge & Ilies, 2002), work attitudes (Judge, Heller, & Mount, 2002), and leadership (Judge, Bono, Ilies, & Gerhardt, 2002) to less prominent constructs, such as entrepreneurial intentions (Zhao, Seibert, & Lumpkin, 2010). Therefore, utilization of the Big-Five taxonomy when investigating the relationship of mentoring receipt with protégés' personality will maximize the contribution of the research (see also Turban & Lee, 2007).

### ***Conceptualization and measurement of mentoring receipt***

For validity purposes researchers must clearly define the type of mentoring relationship the research focuses on (Allen, Eby, O'Brien, & Lentz, 2008; Haggard, Dougherty, Turban, & Wilbanks, 2011). This step is necessary because forms of mentoring relationships (e.g., formal, informal, vertical, horizontal) vary in terms of dynamics (Allen et al., 2008); which means that simultaneous consideration of various types of mentoring increases the likelihood of confounding. In the present research the focus is exclusively on informal traditional mentoring, which refers to a naturally evolving developmental relationship between two

members of the same organization who are of unequal status. The reasons are the following: First, informal traditional mentoring represents the prototype mentoring relationship (e.g., Eby, 1997; Higgins & Kram, 2001); second, as they evolve naturally such relationships are more likely to reveal the role of personality. This is because effects of personality are most discernible in situations of low external constraints (Whithey, Gellatly, & Annet, 2005). Formal mentoring arrangements, for example, conform to certain rules and regulations, hence, they certainly impose more interactional constraints than informal mentoring relationships; and third, informal mentoring accrues more benefits than formal mentoring (Underhill, 2006). Therefore, informal traditional mentoring must have priority in novel investigations.

The present research conceptualizes and measures mentoring received as the totality of the mentoring experience of the individual. This conceptualization encompasses both whether the individual has ever had relationships with mentors and the amount of mentoring the individual has received in those mentoring relationships.

### **Hypotheses**

The development of hypotheses makes use of only those extant studies that employ Big-Five traits (i.e., the studies by Aryee et al., 1999 and by Turban & Dougherty, 1994). The reason is the imperfect fit of non-Big-Five traits into to the Big-Five model, which seriously compromises the validity of pertinent conjectures (Hurtz & Donovan, 2000; Salgado, 1997). Hence, in the research at hand development of hypotheses primarily draws upon logical reasoning, and secondarily upon findings of the very limited existing empirical research on personality and mentoring that employs traits of the Big-Five.

Although linear relationships have priority in terms of testing in social sciences, relationships of curvilinear nature also demand consideration, especially when adequate logical underpinning exists (e.g., Jackofsky, 1984; Williams & Livingstone, 1994). The form



of non-linear relationship that appears likely in the association between mentoring receipt and personality is the quadratic. Quadratic relationships exist in two forms, U-shaped and inverted U-shaped. U-shaped relationships signify associations that are negative and positive for low and high values of predictor variables, respectively. Relationships of inverted U-shape display the reverse pattern. The authors have reason to expect that quadratic, and in particular inverted U-shaped, equations describe best the link of mentoring receipt with most of the Big-Five traits.

Emotional stability involves composure, confidence, and low tendencies towards development of anxiety. Low emotional stability (or neuroticism) encompasses suspiciousness, irritability and hostility. Therefore, individuals who score low on emotional stability should hesitate to involve themselves in relationships with mentors because of their general suspiciousness and lack of poise. In line with this reasoning, Turban and Dougherty (1994) find a positive relationship between emotional stability and attempts to initiate relationships with mentors. In addition, mentors should hesitate to approach individuals who score low on emotional stability because mentors allegedly prefer as protégés those who display confidence (Kram, 1985; Melanson, 2009). Furthermore, low emotional stability relates to distancing behavior (Brookings, Zembar, & Hochstetler, 2003). This type of behavior from the part of the protégé should reduce the amount of mentoring the protégé receives. H1: Emotional stability has a positive linear relationship with mentoring received.

Characteristics of extraversion include sociability, gregariousness, optimism, tendencies towards action, assertiveness and ambition. Extraverts proactively seek social encounters in the work place (e.g., Gruman & Saks, 2011), thus, they must have greater propensity to approach mentors. Indeed, Aryee et al. (1999) report a positive association between extraversion and attempts to initiate relationships with mentors. In addition, Kram (1985) suggests that mentors prefer assertive and outgoing protégés. Hence, they should

approach extraverts as protégés because extraverts tend to display these behavioral patterns (John et al., 2008). Furthermore, within mentoring relationships extravert protégés, because of their sociability, would interact more with their mentors and, hence, they would receive more mentoring.

However, although extraversion must generally offer advantage in mentoring receipt, presence of the trait above a certain level may not be of benefit or may even hurt the relationship. For example, high extraversion may bring inability to inhibit socially inappropriate behaviors or to suppress the expression of excessive ambition; which may repulse a potential mentor or render an existing mentor reluctant to fully devote oneself in the relationship. Indeed, extraverts demonstrate lower levels of self-control, that is lower capability to regulate the expression of emotions and impulses that are socially inappropriate (Zabelina, Robinson, & Anicha, 2007); and mentors view negatively protégé behaviors that indicate excessive ambition (Eby & McManus, 2004). Furthermore, mentors may consider that those who display strong extraversion do not need their help. For instance, extraverts are apt at developing networks (Wolff & Kim, 2012). This may make the mentor consider that helping the protégé with functions such as sponsorship, exposure, acceptance and friendship (that network ties also provide) is redundant. This reasoning directs towards the possibility of inverted U-shaped relationship. H2: An equation of inverted U-shaped curve describes the relationship between extraversion and mentoring received more accurately than a positive linear equation.

Openness encompasses multiplicity of interests, inquisitiveness, information seeking, imagination and creativity. Individuals with higher scores on openness must have greater interest in relationships with mentors because such relationships can expose them to novel perspectives, and can provide them information on their job and the organization. In line with this view, empirical research finds that openness relates to seeking performance feedback

from others (Wanberg & Kammeyer-Mueller, 2000). Furthermore, mentors report more attraction towards protégés who show interest in learning and in exposure to different viewpoints because mentoring such individuals is more likely to satisfy the mentors' need to pass their wisdom (Allen, Poteet, & Burroughs, 1997). Finally, within the relationship those with greater inquisitiveness and orientation towards learning should receive more mentoring.

However, strong openness may act as inhibitor for mentoring receipt. Vivid imagination and a wide range of interests, for example, may render the protégé unable to focus on his or her tasks. Evidence shows that high openness is a disadvantage in tasks that require intense concentration (Rose, Fogg, Helmreich, & McFadden, 1994). This may discourage a potential mentor, or dishearten an existing mentor and make him/her hesitant to commit to the relationship. In line with this conjecture, empirical research shows that mentors evaluate their relationships with protégés negatively when protégés lack focus in their work (Eby & McManus, 2004). Furthermore, within mentoring relationships, protégés with excessive inquisitiveness and multiple interests may experience difficulty to maintain their attention to their mentors, and this should limit the amount of mentoring they receive. In concurrence with this argument, Dougherty et al. (2007) suggest that individuals with high scores on openness have difficulties to dedicate themselves to single intensive developmental relationships, like a relationship with a mentor, and have the tendency to form multiple relationship ties instead. The above points suggest that association of inverted-U- shape is likely. H3: An equation of inverted U-shaped curve describes the relationship between openness and mentoring received more accurately than a positive linear equation.

Agreeableness encompasses altruism, tender-mindedness, sensitivity to the needs of others, trust and modesty. Due to their trusting and altruistic nature agreeable individuals must be more prone to approach mentors, but also mentors themselves must develop attraction to such individuals. In line with this argument, people are more likely to select as

friends those who score high on agreeableness (Selfhout, Burk, Branje, Denissen, van Aken, & Meeus, 2010). In addition, within the mentoring relationship, those who score high on agreeableness, due to their sensitive, altruistic and modest disposition, would reciprocate the positive gestures of their mentors.

Indeed, agreeable individuals have the tendency to demonstrate commitment (Spagnoli & Caetano, 2012), and are more likely to act in a trustworthy way and reciprocate positive acts of others (Ben-Ner & Halldorsson, 2010). This must strengthen the involvement of both parties, and increase the amount of mentoring receipt. Finally, protégé trust towards the mentor leads to more mentoring (Chun, Litzky, Sosik, Bechtold, & Godshalk, 2010); hence, due to their trusting disposition those who score high on agreeableness should receive more mentoring once in the relationship.

However, the benefits of agreeableness for mentoring receipt may decrease when levels of the trait become excessive. For example, individuals with high levels of altruism and very strong tendencies for self-sacrifice may assign low priority to their own personal development and careers (Judge, Higgins, Thoresen, & Barrick, 1999); hence, they may overlook opportunities to establish relationships with mentors, or may pay inadequate attention to functions that pertain to career development within the mentoring relationship. In addition, mentors may at points lose their enthusiasm with protégés who display strong agreeableness. This is because, as seen, mentors show more interest in protégés who demonstrate strong career prospects, and agreeable individuals are less likely to achieve hierarchical advancement (Bozionelos, 2004b). H4: An equation of inverted U-shaped curve describes the relationship between agreeableness and mentoring received more accurately than a positive linear equation.

Conscientiousness encompasses industriousness, reliability, achievement-striving, self-discipline, perseverance and sense of duty. Because of these features conscientiousness is the

strongest personality correlate of job performance (Barrick et al., 2001; Ng & Feldman, 2010). Mentors express preference for protégés who display aspects of conscientiousness (e.g., dependability), and for protégés who display actual contextual (e.g., enthusiasm at work) or task performance (Allen et al. 1997; Allen, Poteet, & Russell, 2000). These preferences mean that mentors must approach those who score higher on conscientiousness and, hence, such individuals must have greater likelihood of receiving mentoring.

Indeed, in a longitudinal study, Singh, Ragins, and Tharenou (2009) find that those who are in the fast-track for promotion, and who others presumably view as better performers, are more likely to obtain a mentor. Furthermore, conscientious individuals have a strong orientation towards achievement and self-improvement (e.g., Schuler & Prochaska, 2000). This orientation should dispose them to seek and pay more attention at their mentors' advice and role behaviors, which means that within mentoring relationships conscientious individuals must receive more mentoring.

However, the beneficial effect of conscientiousness for mentoring receipt may discontinue or reverse for strong levels of the trait. Individuals with extreme conscientiousness may focus excessively on task accomplishment and this may lead them to disregard social interaction. Indeed, conscientiousness relates to perfectionism (Egberink, Meijer, & Veldkamp, 2010), which in turn relates to deficits in social interaction (Flett, Hewitt, & DeRosa, 1996). This may reduce probabilities of obtaining a mentor and may also reduce the amount of mentoring receipt within a relationship.

Furthermore, highly industrious and dutiful individuals may over-concern themselves with their duties and tasks, and neglect their social image. In line with this conjecture, those who score high on conscientiousness are more likely to be workaholic (Aziz & Tronzo, 2011). Workaholics, in turn, are more likely to behave in interpersonally destructive ways, such as acting rudely or publicly embarrassing others (Galperin & Burke, 2006), or

experience burnout (Guglielmi, Simbula, Schaufeli, & Depolo, 2012), which must deduct from their social image. This may act as deterrent for potential mentors. This may also cause resentment of an existing mentor and spoil the relationship, hence, reduce quantity and quality of mentoring receipt. The above reasoning also directs towards a relationship of inverted-U-shape. H5: An equation of inverted U-shaped curve describes the relationship between conscientiousness and mentoring received more accurately than a positive linear equation.

### **Overview of Studies**

Two independent studies investigate the hypotheses. The studies differ only with respect to the nature of the sample and the measurement of the Big-Five. In both studies, criteria for participant inclusion are identical: (1) Participants are not self-employed; (2) participants are in full-time employment; (3) employing organizations do not have formal mentoring schemes in place; and (4) participants have at least two years of tenure, an adequate interval for the development of a mentoring relationship (e.g., Chao, 1997) and for personality traits to exert detectable effects on social outcomes (Helmreich, Sawin, & Garsrud, 1986).

All measures are identical between the studies apart from the Big-Five measure. The first study assesses the Big-Five with self-reports and the second study with peer reports. This is in line with calls for utilization of multi-source data in mentoring research (Allen et al., 2008). And will also provide information on consistency of relationships with assessment of the Big-Five from different raters.

### **Study 1**

#### ***Method***

#### ***Setting and Participants***

Participants were 212 individuals (134 women and 78 men) attending advanced courses in management related subjects in a Business School in the north of the United Kingdom. Of 343 respondents, those 212 fulfilled the inclusion criteria. Distribution and completion of the personality measure took place on a different occasion from the rest of the measures.

Descriptive statistics are presented in Table 1. Participants were employed in a variety of occupations and organizational roles (ranging from specialist technical jobs to purely managerial roles), organizational types and industry types. Of the participants, 77.4% were employed in the service industry, a proportion that is very close to the proportion of employees working in the service industry in the UK (Department of Trade and Industry, 2007). The majority of participants were married or co-habiting (57.5%); held at least undergraduate degrees (61.3%); and occupied non-supervisory (32.9%), junior management (20.3%) or middle management (30.7%) positions.

### ***Measures***

*Mentoring received.* The measurement of mentoring received adheres to accumulated knowledge that mentoring relationships vary widely with respect to the scope and intensity of mentoring functions they provide. In essence, they form a continuum with no mentoring occupying the one end and the full breadth of mentoring functions occupying the other end. Early seminal work (e.g., Kram, 1985; Zey, 1984) implies this variance, which more recent empirical research corroborates. In particular, Ragins, Cotton, and Miller (2000) and Ensher, Thomas, and Murphy (2001) conclude that the breadth and intensity of functions mentoring relationships provide vary widely, and stress that mentoring relationships are unequal with respect to amount of mentoring protégés receive (Ragins et al., 2000, p. 1177).

The operationalization of mentoring received in the study at hand incorporates the above knowledge and involves two steps. In the first step, participants are asked to indicate (in a binary “yes” or “no” item) whether they have had at least one mentor during their

employment with their current employer, after considering the following definition: “A mentor is generally defined as a higher-ranking and more experienced individual in the work environment who is committed to providing personal or career support to another individual, the protégé. A person’s mentor does not have to be one’s immediate superior and the relationship needs not to be formally arranged by the organization. Some people have had no mentors while other people have had many different mentors in their careers.”

In the second step, those who respond positively in the first step complete a scale that contains nine items from Dreher and Ash (1990) on a 5-point response format (1: not at all, 5: to a great extent). The scale asks respondents to consider their employment with their current employer and indicate the extent to which “a higher-ranking individual (this need not be limited to one person) who had advanced experience and knowledge” has provided a variety of functions for them. Items cover all nine mentoring functions the literature identifies (e.g., Kram, 1985; Tepper, Shaffer, & Tepper, 1996), including the five career-instrumental functions (e.g., the item “given or recommended you for challenging assignments that presented opportunities to learn new skills?” corresponds to the challenging assignments function), and the four socioemotional functions (e.g., “served as a role model” corresponds to the role modeling function). Cronbach  $\alpha$  for this study was .88. A test with a sample of 91 executive MBA students (whose responses were not included in the research reported here) revealed no relationship ( $r = .07, ns$ ) between scores on the scale and scores on the Crowne-Marlowe social desirability scale (Crowne & Marlowe, 1964). This indicates that social desirability does not affect responses to the instrument.

All participants, those who reported that they had had at least one mentor and those who reported that they had had no mentors, were included in the analysis. Scores for the former were set equal to their scores on the scale; and the latter were assigned the minimum possible score on the scale (i.e., nine). That process ensures that measurement of mentoring



received is in line with accumulated knowledge, because this method is able to tap variations between individuals in the amount of mentoring they have received, from one or more mentors. This process also accounts for cases of individuals who have had no experience in mentoring receipt, who are assigned the lowest score on the scale. Both studies in the research at hand utilize this method of measuring mentoring received. Some authors have employed analogous, though simpler, operationalizations (Aryee et al., 1999; Bozionelos, 2004a; Bozionelos et al., 2011).

*Big-Five traits.* These were assessed with the NEO Five-Factor Inventory (Costa & McCrae, 1992) that includes 60 personal statements, 12 for each Big-Five trait, in a 5-point response format (1: strongly disagree, 5: strongly agree). Costa and McCrae (1992) report Cronbach alphas in a range of .68 for agreeableness to .86 for conscientiousness. Alphas for the present sample are .87, .62, .72, .60 and .82 for emotional stability, extraversion, openness, agreeableness and conscientiousness, respectively.

*Controls.* Single items assessed gender (male: 1, female: 2); age (in years); educational attainment: CSE or below (coded 1) to Graduate degree (coded 6); marital status (single: 1, co-habiting: 2, married: 3); tenure (in years); starting and current organizational grade: “subordinate” (coded 1) to “CEO” (coded 7); and staff (coded 1) or line (coded 2) position. An item that asked the socio-economic level of respondents’ family when they were at the age of 15 (upper class: 5 to working class: 1), assessed socio-economic origin. Both studies utilize these controls.

In this study only, single items also assessed organizational size, “below 20” (coded 1) to “more than 1000” (coded 6); sector type (public: 1, private: 2); and industry type (service: 1, manufacturing: 2).

## ***Results***

Table 1 presents Pearson correlation coefficients. Hierarchical regression tests the hypotheses. The first step includes the controls. In line with recommendations for detecting quadratic relationships (Cohen, Cohen, West, & Aiken, 2003), the second step contains the first-order terms of scores on the Big-Five traits. The third, and final, step contains the second-order (i.e., squared) terms of scores on the Big-Five traits. In all steps variables enter the equation by forcible entry. The regression makes use of centered scores on Big-Five traits because this assists in the interpretation of results in quadratic equations (Cohen et al., 2003, p. 204). Significance testing uses values from one-tailed distribution due to existence of specific hypotheses. Both studies use the same data-analytic methodology.

Tables 1 and 2 here.

Table 2 presents the final regression model. The first-order term ( $\beta = .19, t = -2.29, p < .05$ ) of emotional stability makes a significant contribution to mentoring received over and above the controls, while the second-order term does not ( $\beta = .05, t = .53, ns$ ). The sign of the first-order term indicates a linear positive association that supports Hypothesis 1.

The second-order terms of extraversion ( $\beta = .17, t = 2.61, p < .01$ ), openness ( $\beta = -.26, t = -3.61, p < .001$ ) and agreeableness ( $\beta = -.22, t = -3.14, p < .01$ ) make significant contributions to mentoring received over and above the contributions of controls and first-order terms. This suggests presence of quadratic relationships. The signs of the coefficients of second-order terms provide information on the direction of curvature (Cohen et al., 2003).

The negative signs of second-order terms for openness and agreeableness indicate relationships of inverted U-form, which are in line with H3 and H4, respectively. On the other hand, the positive sign of the second-order term for extraversion suggests a relationship of U-form, which has the reverse curvature from the hypothesized. This indicates no support for Hypothesis 2.

The signs of the regression coefficients of first-order terms inform on the direction of relationships at the mean scores of the predictor variables (Cohen et al., 2003). The value of the predictor (i.e., personality trait) that verifies the first derivative of the corresponding univariate quadratic equation for zero (meaning that the tangent line at that point is parallel to the x-axis) represents the point of bending. The negative coefficient ( $\beta = -.13$ ) of the first-order openness term suggests that the direction of the relationship is negative at the mean value of openness scores. In particular, the relationship turns negative at  $-.55$  SDs from the mean of the trait. The positive coefficient ( $\beta = .16$ ) of the first-order agreeableness term suggests that the direction of the relationship is still positive at the mean score of agreeableness: the slope turns negative at  $1.20$  SDs above the mean of the trait. Finally, the positive first-order coefficient ( $\beta = .12$ ) of extraversion suggests that the direction of the relationship has already become positive at the mean score of the trait. In fact, the slope turns upwards at  $-.75$  SDs from the mean score of extraversion.

Finally, the significance of the first-order term ( $\beta = .21, t = 2.83, p < .01$ ) of conscientiousness in conjunction with the non-significance of the second-order term ( $\beta = -.02, t = -.26, ns$ ) means that a linear equation describes the relationship best. This indicates no support for Hypothesis 5.

### ***Discussion***

The positive linear association of emotional stability with mentoring received suggests that, in line with expectations, increases in emotional stability associate with increases in amount of mentoring receipt for the whole spectrum of values of the trait. The pattern is exactly the same for conscientiousness. This means that increases in features such as industriousness, diligence, assiduity, perseverance and dutifulness constantly accompany increases in probability to receive mentoring. The difference from emotional stability is that the finding for conscientiousness is not in line with the expectation for a concave curve.

Apparently, therefore, negative states that strong conscientiousness may associate with, such as workaholism, do not harm mentoring receipt, at least in the context this particular sample reflects.

The results for openness and agreeableness are in line with expectations. The specifics of the inverted U-shaped curve for openness suggest that mentoring receipt increases along with openness until a point near the mean score of the trait and at that point the upwards trend reverses. Regarding agreeableness, the particulars of the curve suggest that the switch in the direction of the relationship from positive to negative occurs well after the mean agreeableness score (in fact, the change in the slope occurs near the top scores on the trait in the sample). This indicates that unless possessing extreme levels of the trait, agreeable individuals have an advantage in terms of mentoring receipt over their less agreeable counterparts. This highlights the difference with the pattern for openness, whose benefits for mentoring receipt cease at earlier point.

The result for extraversion suggests that as scores on the trait increase from low to moderate mentoring receipt decreases. This is at odds with the expectation. On the other hand, the direction of the relationship reverses well before (nearly one standard deviation below) the mean score of the trait. This means that the negative trend limits itself to a restricted range of scores at the lower part of the extraversion continuum. Therefore, the specifics of the curve imply a positive overall trend in the relationship (Cohen et al., 2003, p. 204). This is visually illustrated in Figure 1. Dougherty et al.'s (2007) suggestion helps to develop an account, albeit post-hoc, for this observed pattern. Dougherty et al. suggest that those who score low on extraversion (i.e., introverts) still need social interaction, but they need more focused interaction; and for this reason they seek exclusive developmental relationships, such as relationships with mentors. This is in line with the finding that decreases in extraversion at the low range of scores of the trait associate with increases in

amount of mentoring received. However, as extraversion moves away from its low scores, that is from introversion, the features of the trait take over and, hence, shifts from mediocre scores upwards increase the likelihood to receive mentoring. In addition, extraverts must also benefit from that potential mentors are more likely to notice them. Therefore, the slope becomes steeper as one moves towards the positive pole of the trait. In essence, therefore, they are only those with average extraversion who are disadvantaged in terms of probabilities to receive mentoring.

Figure 1 here.

## **Study 2**

### ***Method***

The main purpose of the second study is to test the hypotheses in a sample of different nature. The sample of the first study was highly heterogeneous both occupationally and structurally. The setting of the second study is chosen to represent a particular function within a single organization; hence, providing a sample with much greater occupational and structural homogeneity. A sample of this nature should inform on the extent to which the findings of the first study are applicable within particular settings. An additional purpose of the second study was to conduct the investigation by obtaining measures of the Big-Five and mentoring received from different sources.

### ***Setting and Participants***

Participants were 131 individuals (48 women and 83 men) from the Information Systems function of a large British company that operates in the financial services sector. These were those of 145 individually approached respondents who fulfilled the criteria for inclusion. Table 3 presents descriptive statistics. Most participants had university education (69.5%), and were professionals performing specialist technical jobs (51.9%), while the rest held supervisory (32.8%) and management positions within technical disciplines.

## **Measures**

Measurement of mentoring received and of the controls (that did not include organizational size, sector type, and industry type) was identical to the first study. Cronbach  $\alpha$  for the mentoring received scale in Study 2 was .80.

*Big-Five traits.* These were assessed by peers using Saucier's (1994) mini-markers. Eight unipolar adjectives on a nine-point scale (1: extremely inaccurate, 9: extremely accurate) assess each Big-Five trait. Examples for emotional stability include "moody" (reverse scoring) and "relaxed"; for extraversion: "talkative" and "shy" (reverse scoring); for openness: "creative" and "unintellectual" (reverse scoring); for agreeableness: "sympathetic" and "harsh" (reverse scoring); and for conscientiousness: "systematic" and "sloppy" (reverse scoring). Each participant handed the personality questionnaire along with a return envelope to a peer of the same gender to complete (see Goldberg, 1992; Saucier, 1994). Instructions to peers asked that they return completed questionnaires sealed to participants, who returned these, along with their own completed questionnaires, personally to the researcher. Cronbach alphas were .84, .84, .64, .84 and .82 for emotional stability, extraversion, openness, agreeableness and conscientiousness, respectively.

## **Results**

Table 3 presents the inter-correlations. Table 2 presents the results of hypotheses testing.

Table 3 here.

The first-order term of emotional stability ( $\beta = .19, t = 2.26, p < .05$ ) makes a significant contribution to mentoring received over and above the controls, while the second-order term does not ( $\beta = .06, t = .75, ns$ ). The positive coefficient of the first-order term indicates support for Hypothesis 1. The second-order terms of openness ( $\beta = -.19, t = -4.19, p < .001$ ) and agreeableness ( $\beta = -.25, t = 2.96, p < .01$ ) make significant contributions to mentoring received over and above the controls and the first-order terms. The negative signs of the

coefficients indicate curvatures of inverted-U-shape, hence, support for Hypotheses 3 and 4. The signs of the first-order coefficients suggest that the directions of the relationships are still positive at mean scores of the traits. In particular, the points where the slopes turn negative are .96 *SDs* and .19 *SDs* above the mean scores of openness and agreeableness, respectively. Figure 2 presents the curves.

Neither the second-order term of extraversion ( $\beta = .04, t = .55, ns$ ) nor the second-order term of conscientiousness ( $\beta = -.06, t = -1.03, ns$ ) make significant contributions to the equation. This suggests no support for Hypotheses 2 and 5. The first-order term of conscientiousness is not significant ( $\beta = .06, t = .81, ns$ ), suggesting no presence of linear relationship either, but the first-order term of extraversion is marginally significant ( $\beta = .11, t = 1.62, p < .06$ ) with the relationship in the positive direction.

Figure 2 here.

### ***Discussion***

The result for emotional stability is in line with expectations and in line with the result of the first study (in fact, effect coefficients for this trait are identical in the two studies). Increases in emotional stability appear to provide an advantage for mentoring receipt along the whole spectrum of the trait. The findings for openness and agreeableness concur with the expectation for inverted U-form relationships, and the particulars of the curves indicate that for the greater part of their continua increases in scores on these traits associate with increases in amount of reported mentoring receipt. With regards to openness, increases in its amount bring no more benefit and may become a disadvantage for receiving mentoring only when the trait becomes very strong (i.e., beyond one standard deviation above the mean). A discrepancy with the pattern of the first study is that in the second study openness continues to pay dividends for mentoring receipt well beyond its mean score, while in Study 1 the trait

ceases to do so before its mean. Nevertheless, the forms of the relationships for emotional stability, openness and agreeableness do show consistency between the two studies.

The result for extraversion indicates association of positive linear trend. Though this does not lend support to the corresponding hypothesis, it concurs with the idea that the features of extraversion must bring mostly benefits with respect to mentoring receipt (i.e., first part of the reasoning behind Hypothesis 2). The positive linear relationship of extraversion in the second study is also compatible with the overall positive trend of its association in the first study.

Increases in conscientiousness are not associated with increases in likelihood to report mentoring receipt; hence, the features of conscientiousness do not appear to convey an advantage within the context of Study 2. This is discrepant with the corresponding finding of the first study (that, however, does not support the respective hypothesis for quadratic relationship either). The general discussion tackles these findings.

Overall, the results of the two studies show substantial, if not remarkable, consistency (in essence, the results concur with respect to the relationships of four out of the five traits). Discrepancies of substance are limited. The Big-Five markers of Study 2 demonstrate convergent validity with the NEO of Study 1 (Goldberg, 1992; John et al., 2008), and self- and peer-report assessments of personality generally show good agreement (Ready, Clark, Watson, & Westerhouse, 2000). Hence, the setting rather than the measurement is the most likely cause of these discrepancies. Furthermore, if the causes of the discrepancies lie in the measurement of the Big-Five then these must have been more widespread. The general discussion touches the issue of context.

Finally, though not directly relevant to hypotheses, the Big-Five traits account for greater proportions of variance in mentoring received in the second study (31.9%), which uses peer assessments of personality, than in the first study (11.2%) that uses self-reports.



This pattern makes implications regarding alleged validity improvements with multi-source measurement methodologies over self-report methodologies.

### **Overall Discussion**

The research at hand focuses on the relationship of the Big-Five of personality with mentoring receipt. The results indicate that the Big-Five accounts for substantial variance in mentoring receipt over and above demographic, human capital and structural factors, with all Big-Five traits demonstrating links. In addition, the move from linear to quadratic equations brings considerable increase in the capacity of personality to explain variance. This means that the role of personality in mentoring is stronger and more complicated than what simple linear associations advise.

The forms of the associations show substantial agreement between the two studies. This implies considerable generalizability across occupational and organizational contexts. Hence, the findings support the dispositional approach to organizational behavior because: (1) the Big-Five explains sizable variance in mentoring receipt over and above a host of personal, occupational and organizational demographics, and (2) the patterns of association show substantial congruence between the two studies, which represent different settings.

Emotional stability demonstrates a remarkably consistent link with mentoring receipt across the two studies. The nature of the relationship indicates that in the whole of its spectrum higher levels of that trait constantly correspond to greater amounts of mentoring receipt. This means that qualities such as calmness, patience, confidence and a positive outlook of situations offer a continuous advantage in terms of receiving mentoring. Emotional stability is the only Big-Five trait within the construct of core self-evaluations, whose advocates view as a dispositional kernel that heavily influences the way individuals perceive themselves and their environment (Bono & Judge, 2003). The present findings, therefore, concur with the placement of emotional stability into a central spot in human disposition.

Conscientiousness also has a linear relationship with mentoring receipt. However, this relationship appears only in one of the studies, albeit the one that utilizes the most structurally and occupationally heterogeneous sample and, hence, arguably bears most resemblance to the general working population. This means that in the general case increases in the strength of the trait convey an advantage in the mentoring receipt arena. On the other hand, the lack of relationship in the technically-oriented occupational context of the second study implies exceptions to the general case.

Presumably tasks, procedures and quality specifications are more standardized within technically-oriented environments. Such standardization may suppress the effects of conscientiousness on job performance, thus rendering variance in conscientiousness among employees more difficult to discern. Indeed, some research suggests that conscientiousness does not relate to performance when tasks are technical and heavily prescribed (Mohammed, Mathieu, & Bartlett, 2002). This means that conscientious employees may be less distinguishable in such environments. That would reduce the likelihood for mentors to notice them and approach them as protégés. The fact that conscientiousness has the lowest variance among the Big-Five traits in the second study (where, to remind, peers assess the Big-Five) corroborates this tentative account.

Openness and agreeableness demonstrate inverted U-shaped associations with mentoring receipt in both studies. For the greater part of their ranges increases in the strength of these traits augments the likelihood of receiving mentoring, but strong presence of the traits does not offer a mentoring advantage anymore and may in fact bring a handicap. This means that creativity, interest in learning and inquisitiveness on the one hand, and cooperativeness, trust, altruism and sensitivity on the other hand are for the most part helpful in obtaining a mentor and receiving mentoring functions.

Extraversion also displays a relationship of overall positive trend with mentoring receipt. Apart from a limited range of scores near its negative pole (i.e., introversion) in one of the studies, increases in the strength of the trait accompany increases in amount of mentoring receipt. Hence, characteristics such as sociability, energy and action tendencies appear to provide a constant advantage in terms of mentor attraction and receiving mentoring functions.

The slight discrepancy between the two studies with respect to extraversion may reflect the effects of context. The context of the second study is a technologically oriented occupational setting, where typical jobs involve the development and maintenance of various types of information systems. Jobs of that nature primarily demand ability to concentrate and maintain attention to the task, which fits introverts more than extraverts (e.g., see Beauducel, Brocke, & Leue, 2006; Blumenthal, 2001). This may lead to filtering that renders most individuals in that occupational context low on extraversion. Indeed, in the second study extraversion has by far the lowest mean score of the Big-Five traits. Presuming that the characteristics of extraversion yield an advantage for an employee in terms of a mentor noticing him/her, this signifies that the effects of such characteristics become stronger in a low extraversion environment because in such an environment they are scarce. This explains the positive relationship of extraversion with mentoring receipt even near the low pole of the trait in the second study. On the other hand, in the setting of Study 1, which is presumably more representative of the general work environment, the relationship is negative in the vicinity of low extraversion. As seen, this is may be the outcome of introvert's very strong preference for developing intense exclusive relationships. Of course, this is a tentative account that needs testing.

### *Limitations*

The Big-Five is remarkably stable during adulthood (Judge et al., 1999), which justifies the assignment of cause to personality traits and of effect to mentoring receipt when applying the criterion of temporal stability. According to this criterion, more temporally stable variables are normally causes while less temporally stable factors are normally effects (Davis, 1985). This offers some confidence about causality despite the cross-sectional design.

The research has taken precautions against common method bias: ensuring anonymity, using temporal separation in the completion of questionnaires of personality and mentoring, and offering the option of feedback on personality (e.g., see Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Furthermore, the second study utilizes multi-source measurement. In addition, the mentoring scale is immune to social desirability, a potential source of common method effects (Podsakoff et al., 2003). Therefore, the possibility for presence of common method variance in the findings is rather low.

The issue of common method bias deserves some more consideration because of substantial attention in recent years; which has led to automatic attribution of inferior quality status to research that employs exclusively self-report measures. This is despite that empirical and quantitative review research (Crampton & Wagner, 1994; Malhotra, Kim, & Patil, 2006) concludes that common method bias is an overstated threat to validity. In the second study, which utilizes peer assessments of personality, the Big-Five accounts for much greater amounts of variance than in the first study, which utilizes self-reports. Considering that the measurement of mentoring is common in the two studies two explanations ensue: (1) indeed common method bias is not as serious an issue as assumed to be; (2) adoption of simple measures, such as careful choice or development of instruments, separate measurement of core variables, and offering feedback, are very effective means against common method bias. In either case, the present research contributes towards the counter-argument (e.g., see

Spector, 2006) that the attention paid to common method bias is disproportional to the real threat.

Responses to the mentoring measure represent participants' own perceptions, which may not be accurate (Welsh, Bhave, & Kim, 2012). Nevertheless, empirical research suggests substantial agreement between protégés and mentors in the amount of mentoring that flows within the relationship (Waters, McCabe, Kiellerup, & Kiellerup, 2002). In addition, for certain mentoring functions, such as socioemotional functions, perceptions of protégés are probably more accurate than perceptions of mentors (see Waters et al., 2002). Hence, self-report measures may represent the most valid method for assessing receipt of mentoring.

### *Directions*

The substantial consistency of the findings of the two studies, in line with the dispositional approach, suggests that the way Big-Five traits relate to mentoring receipt largely generalize across contexts. Nevertheless, inter-study consistency is not perfect, and as seen in detail above, the occupational setting may moderate some relationships. Therefore, future research must investigate for occupational and organizational moderators. In addition, individual characteristics may also affect the pattern of certain relationships. Self-monitoring (Snyder, 1974) is such a characteristic. Self-monitoring reflects the extent to which individuals carefully monitor and modify their behavior according to social cues in order to project favorable public image. High self-monitors may sense in the behavior of their mentors or potential mentors the negative impressions excessive display of acts associated with openness and agreeableness create, and may suppress or manage pertinent behaviors accordingly. This means that for high self-monitors the relationship of these traits with mentoring receipt may not include a bending point (i.e., the relationship is linear and positive) while for low self-monitors the inverted-U-shape curvature is more pronounced.

The universality of the Big-Five does not mean that its traits relate in the same way with work and other outcomes across cultures (McCrae & Costa, 1997; van Emmerik, Gardner, Wendt, & Fischer, 2010). Therefore, research in other cultural clusters, or even in other countries of the Anglo-Saxon cluster, is advisable. For example, the British society, like those of other individualistic English-speaking and West-European countries, values and encourages autonomous and independent thinking over conformism and obedience (Schwartz, 2006). On the other hand, Confucian and South Asian societies endorse conformism and compliance over intellectual and emotional autonomy (e.g., Bond & Smith, 1996; Schwartz, 2006). This may mean that openness does not relate in the same way to mentoring receipt in those societies because superiors may not appreciate openness-related behaviors from their subordinates. As another example, high neutrality is a characteristic of British culture. A neutral culture, as opposed to an affective culture, signifies non-appreciation and discouragement of overt expression of felt emotions (Trompenaars, 1993). This invites the possibility that those Big-Five traits that pertain to experience and expression of emotions, like emotional stability and extraversion (e.g., Watson & Clark, 1992), relate more strongly with mentoring receipt in affective cultures.

The present era of globalization has brought an unprecedented movement of individuals across national borders. The extent to which personality traits have consistency in their relationships with mentoring receipt across cultures has essence for those who move across national boundaries (see also Baruch & Bozionelos, 2010). Research in various national settings will contribute towards the development of pertinent advice for individuals and organizational agents alike.

The exclusive focus on traditional informal mentoring represents a conscious, validity enhancing, choice. Nevertheless, the relationship of the Big-Five with mentoring receipt demands investigation within formal and non-traditional (e.g., lateral mentoring, which takes

place between peers) mentoring relationships as well. Non-traditional developmental relationships, like peer-mentoring (e.g., McManus & Russell, 2007), acquire special importance these days due to flattening of organizations, stretching of the workforce, and employment uncertainty. These phenomena reduce the amount of time managers can dedicate to subordinates and suppress their motivation to provide mentoring (Allen, Poteet, & Burroughs, 1997). The dynamics of lateral and traditional mentoring are dissimilar (e.g., less power differential), hence, the effects of personality may also differ.

Finally, the implications of the present research extend beyond the domain of mentoring. Although many critical workplace outcomes clearly relate to personality, authors pose questions on its substantive contribution, invoking rather weak relationships with key outcomes (e.g., Hurtz & Donovan, 2000). However, extant research on correlates of personality mostly assumes and tests linear associations. The present findings imply that the contribution of personality is substantially stronger and more complicated than currently believed because non-linear relationships appear at play. This adds to calls and emerging literature (e.g., Vasilopoulos et al., 2007) on the curvilinear perspective to the association of personality with work processes and outcomes, which opens a new horizon that future research ought to explore.

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Table 1

*Study 1: Descriptive Statistics and Inter-correlations (N = 212)*

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	33	7.44	—											
2. Socioeconomic origin	2.4	.99	-.30	—										
3. Educational attainment	4.4	1.14	-.11	.15	—									
4. Starting grade	2.2	1.42	.21	-.07	.18	—								
5. Tenure	6.4	6.32	.50	-.26	-.33	-.24	—							
6. Organizational grade	3.2	1.56	.28	-.12	.10	.63	.14	—						
7. Mentoring received	3.7	.82	-.18	-.16	-.10	-.12	.17	.13	—					
8. Emotional stability	3.5	.62	-.02	.01	-.04	.03	-.08	.13	.04	—				
9. Extraversion	3.7	.45	-.25	.20	.07	-.08	-.19	0	.14	-.31	—			
10. Openness	3.5	.48	.13	.04	.25	.06	-.09	.14	-.10	.07	.02	—		
11. Agreeableness	4.2	.43	-.24	.27	.18	-.32	-.01	.35	.20	-.23	.32	-.02	—	
12. Conscientiousness	3.8	.52	-.09	-.24	-.13	.04	-.04	.13	.18	-.24	.29	-.16	.20	—

*Note.* Correlations  $\geq |.11|, |.12|, |.16|, |.21|$  are significant at  $p < .1, p < .05, p < .01, p < .001$ , respectively.

Table 2

*Results of Hierarchical Regressions Testing the Hypotheses*

	Study 1 ( <i>N</i> = 212)		Study 2 ( <i>N</i> = 131)	
	$\beta$	<i>t</i> value	$\beta$	<i>t</i> value
Step 1: forcible entry				
Gender	-.04	-.39	.20	3.53**
Marital status	-.24	-2.76**	.22	3.74***
Age	-.16	-1.98*	-.49	-7.74***
Socioeconomic origin	-.24	-3.39***	.47	9.52***
Educational attainment	-.07	-.96	-.55	-11.16***
Starting grade	-.22	-2.27*	.31	4.26*
Tenure	.10	1.09	.06	.67
Current grade	.43	4.16 ***	-.51	-5.97***
Staff vs. line	.05	.51	.35	6.07***
Public vs. private	.02	.23		
Services vs. manufacturing	-.02	-.33		
Org. size	-.07	-1.18		
$\Delta R^2 / F\Delta$	.221 / 5.99***		.504 / 15.7***	

Table 2 (continued)

	Study 1 ( <i>N</i> = 212)		Study 2 ( <i>N</i> = 131)	
	$\beta$	<i>t</i> value	$\beta$	<i>t</i> value
Step 2: forcible entry				
Emotional stability	.19	2.29*	.19	2.26*
Extraversion	.12	1.6 <sup>†</sup>	.11	1.62 <sup>†</sup>
Openness	-.13	-1.85*	.51	10.43***
Agreeableness	.16	1.84*	.17	2.18*
Conscientiousness	.21	2.83**	.06	.81
$\Delta R^2 / R^2$	.040 / .261		.276 / .780	
<i>F</i> $\Delta / F$	3.13** / 5.38***		31.28*** / 33.9***	
Step 3: forcible entry				
Emotional stability <sup>2</sup>	.05	.53	.06	.75
Extraversion <sup>2</sup>	.17	2.61**	.04	.55
Openness <sup>2</sup>	-.26	-3.61***	-.19	-4.19***
Agreeableness <sup>2</sup>	-.22	-3.14**	-.25	-2.96**
Conscientiousness <sup>2</sup>	-.02	-.26	-.06	-1.03
$\Delta R^2 / R^2$	.072 / .333		.043 / .823	

Table 2 (continued)

	Study 1 (N = 212)		Study 2 (N = 131)	
	$\beta$	<i>t</i> value	$\beta$	<i>t</i> value
$\Delta R^2 / R^2$	.072 / .333		.043 / .823	
$F\Delta / F$	5.22*** / 5.79***		6.71*** / 32.89***	

*Notes.* Beta coefficients in the final models are presented. Adjusted  $R^2$  values are presented.

†  $p < .1$  \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 3

*Study 2: Descriptive Statistics and Inter-correlations (N = 131)*

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	37	7.53	—											
2. Socioeconomic origin	2.3	.83	-.30	—										
3. Educational attainment	4.6	.82	-.03	.31	—									
4. Starting grade	1.4	.89	.28	.02	-.08	—								
5. Tenure	7	6.85	.41	-.12	-.23	-.28	—							
6. Organizational grade	2.3	1.27	.34	.14	-.05	.49	.34	—						
7. Mentoring received	3.6	.58	-.33	.35	-.36	.13	-.15	.04	—					
8. Emotional stability	7.3	1.06	.26	-.01	.13	-.05	.37	.23	-.01	—				
9. Extraversion	4.4	1.26	-.09	-.03	.07	-.08	.11	.15	-.04	-.03	—			
10. Openness	5.4	.83	.22	-.02	-.09	-.26	.57	.31	-.01	-.41	.22	—		
11. Agreeableness	5.5	.91	.36	-.22	-.21	.12	.46	.23	.08	-.52	.15	.44	—	
12. Conscientiousness	5.6	.79	.14	.03	-.10	-.24	.44	.13	.03	-.53	.01	.56	.45	—

*Note.* Correlations  $\geq$  |.11|, |.12|, |.16|, |.21| are significant at  $p < .1$ ,  $p < .05$ ,  $p < .01$ ,  $p < .001$ , respectively.



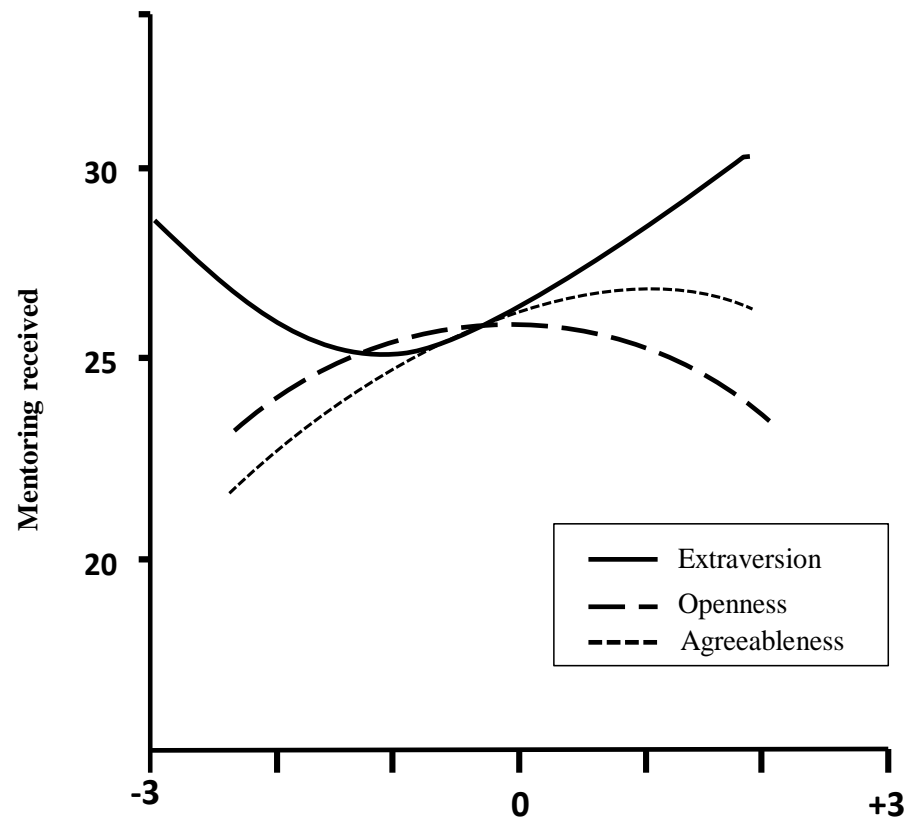


Figure 1. The curves that depict the quadratic relationships in Study 1.

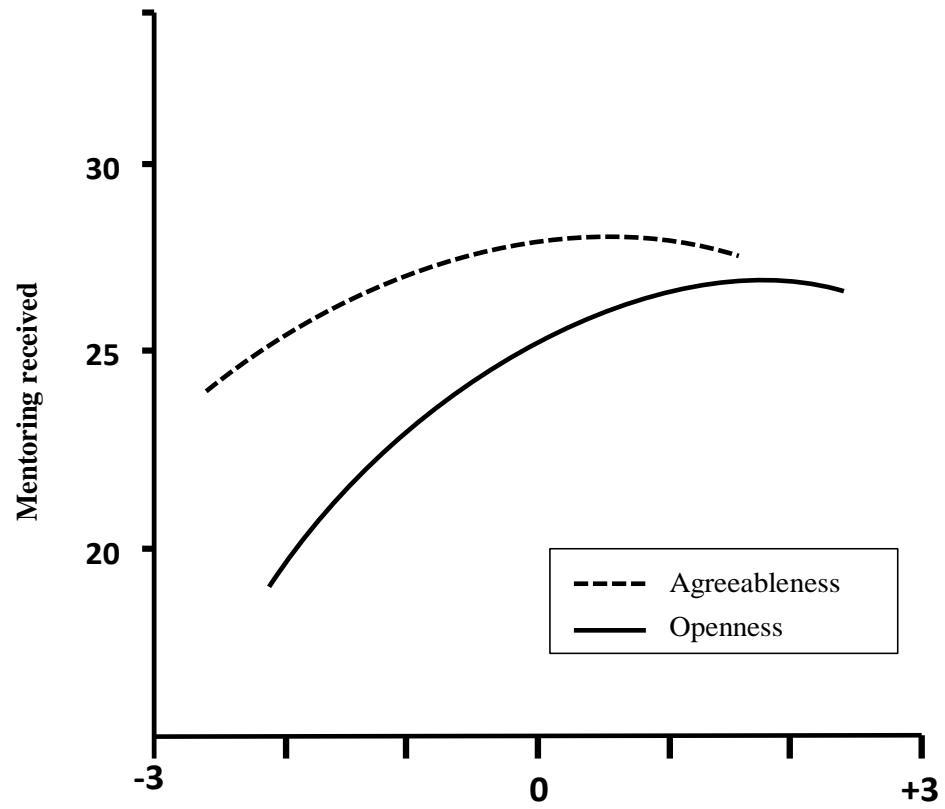


Figure 2. The curves that depict the quadratic relationships in Study 2.