

# On the Value of Aiming High: The Causes and Consequences of Ambition

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Ambition is a commonly mentioned but poorly understood concept in social science research. We sought to contribute to understanding of the concept by developing and testing a model in which ambition is a *middle-level* trait (Cantor, 1990)—predicted by more distal characteristics but, due to its teleological nature, more proximally situated to predict career success. A 7-decade longitudinal sample of 717 high-ability individuals from the Terman life-cycle study (Terman, Sears, Cronbach, & Sears, 1989) was used in the current study. Results indicated that ambition was predicted by individual differences—conscientiousness, extraversion, neuroticism, and general mental ability—and a socioeconomic background variable: parents' occupational prestige. Ambition, in turn, was positively related to educational attainment, occupation prestige, and income. Ambition had significant total effects with all of the endogenous variables except mortality. Overall, the results support the thesis that ambition is a middle-level trait—related to but distinct from more distal individual difference variables—that has meaningful effects on career success.

*Keywords:* ambition, personality, career success, income, longevity

Occasionally, one encounters a concept that is pervasive yet poorly understood. Arguably, such is the case with ambition. One finds myriad references to ambition in literature (“The lower still I fall, only supreme in misery; such joy ambition finds”; Milton, 1667/1831, p. 81), history (“Where ambition can cover its enterprises, even to the person himself, under the appearance of principle, it is the most incurable and inflexible of passions”; Hume, 1688/1858, p. 198), and theology (“Let nothing be done through selfish ambition or conceit”; Philippians 2:3, New King James Version). Ambition has been discussed by numerous philosophers, with those seeing it as virtuous (Santayana, Kaufmann) apparently outnumbered by those perceiving it as vicious (Aquinas, Locke, Rousseau). On several occasions, President Barack Obama has referenced ambition in his remarks, arguing that ambition to achieve extrinsic success represents “a poverty of ambition . . . the elevation of appearance over substance, celebrity over character, short-term gain over lasting achievement” (Obama, 2009). As the foregoing references suggest, ambition is often if not generally viewed negatively, though it remains unclear whether it is a virtue or a vice (Pettigrove, 2007).

Of course, popular discourse does not always reflect scientific understanding, and apparent dissensus is often clarified by rigor-

ous inquiry. However, in the case of ambition, understanding of the concept remains elusive. A search of the PsycINFO database reveals 119 peer-reviewed articles where ambition appears in the title or as a keyword. In most of these articles, ambition is collectivized (e.g., corporate or national ambition), is directed toward non-work ends (e.g., mating or parental ambitions, political ambition), or is not measured directly (e.g., ambition is conceptualized broadly or is referenced but not measured). In the vocational behavior literature, a few work studies have related ambition to career advancement (Ashby & Schoon, 2010; Howard & Bray, 1988; Jansen & Vinkenburg, 2006; Metz, 2004). In sociology, research, though not focused on ambition per se (we define ambition shortly), has found that children who had high educational aspirations (i.e., concrete plans to attend college or obtain a certain degree; Sewell, Haller, & Portes, 1969) and high occupational aspirations (i.e., specific occupations individuals self-identified as their intended career paths; Alexander, Eckland, & Griffin, 1975) obtained higher status and better paying jobs. Though such concrete and specific educational and occupational aspirations may not be identical to ambition, these studies suggest that ambition may matter.

These research studies notwithstanding, as the foregoing review of the psychology, vocational behavior, and sociology literatures suggests, ambition remains an infrequently studied and fragmentary concept. Needed are clearer definitions and more comprehensive considerations of, first, the causes and, second, the consequences of ambition. First, in studies where it has been considered, psychologists have generally treated ambition as a trait (see Hanson, Hogan, Johnson, & Schroeder, 1983), whereas sociologists have instead considered explicit educational or occupational objectives as a product of parental, social, or socioeconomic environment (see Sewell, Hauser, Springer, & Hauser, 2003). We are aware of no studies that consider both personality-based and environmental sources of ambition. Nor are we aware—beyond those notable few who view ambition as a facet of conscientiousness (Jackson, Paunonen, Fraboni, & Goffin, 1996) or extraversion

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This article was published Online First April 30, 2012.

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The data (and tabulations) utilized in this article were made available, in part, by the Inter-University Consortium for Political and Social Research. The data were originally collected and prepared by Lewis M. Terman, Robert R. Sears, Lee J. Cronbach, and Pauline S. Sears. Neither the collectors of the original data nor the consortium bears any responsibility for the analyses or interpretations presented here.

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(Hogan & Holland, 2003)—of any studies that have sought to integrate ambition with the most influential typology in personality psychology, the five-factor model (FFM). Second, on the consequences of ambition, beyond the sociological aspirations literature noted previously, very few studies have linked ambition to career success, and we are aware of none that have linked it to intrinsic and extrinsic career success. Is ambition a predictor of career success, beyond the known benefits of related, broader traits (Ng, Eby, Sorensen, & Feldman, 2005)? Does ambition, as some of the philosophical discussions of ambition suggest, produce a Pyrrhic victory in that what ambition yields (extrinsic success) provides little fulfillment (intrinsic success)?

Accordingly, our purpose in the present study is to test a model that accounts for both the causes and consequences of ambition. The model considers ambition as a middle-level trait (Cantor, 1990, p. 735) that, in an Allportian sense, focuses on “proprie strivings”—one’s overarching desire to aspire toward success and improvement over one’s current condition (Allport, 1955, p. 49). Although such middle-level personality traits are not likely as genetically determined or as stable as more distal traits, neither are they as ephemeral or situational as specific goals, behavioral intentions, or attitudes. In conceptualizing the consequences of ambition, we consider both extrinsic and intrinsic outcomes. In the next section of the paper, we review various definitions of ambition, provide our own definition, and then hypothesize variables that lead to and result from ambition.

### Theoretical Background: Definition and Nature of Ambition

#### Defining Ambition

The first task for a study of ambition is to come up with a satisfactory definition of what the construct is and how it relates to other psychological constructs. To this end, Table 1 provides definitions culled from both dictionary and psychological sources. There is a notable consistency in the dictionary definitions. As can

be seen, the English-language definitions see ambition as a desire to achieve ends, especially ends like success, power, and wealth. Central to these definitions is the aspirational nature of ambition—there is a motivational process at work, oriented toward the attainment of outcomes. These definitions make it logical to study ambition in the context of career success, and it is surprising that few such studies have been undertaken.

There is also a tradition within psychology research to define ambition in terms of goals or plans for accomplishments, as best seen in Locke’s (1996) goal-setting theory research, where ambition is often mentioned as a source of individual differences in goals (Locke & Latham, 2002; Mento, Locke, & Klein, 1992). However, in many ways the psychological definitions are less consistent than the dictionary definitions, and they contain more overlap with already established constructs such as conscientiousness (Schwyhart & Smith, 1972). Although the psychological research definitions are more varied than the dictionary definitions, nearly all definitions include habitual setting of goals or goal striving.

In an effort to summarize and integrate these definitions, we define ambition as follows: *Ambition is the persistent and generalized striving for success, attainment, and accomplishment.* Ambition involves persistence and generality in that we do not expect that ambition ceases to exist once a certain level of attainment is achieved, nor do we believe that ambition is compartmentalized toward success in only a single sphere. Ambition also generally has been taken to reflect striving for position and wealth and not to indicate strivings for general well-being and socioemotional acceptance. In short, ambition is about attaining rather than achieving (though of course there is a certain relationship between the two). Consistent with the dictionary definitions provided in Table 1, aspiration to achieve a certain status or rank is one of the cornerstones of ambition.

#### Location of Ambition Within Personality Science

The fact that ambition definitions all involve strivings in the context of worldly success suggests that ambition may well be a

Table 1  
*Definitions of Ambition in English Language and Psychology Research*

Definition	Source
English language	
“A strong or ardent desire of anything considered advantageous, honouring, or creditable.”	<i>Oxford English Dictionary</i>
“An ardent desire for rank, fame, or power.”	<i>Merriam-Webster’s Collegiate Dictionary</i>
“A strong wish to be successful, powerful, rich, etc.”	<i>Cambridge Dictionary</i>
“An eager or inordinate desire for some object that confers distinction, as preferment, honor, superiority, political power, or literary fame; desire to distinguish one’s self from other people.”	<i>Wiktionary</i>
Psychology research	
“People are considered ambitious when they entertain plans and goals for their professional future, are intent on making promotion and on realizing a ‘nice career,’ and agree to describe themselves as ambitious.”	Elchardus & Smits (2008)
“Career intention ... a goal for activity involvement.”	Van Vianen (1999)
“An individual’s having internalized a set of goals and aspirations that themselves promote social progress as well as personal well-being.”	Hansson et al. (1983)
“An active pursuit of a particular station in society.”	Turner (1964)
“The ambition evidenced by a youth theoretically explains a boy’s motivation, given certain capacities to achieve and a certain visible personality.”	Porter (1976)
“A level of goal-striving.”	Holt (1946)
“A willingness to accept job responsibilities.”	Schwyhart & Smith (1972)

middle-level or Level II (McAdams, 1995; McAdams & Pals, 2006) personality variable. Cantor (1990) described middle-level units of personality as “units that take an individual’s standing on abstract dispositions . . . and give concrete form to their diverse expressions” (p. 735). Individuals have traits such as extraversion or conscientiousness, but the midlevel side of personality is concerned with the things that individuals do with personality in a context. Consistent with a social cognitivist position (see Bandura, 1999; Mischel & Shoda, 1995), Cantor saw middle-level traits as having more direct effects on behavior than more abstract or decontextualized personality traits. In this sense, ambition is a life task (Cantor, Norem, Niedenthal, Langston, & Brower, 1987), characteristic adaptation (McCrae & Costa, 1999), or personal concern (McAdams, 1995) that arises as a result of underlying personality dispositions and perceptions of the world. Mischel and Shoda (1995, 1998) further emphasized the importance of middle-level traits by noting that researchers interested in understanding dispositions need to specifically incorporate mediating variables that intervene between stable individual dispositions and the situational manifestations of these individual differences. Although there is considerable interest in these middle-level units of personality, researchers have noted that there is comparatively little research investigating their relationship with traits (Romero, Villar, Luengo, & Gómez-Fraguela, 2009; Winter, John, Stewart, Klohnen, & Duncan, 1998). Moreover, the social cognitivist position, while influential in personality psychology, is less well known and less well researched in organizational behavior.

It should be emphasized that these middle-level traits are indeed traits, meaning that they are stable and consistent over time and across situations within a given domain, but they are more contextualized. Major life goals such as ambition are based on long timelines, over years and decades (Roberts & Robins, 2000). In the case of ambition, the context is often the world of education (attainment), job prestige (rank), and income (wealth). One would expect that as mediating constructs between abstract personality dispositions and attainment, major life goals like ambition should be consistent over time. Evidence from longitudinal studies does indeed show high rank-order stability in life goals over extended time periods (Roberts, O’Donnell, & Robins, 2004).

In addition to defining and describing what ambition is, it should be clarified what ambition is not. None of the definitional material provided up to this point suggests that ambition is only directed toward specific or singular goals. Rather, ambition is a habitual level of striving for or desiring accomplishment in life situations associated with success. In this way, ambition can be differentiated from aspirations, which have specific targets (e.g., an aspiration to get a college degree or enter a particular vocation). The distinction between aspirations or goals and ambition is in terms of “traitedness” and “concreteness.” As for the latter, Allport (1947) noted, ambitious individuals “may have a consistent direction of striving, but their goals are either transient or else undefinable” (p. 187).

Ambition also is distinct from conscientiousness in general and achievement motivation in particular. As befitting a middle-level trait, ambition is not as broad as conscientiousness (and thus does not include dependability, dutifulness, orderliness, or other facets of conscientiousness), but even if it were, the achievement striving aspect of conscientiousness, or achievement motivation, is not necessarily the same as ambition. A person who is high in achievement motivation desires—according to McClelland (1961), sub-

consciously—to be intrinsically skilled and competent at tasks in which she or he engages, whereas a person who is ambitious is more desirous of the rewards this competence produces. Whereas a person high on achievement motivation would value the achievement of doing well on the job regardless of whether it was recognized with a promotion or pay raise, a highly ambitious person would be particularly interested in ensuring that his or her efforts were tied to tangible outcomes of success like promotions or pay raises.

The definition of achievement motive provided by McClelland in his various writings emphasizes that achievement motivation is based on “success in competition with some standard of excellence” (McClelland, Atkinson, Clark, & Lowell, 1953, p. 110). McClelland et al. went on to specify that goal-directed effort can arise for reasons other than personal achievement; if the aspiration is explicitly in pursuit of another goal, like having fame, rank, or power, they did not consider the aspiration to be an example of the achievement motive. Ambition, on the other hand, is marked by the desire for attainments independent of the degree to which obtaining these outcomes is based on superior performance. Although we believe that those who are ambitious often have a strong achievement motive, the goals that are sought based on these two drives are quite different, with achievement focused more on how well one does at a task and ambition focused more on the outcomes or extrinsic goals of task performance.

There are also measurement issues that differentiate the need for achievement from ambition. The need for achievement has traditionally been measured by way of projective tests, particularly the thematic apperception test (TAT; McClelland et al., 1953). Spangler (1992) has shown that questionnaire-based achievement motivation measures are empirically distinct from TAT scores and that TAT measures are better predictors of outcomes that would be expected to result from the achievement motive. In contrast, questionnaire measures are better predictors of behaviors related to social incentives, which include rewards or status that are not inherent in the task itself—in other words, the very types of rewards that individuals who are high in ambition are likely to seek but that those who are high in achievement motivation, as measured by the TAT, are less likely to seek. Thus, although one would not expect that ambition and need for achievement are wholly unrelated, neither would one believe that they are redundant concepts.

Ambition can also be contrasted with another of the needs identified by McClelland: the need for power (McClelland, 1975). Unlike ambition, a need for power is manifested by a need to feel in control of the self or of others. Ambitions to obtain status in the world of education and career may well lead to increased control, but they are not exclusively motivated by this need for power. Some of the outlets for the power motive, such as reading fiction about powerful others or purchasing prestigious possessions (that the successful tend to have), seem quite distinct from the types of activities that would be markers of ambition. Like need for achievement, the need for power is not considered amenable to direct self- or observer-reports. Rather, it is best measured on the basis of subconscious projections manifested on the TAT. So, like achievement motivation, the power motive is related to but distinct from ambition.

## Hypothesized Model and Hypotheses

The basic logic of our model is contained in the ribbon on top of Figure 1. We begin with distal individual characteristics, including personality, ability, and family socioeconomic background. Ambition, as a midlevel trait, arises based on these characteristics and manifests itself in human capital investments and work attainments. These work attainments, in turn, are related to more distal outcomes like life satisfaction and mortality.

### Antecedents of Ambition

The first antecedent of ambition we consider is the personality trait of conscientiousness. Although Hogan (1986) conceptualized conscientiousness as prudence, researchers also have seen conscientiousness as being reflected in higher levels of organization and direction of behavior toward goals (McCrae & John, 1992). The achievement orientation of conscientiousness is sufficiently central that Digman (1990) termed conscientiousness “will to achieve.” Conscientious individuals are likely to be drawn to success goals based on their tendency to be diligent, motivated, and goal directed. Several studies have shown that individuals who are more conscientious set goals more frequently and are more committed to the goals they do set (e.g., Barrick, Mount, & Strauss, 1993; Barrick, Stewart, & Piotrowski, 2002). Because, as defined, ambition reflects consistent persistence and striving for success, we expect that the same relationship observed in prior research will also be found for generalized success goals. Indeed, Roberts and Robins (2000) found that conscientiousness was related to life goals of having a high-status career, having an influential and prestigious occupation, and having wealth.<sup>1</sup>

*Hypothesis 1:* Conscientiousness will be positively related to ambition.

There are also reasons to expect that the personality trait of extraversion will be related to ambition. Extraversion has a strong relationship with striving toward social position or status, so much so that it is often termed “surgeency” (Goldberg, 1990). Extraverts tend to draw more energy from their external environments and translate this stimulation into active behavior directed toward achieving their ends. Individuals who are higher in extraversion are also more likely to put a high level of importance on economic attainment, as shown in one study that measured personality traits in the first week of college and goal importance 4 years later (Roberts et al., 2004). Extraversion is also significantly related to confidence for many domains of occupational performance and career achievement (Hartman & Betz, 2007; Jin, Watkins, & Yuen, 2009; Romero et al., 2009). Finally, individuals who have high levels of activity and sociability in childhood have higher levels of career orientation later in life (Pulkkinen, Ohranen, & Tolvanen, 1999). This research suggests that extraverts may have a stronger desire for worldly success and more confidence in achieving goals, which should lead to higher levels of ambition.

*Hypothesis 2:* Extraversion will be positively related to ambition.

Neuroticism is another dimension of personality that is expected to be related to (reduced) levels of ambition. Individuals who are neurotic are prone to worry and have doubts. Therefore, from a social-cognitive perspective, they will be less likely to set ambi-

tious targets for success because they believe that these targets will not be met. They are also more likely to see the future in negative terms and to have negative expectations for how things will work out (McCrae & John, 1992). Research has demonstrated that individuals who are higher in neuroticism report lower levels of occupational confidence (Hartman & Betz, 2007; Jin et al., 2009). As such, it is likely that they will be less prone to set ambitious life goals for themselves, because they are less likely to believe that such goals are realistic for them (Judge & Ilies, 2002; Wang & Erdheim, 2007). Consistent with this argument, individuals who are identified as having high levels of anxiety and lability in childhood have been found to have lower career orientations later in life (Pulkkinen et al., 1999).

*Hypothesis 3:* Neuroticism will be negatively related to ambition.

Middle-level traits such as ambition are expected to be closely related to personality, but because they are contextualized and not purely the result of inborn dispositions (McCrae & Costa, 1999), they may be related to other characteristics as well. Individuals who have characteristics that are likely to lead to success may be more ambitious because they have a greater expectation of achieving success, as proposed by social cognitive theory, which describes how people exert more effort toward a goal if they believe that they will achieve it (Bandura, 1999). Because of the promise they show early in life, children who show exceptional levels of ability will also be encouraged to achieve success and set ambitious goals in life through the expectations set by others (Sewell & Shah, 1968). One of the most important characteristics for occupational and environmental success is general mental ability (e.g., Judge, Higgins, Thoresen, & Barrick, 1999). Individuals with higher levels of general mental ability will be accustomed to achieving success in educational environments, which will encourage them to set ambitious life goals (e.g., Alexander et al., 1975; Porter, 1976).

*Hypothesis 4:* General mental ability will be positively related to ambition.

Individuals who come from successful backgrounds may have higher levels of ambition. Children look to their parents as role models, so—as predicted by social cognitive theory (Bandura, 1999)—if one’s parents have demonstrated occupational success, the children may form an ambitious goal to equal these parental accomplishments; the use of role models as a means of establishing expectations for attainment is also consistent with social cognitive theory. Families also act as powerful socialization agents, shaping children’s values with respect to occupational and educational success. Parents who value and achieve success in their own lives are likely to inculcate their children with these same values

<sup>1</sup> For this hypothesis and those that follow, we refer to construct-level relationships (e.g., ambition) rather than measure-level relationships (e.g., measures of ambition). We do this because our model and hypotheses are meant to focus more on the relationships among the theoretical constructs in the model than on the relationships of the measures to those constructs. As is important in model testing, however, we do consider in the methodology and results the relationship between the measures (particularly by source) and the constructs they indicate.

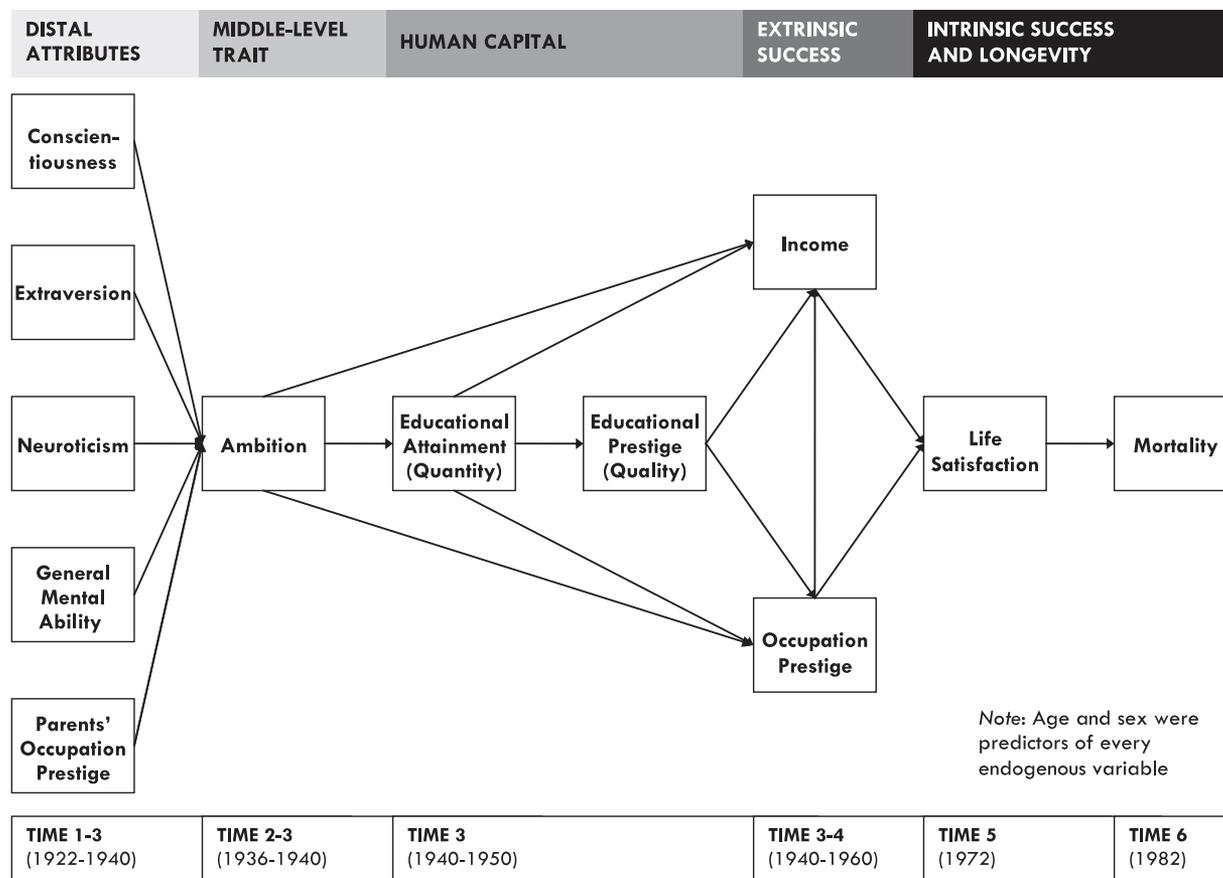


Figure 1. Hypothesized model.

(Hitlin, 2006). In sum, it appears that parental attainment may lead to higher levels of ambition.

*Hypothesis 5:* Parents' occupational prestige will be positively related to ambition.

### Consequences of Ambition

Moving on from the discussion of antecedents of ambition, we now describe the likely consequences of having high levels of ambition. Because we propose that middle-level traits serve as the interface where traits and contexts come to manifest themselves in the environment, we expect that ambition will serve as a mediator between the more abstract and general dispositions and characteristics and extrinsic indications of success.

The first likely outcome of ambition is higher levels of education. The educational system has become one of the primary mechanisms by which individuals attain positive work rewards (Meyer, 1977), so those who have ambitions to succeed in life will strive to achieve high levels of education. From a rational choice perspective, ambitions should influence the amount of effort that students put toward schooling based on the expected outcomes (Breen & Goldthorpe, 1997). Supporting this ambition–education link, students who focus on long-term ambitions, like having a satisfying career and high social status, report higher education

instrumentality and receive better grades (de Volder & Lens, 1982). There is also evidence that education-specific ambitions measured in high school are associated with higher levels of education obtained later in life (Kim & Schneider, 2005). Thus, we propose that

*Hypothesis 6a:* Ambition will be positively related to the quantity of educational attainment.

*Hypothesis 6b:* Ambition will partially mediate a significant part of the relationship of the distal attributes to educational attainment.

Ambition should also lead to higher levels of income. As we have noted earlier and demonstrated in Table 1, one of the core features of ambition is a desire to achieve financial success. As can be seen in the definitions, ambition is often described in terms of striving for status or rank. Parsons (1940) also argued that because the United States lacks an aristocracy to signal who is or is not a high-status individual, wealth has become the most significant indicator of personal success. Thus, for ambitious individuals, achieving personal wealth can be a visible signal that they have attained success.

*Hypothesis 7a:* Ambition will be positively related to income.

*Hypothesis 7b:* Ambition will partially mediate a significant part of the relationship of the distal attributes to income.

Occupational attainment, in the form of a prestigious job, is another sign of success that will be attractive to ambitious individuals. Again turning to Table 1, we see that ambition is typically described in terms of desire for an elevated station or rank, which most clearly can be achieved by attaining a job with high status attached to it. Several studies have shown that ambition is related to behaviors supporting occupational attainment. Individuals who are higher in ambition are more likely to translate their intentions to perform achievement-oriented tasks into practice (Rhodes, Courneya, & Jones, 2005). These short-term successes do appear to be relevant to more aggregated labor market phenomena as well. For example, setting ambitious goals has been linked to shorter durations of unemployment (Kanfer, Wanberg, & Kantrowitz, 2001), more financial success (Nickerson, Schwarz, & Diener, 2007), and greater creative achievement (Helson & Srivastava, 2002).

*Hypothesis 8a:* Ambition will be positively related to occupational attainment.

*Hypothesis 8b:* Ambition will partially mediate a significant part of the relationship of the distal attributes to occupational attainment.

### Additional Elements of the Model

Education is, in part, its own reward, but it also serves as a way to achieve extrinsic success. As noted by Mirowsky, Ross, and Reynolds (2000), "Education, employment, work status, and economic resources occupy ordered positions in a causal chain" (p. 49). This suggests a chain from education to occupational attainment to income. Considerable empirical research in labor economics has shown a positive relationship between the three variables (e.g., Caston, 1989; Jasso, 2001). This is likely because jobs with higher status levels generally require higher levels of autonomy, skill, training, and decision making (Caston, 1989)—which are often conveyed through education. Such high-status jobs are rewarded in the labor market because the occupations are paid in return for their human capital. High-status jobs also provide greater mobility and thus greater earnings power (Schooler & Schoenbach, 1994). Thus, our structural model includes a path from education to income and occupational status.

To quantify educational prestige, we have specified that educational prestige is partially derived from the level of education obtained. Those with only a high school degree have a prestige rating of zero, and those with a 2-year degree were quantified based on the rating of the school, which is typically lower than the prestige of a 4-year degree. In this way, it can be seen that the level of prestige that one has obtained in school is partially determined by the number of years of education that one has obtained (i.e., it is more prestigious to have any college degree than no degree at all).

In addition to our consideration of objective measures of extrinsic success, we include measures of life satisfaction and longevity in our model. This subjective measure of life satisfaction allows us to look at a more holistic picture of the outcomes of ambition and

is particularly relevant given the quotations mentioned earlier in the paper that suggest that high levels of ambition lead to disappointment or dissatisfaction. The inclusion of life satisfaction in our model is consistent with a variety of other studies of career success that have included both subjective and objective criteria for success (e.g., Blickle, Witzki, & Schneider, 2009; Ramaswami, Dreher, Bretz, & Wiethoff, 2010; Wolff & Moser, 2009). Prior longitudinal research (Abele & Spurk, 2009) has established that objective measures of career success such as occupational prestige and income do indeed have significant relationships with more subjective measures of satisfaction with the career or life.

We position life satisfaction as a mediator between income and longevity. This is based on a body of research showing that income is consistently but weakly related to life satisfaction in wealthy nations (e.g., Oishi, Diener, Lucas, & Suh, 1999) and that life satisfaction, in turn, is related to longevity (e.g., Koivumaa-Honkanen et al., 2000). The explanation for the latter relationship has been based on the idea that positive attitudes both increase healthy behaviors and minimize unhealthy behaviors (Koivumaa-Honkanen et al., 2001; Strine, Chapman, Balluz, Moriarty, & Mokdad, 2008) and also that individuals who experience more positive emotions tend to have superior health in longitudinal research (e.g., Danner, Snowdon, & Friesen, 2001; Røysamb, Tambs, Reichborn-Kjennerud, Neale, & Harris, 2003; Segerstrom & Sephton, 2010).

### Method

#### Participants and Procedure

Data were obtained from the Terman life-cycle study (Terman, Sears, Cronbach, & Sears, 1989). The Terman study was initiated in 1922 and was designed to study the personal and life characteristics of high-ability children. Questions were asked about participants' physical and emotional development; school histories; recreational activities; home life; family background; and educational, vocational, and marital histories. The follow-up questionnaires were concerned with the evolution of the participants' careers, activity patterns, and personal adjustment.

The original sample consisted of 1,528 children (856 [56%] boys and 672 [44%] girls). The average participant was born in 1910; though the year of birth ranged from 1900 to 1925, 62% of the participants were born between 1908 and 1913. Over the more than seven-decade span of the study, as would be expected, substantial attrition occurred—some participants refused further participation, others moved and were not located by the researchers, and others died during the course of the study. By 1982, roughly half of the original participants remained in the study. Because the occupational questions were relevant before most individuals in the sample had retired, we assessed occupational attainment and income while the individuals were approaching the peak of their careers (when most participants were in their 30s and 40s). Our sample was limited to individuals who worked outside the home during the time periods during which occupational attainment and income were assessed (1940–1960). Because analyses were limited to participants working outside the home and because more men than women did so, in the end, more men ( $n = 488$ ) than women ( $n = 229$ ) were included in the study.

Although the Terman participants have been studied in the economics (Hamermesh, 1984), political science (Sears & Funk, 1999), aging (Crosnoe & Elder, 2004), developmental psychology (Brooks-Gunn, Phelps, & Elder, 1991), and sociology (Pavalko & Elder, 1990) literatures, we are aware of no research in management or organizational psychology that has studied Terman participants. The Terman participants are significantly more intelligent than a random sample of the population, but as the aforementioned studies have revealed, this does not make the Terman participants any more unusual in most respects than other samples made up of educated individuals.

### Measures: Endogenous Variables

**Ambition.** Ambition was assessed with four items, two of which were self-reported and two of which were other-reported. First, in 1940, individuals indicated whether they had “a definite purpose in life” using a 1 (*not at all*) to 11 (*extremely*) scale. Second, in 1936, individuals reported, in response to an open-ended question, their best quality (“What do you regard as your most outstanding favorable qualities of personality or character?”). These responses were subsequently coded, with one response being “ambition, goal-orientation.” Two best qualities were coded, and if ambition was mentioned in either case, the item was coded as +1. Similarly, participants were asked to identify their worst fault (“What do you regard as your most serious faults of personality or character?”). Two faults were recorded; if “lack of application and ambition” was one of the two noted, then the variable was coded as -1. If ambition was mentioned as neither a best quality nor a worst fault, then this variable was coded 0. Third, in 1940, a parent of each participant evaluated the degree to which the participant was ambitious, or “characterized by ambition, drive, and willingness to work in order to attain success.” Interviewers scored each parent’s answers on the following scale: 1 (*low, very limited ambition*); 2 (*moderately ambitious*); 3 (*very ambitious, high ambition*). Fourth, in 1940, a parent of each participant also indicated where participants were “integrated toward a definite goal,” using a 1 (*not at all*) to 11 (*extremely*) scale. In computing the self- and other-report scales, we standardized and then averaged the two items comprising each (self and parent) scale. The self-other correlation was  $r = .41$ . When all four items were subjected to a principal-components factor analysis, a single factor emerged (eigenvalue = 2.25) that explained 56.17% of the variance in the items. The coefficient alpha reliability estimate of the four-item scale was .72.

**Educational attainment.** Education was measured based on a question asked by the interviewer for the 1940 and 1950 surveys, where participants were asked to indicate their educational attainment. The highest value reported was recorded and was subsequently coded to reflect years of education.

**Educational prestige.** When reporting their highest level of education in the 1940 and 1950 surveys, participants also reported from where they received their highest degree. We then coded the prestige of participants’ highest degree, based on *U.S. News and World Report* ratings, the most comprehensive source available. Because the *U.S. News* ratings were first published in 1983, these or the earliest available (some schools, such as Pepperdine University, were not rated in 1983) scores were used. Scores, on a 0–100 scale, were assigned to each university based on its classi-

fication into one of four categories: (a) national research universities; (b) liberal arts colleges; (c) international universities (“world’s best universities”); or (d) regional universities (“universities-master’s” and “baccalaureate colleges”).<sup>2</sup> Nearly 100 colleges and universities were coded, including nearly all of the nation’s top private universities (e.g., Harvard, Princeton, Yale, Brown, Stanford, Northwestern, MIT), many major state research universities (e.g., Michigan, Washington, Illinois, Ohio State, Texas, Texas A&M, Minnesota), many elite liberal arts colleges (e.g., Tufts, Wellesley, Vassar, Oberlin), and some renowned international universities (e.g., Cambridge, Oxford, Berlin). However, less renowned universities (e.g., Adelphi, College of the Pacific, Redlands), community colleges, and seminaries also were identified and coded. We coded educational prestige as 0 for those who did not attend college.<sup>3</sup>

**Occupation prestige.** We measured participants’ occupational attainment by translating the occupation codes recorded in the database (e.g., 45 = dairy farmer, 11 = architect, 51 = office clerk) into occupational prestige codes using Duncan’s (1961) socioeconomic index. Duncan’s index scores occupations based on their earnings potential and status and has been validated in numerous studies (e.g., Caston, 1989; Stricker, 1988). Scores on the index range from 7 (*construction laborer*) to 60 (*librarian*) to 96 (*physician*). We created an index variable by averaging participants’ occupational indices over five time periods (1940, 1946, 1950, 1955, 1960). The reliability of this five-item scale was  $\alpha = .95$ .

**Income.** Participants’ income was measured by averaging their income reported over a 20-year period at their peak earning potential. Participants were asked to report their annual income in 1940 (when the average participant was 30), in 1946, in 1950, in 1955, and again in 1960 (when the average participant was 50). Because individuals were asked to report their income using different methods (e.g., in 1940, their compensation per month from their most recent occupation was classified into 21 categories, ranging from 0 = *no income* to 21 = *income of \$1,000–\$1,050 per month*; in 1960, their annual earned income was broken into 97 categories, ranging from 0 = *none* to 97 = *\$96,501 and above*), these five items were standardized before they were averaged. The reliability of this five-item scale was  $\alpha = .75$ .

**Life satisfaction.** In the 1972 survey, individuals were asked to report their satisfaction with five domains of life (occupation,

<sup>2</sup> These categories are mutually exclusive so that a university can be classified into only one category. Each university in each category is then evaluated on the same 0–100 scale. Smith College, for example, is classified as a liberal arts college, University of Louisville as a national research university, Santa Clara University as a regional university, and University of Oxford as an international university. Each of these universities is then rated on a 0–100 scale within its category.

<sup>3</sup> Though we used the earliest possible comprehensive ratings of educational prestige (*U.S. News and World Report* ratings from 1983 for most schools), this does not perfectly synchronize with Terman participants’ careers. However, university prestige ratings are quite stable over time (Astin, 1991; Grewal, Dearden, & Lillien, 2008), and the relatively little variation that does occur has been shown to be the product of random error (Dichev, 2001). Moreover, an earlier, independent source of ratings (*The Gourman Report*; Gourman, 1967) correlated with *U.S. News* ratings, averaged by decade, as follows: *U.S. News*, 1980s:  $r = .68, p < .01$ ; *U.S. News*, 1990s:  $r = .73, p < .01$ ; *U.S. News*, 2000s:  $r = .73, p < .01$ .

family life, leisure activities, health, and “joy in living”). Responses to these items were scored on a 1 (*had little satisfaction in this area*) to 5 (*had excellent fortune in this respect*) response scale. Responses to these items were averaged to form an overall scale, of which the reliability was  $\alpha = .82$ .

**Longevity.** In 1982, participants were contacted, and interviewers recorded whether the participant was still living. In our subsample, 34% of participants had died. From this information, we created a dummy variable coded as 1 if the participant had died and 0 if the participant was still living.

## Measures: Exogenous Variables

**Conscientiousness.** Participants’ conscientiousness was measured with an 11-items, six of which were self reported and five of which were other reported. Five of the six self-reported items were participants’ responses to questions from the 1940 survey (e.g., “Do you enjoy planning your work in detail?” “In your work do you usually drive yourself steadily?”), rated on a 1 = *Yes*, 2 = *No*, and 3 = ? rating scale, which was subsequently coded as 3 = *Yes*, 2 = ? and 1 = *No*. The sixth self-reported item was participants’ report, in 1940, of “How impulsive are you?” on a 1 (*not at all*) to 11 (*extremely*) response scale (which was reverse-scored). The five other-reported items were parents’ 1928 evaluations of the participant’s personality (e.g., “How persistent is this subject?”), on the 1–11 response scale. The self- and other-reported scales were computed by first standardizing the items and then averaging them. The correlation between the self- and other-reported scales was  $r = .36$ .

**Extraversion.** Extraversion was measured with 12 items, four of which were self reported and eight of which were other reported. Nine items were 1928 evaluations by the participant (1 item), a parent (7 items), and a teacher (1 item) of participants’ personality. For example, participants and a parent evaluated the participant’s “Fondness for large groups,” using the following response scale: 7 (*Unhappy when alone. Devoted to parties, picnics, etc.*), 6 (*Decidedly social*), 5 (*Rather social*), 4 (*Average for age*), 3 (*Rather solitary*), 2 (*Decidedly solitary*), 1 (*Invariably avoids groups. Always prefers to be either alone or with one or two close chums*). Participants answered three questions in the 1940 survey (e.g., “Do you ever take the lead to enliven a dull party?”) with a 1 = *Yes*, 2 = *No*, and 3 = ? response scale that was recoded so that 3 = *Yes*, 2 = ? and 1 = *No*. Because these items were scored according to different response scales, the nine other-reported and three self-reported items were standardized and then averaged. The correlation between self- and other-reports was  $r = .32$ .

**Neuroticism.** Neuroticism was measured with a nine-item scale. Seven of these items were questions participants answered during the 1940 survey (e.g., “Do you often feel just miserable?” “Are you frequently burdened by a sense of remorse or regret?”), using the same 1–3 response scale as reported earlier (recoded as 3 = *Yes*, 2 = ? and 1 = *No*). Two of the items were self reported and parent reported in 1928, evaluating the participant’s self-confidence, using a 7 (*Extreme self-confidence*) to 1 (*Extreme lack of self-confidence*) response scale. As before, the scale was computed by first standardizing the self- and other-reported items and then averaging them. The self–other correlation was  $r = .30$ .

**General mental ability.** General mental ability was computed based on participants’ scores on the Stanford–Binet Intelli-

gence Test (Terman, 1916). Participants completed eight tests (covering topics including reading, arithmetic, language usage, spelling, science) in 1922. When the individual tests were subjected to a factor analysis, the first factor explained 48.91% of the variance in the items and the average factor loading was .82. Treating the individual test scores as items, the reliability of the measure was  $\alpha = .93$ .

**Parents’ occupation prestige.** Parents’ occupation prestige was coded from parents’ reported job titles. These job titles were then coded using Duncan’s (1961) socioeconomic index. If both parents worked outside the home, the ratings for the mother and father were averaged. If only one parent worked outside the home, only the employed parent’s prestige was coded.<sup>4</sup>

**Sex.** Participants’ sex was measured with a variable that was created at the initiation of the study in 1922 and was coded 0 = *male*, 1 = *female*.

**Age.** Participants’ age was calculated by subtracting 1972 (Time 5) from the year in which they were born.

## Covariance Structure Analysis

To test the hypothesized model displayed in Figure 1, we estimated a covariance structure model with LISREL 8.3 (Jöreskog & Sörbom, 1993). Several statistics provide information on the fit of the model. In addition to the chi-square ( $\chi^2$ ) statistic for overall model fit, we report the comparative fit index (CFI; Bentler, 1990), the non-normed fit index (NNFI; MacCallum, Roznowski, Mar, & Reith, 1994), the standardized root-mean-square residual (SRMR; Bentler, 2007), the root-mean-square error of approximation (RMSEA; MacCallum, Browne, & Cai, 2006), and the parsimony normed fit index (PNFI; Mulaik et al., 1989).

Because the distal traits (conscientiousness, extraversion, and neuroticism) and midrange trait (ambition) were measured with a combination of self and other ratings, to avoid confounding the sources, we created parcels (labeled “self” and “other”) by averaging the items from each source and allowing each self and other parcel to load on their latent constructs. For the other variables in the model, we treated them as manifest variables with measure-

<sup>4</sup> We view parents’ occupational prestige as a formative variable, meaning that the two measures (in this case, a father’s and a mother’s occupational prestige) “form or induce” (Edwards, 2001, p. 147) the construct (in this case, the overall or average prestige of parents’ occupations). As noted by Edwards (2000), formative measures are observed variables, and in a formative model, one assumes that the construct “is a function of (rather than a cause of)” (Williams, Vandenberg, & Edwards, 2009, p. 556) these observed variables. Another element of formative models that distinguishes them from reflective models is the correlation among the measures that form or reflect the underlying construct. Diamantopoulos, Riefler, and Roth (2008) noted that with formative models, “there are no specific expectations about patterns or magnitude of intercorrelations between the indicators; formative indicators might correlate positively or negatively or lack any correlation” (p. 1205). Therefore, for formative models, “reliability assessments that require strong internal consistency, such as coefficient alpha, are not appropriate” (Shaw, Dineen, Fang, & Vellella, 2009, p. 1022). We do not necessarily believe, consistent with a formative model, that the correlation between spouses’ occupational prestige is strong. Indeed, the correlation between the father’s and mother’s occupational prestige was relatively weak ( $r = .09, p < .05$ ).

ment error. We corrected for measurement error by constraining the error term as:

$$\theta_{\epsilon} = \sigma_y^2 \times (1 - \alpha_y)$$

Where  $\theta_{\epsilon}$  is the error variance (theta epsilon) for endogenous variables (the exogenous variables, sex and age, were considered to be measured with reliability equal to 1.00, as was longevity),  $\sigma_y^2$  is the variance of variable  $y$ , and  $\alpha_y$  is the reliability of variable  $y$ . Consistent with Cudeck (1989), sample covariances were used as input into the LISREL program.

The fit of a hypothesized model should be compared against those of competing models (MacCallum, Wegener, Uchino, & Fabrigar, 1993). In the current study, we estimated four alternative models: (a) an “ambition direct effects” model that includes direct links from ambition to all of the endogenous variables; (b) an “ambition full mediation” model that drops direct links from ambition to all endogenous variables (except educational attainment); (c) a “distal direct effects” model that adds direct links from extraversion, conscientiousness, neuroticism, and general mental ability to all the endogenous variables; and (d) a “parental direct effects” model that adds direct links from parents’ occupation prestige to every endogenous variable.

## Results

### Descriptive Statistics, Correlations, and Data Preparation

Descriptive statistics for and correlations between the study variables are provided in Table 2. As is shown in the table, consistent with selection criteria, the general mental ability of study participants is far above average and the range is restricted. Accordingly, we used Stauffer and Mendoza’s (2001) formula to correct the general mental ability correlation coefficients for range restrictions, based on the standard deviation for the sample ( $SD = 10.58$ ) as opposed to the population ( $SD = 16$ ). (We should note that we conducted the analyses both with and without range restriction corrections. The only coefficients affected by this correction were those for general mental ability.) For the standardized variables, the means and standard deviations depart slightly from  $M = 0.00$  and  $SD = 1.00$  due to listwise deletion of cases after the transformations were performed.

### Test of Hypothesized Model

LISREL results testing the hypothesized model appear in Figure 2.<sup>5</sup> As hypothesized, conscientiousness ( $\hat{\gamma} = .31, p < .01$ ) and extraversion ( $\hat{\gamma} = .27, p < .01$ ) positively predicted ambition, and neuroticism negatively predicted ambition ( $\hat{\gamma} = -.16, p < .10$ ). General mental ability was positively though relatively weakly related to ambition ( $\hat{\gamma} = .09, p < .10$ ). Consistent with hypotheses, parents’ occupation prestige positively predicted ambition ( $\hat{\gamma} = .26, p < .01$ ).

Supporting the hypotheses, ambition directly predicted educational attainment ( $\hat{\beta} = .48, p < .01$ ), income ( $\hat{\beta} = .28, p < .01$ ), and occupation prestige ( $\hat{\beta} = .28, p < .01$ ). Educational attainment positively predicted educational prestige ( $\hat{\beta} = .49, p < .01$ ) and occupation prestige ( $\hat{\beta} = .20, p < .01$ ). Educational prestige, in turn, positively and significantly predicted occupation prestige

( $\hat{\beta} = .22, p < .01$ ) but not income ( $\hat{\beta} = .02, p = .60$ ). Occupation prestige positively predicted income ( $\hat{\beta} = .11, p < .05$ ) and positively predicted life satisfaction ( $\hat{\beta} = .19, p < .01$ ). Income did not predict life satisfaction ( $\hat{\beta} = -.06, p = .31$ ). Life satisfaction was negatively related to mortality ( $\hat{\beta} = -.24, p < .01$ ).

Though not displayed in Figure 2, because of their pervasive effects on career success (Judge, Cable, Boudreau, & Bretz, 1995), age and sex were used as control variables in every structural equation (i.e., the links from age and sex to each endogenous variable were freely estimated). The results indicated that age positively predicted educational attainment ( $\hat{\gamma} = .15, p < .05$ ) and mortality ( $\hat{\gamma} = .21, p < .01$ ). Sex negatively predicted ambition ( $\hat{\gamma} = -.26, p < .01$ ) and positively predicted life satisfaction ( $\hat{\gamma} = .15, p < .01$ ), meaning that women had less ambition and higher life satisfaction. As would be expected, the links from sex to income and to mortality were both negative (meaning that women earned less but lived longer), but neither was significant ( $\hat{\gamma} = -.05$  [*ns*] and  $\hat{\gamma} = -.05$  [*ns*], respectively). However, in both cases, the total effects were significant: Sex had a significant negative total effect on income ( $TE = -.14, p < .01$ ) and mortality ( $TE = -.08, p < .05$ ), suggesting that many of the gender effects in our study were mediated by other variables (ambition and education).

### Hypothesized Model Fit and Alternative Model Testing

The fit statistics for the hypothesized model are provided in Table 3. As previously described, we compared the fit of the hypothesized model to those of four alternative models. In all cases, the chi-square ( $\chi^2$ ) test revealed that the fit of the alternative models departed significantly from the hypothesized model. However, the  $\chi^2$  test is very sensitive to even slight misspecifications, especially when the sample size is large (Meade, Johnson, & Braddy, 2008). Comparisons of the other fit statistics suggested that none of the alternative models were clearly superior to the hypothesized model. Particularly incisive in this case are the confidence intervals for RMSEA—overlapping confidence intervals suggest nonsignificant differences in model fit—and the PNFI, which penalizes models for adding parameters. As shown in Table 3, the RMSEA confidence intervals for all four alternative models overlapped with the hypothesized model. Moreover, the PNFI statistics for the alternative models suggested that they are generally inferior to (or little better than) the hypothesized model. Thus, though such evaluations always involve “human judgment when reaching a decision about model fit” (Chen, Curran, Bollen, Kirby, & Paxton, 2008, p. 491), our judgment is that these results suggest that the hypothesized model fit the data relatively well, and no alternative model fits the data demonstrably better. For the hypothesized model, the squared multiple correlations for structural equations were as follows: ambition,  $R^2 = .52$ ; educational

<sup>5</sup> Using latent factor loadings and error variance estimates to calculate the reliability of the multisource scales in the LISREL model (Fleishman & Benson, 1987; Raykov & Shrout, 2002), we obtained the following estimated reliabilities: ambition = .74; extraversion = .74; conscientiousness = .76; neuroticism = .57. (The lower reliability for neuroticism is undoubtedly due to the single item used to assess other-reported neuroticism. If that item was excluded and a coefficient alpha was computed in the standard way,  $\alpha = .71$ .)

Table 2  
Means, Standard Deviations, and Correlations Between Study Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Age (at Time 5)	61.42	3.64	—																
2. Sex (male = 0, female = 1)	0.34	0.48	-.10	—															
3. Conscientiousness–self <sup>a</sup>	0.01	0.91	.14	-.01	—														
4. Conscientiousness–other <sup>a</sup>	0.00	0.86	.20	-.19	.36	—													
5. Extraversion–self <sup>a</sup>	0.01	1.00	-.07	-.12	-.08	-.11	—												
6. Extraversion–other <sup>a</sup>	0.05	0.96	-.09	.06	.02	.07	.32	—											
7. Neuroticism–self <sup>a</sup>	0.01	1.00	-.04	.17	-.24	-.17	-.15	-.16	—										
8. Neuroticism–other <sup>a</sup>	0.01	0.99	-.05	.10	-.05	-.16	-.13	-.19	.30	—									
9. General mental ability	148.85	10.58	-.23	-.05	.00	.00	.00	-.03	-.05	-.04	—								
10. Parents' occupation prestige	42.84	13.74	.06	-.11	.01	.13	.03	.13	-.07	-.02	.05	—							
11. Ambition–self <sup>a</sup>	0.02	0.90	.06	-.32	.28	.24	.19	.11	-.24	-.20	.02	.18	—						
12. Ambition–other <sup>a</sup>	-0.01	1.00	.08	-.16	.12	.37	.09	.21	-.13	-.27	.09	.29	.41	—					
13. Educational attainment	16.34	2.27	.17	-.16	.07	.20	.09	.07	-.10	-.11	.12	.26	.29	.28	—				
14. Educational prestige	56.77	34.38	.13	-.11	.09	.14	.05	.10	-.07	-.07	.08	.20	.13	.14	.46	—			
15. Occupation prestige	67.62	14.94	.11	-.18	.09	.23	.12	.11	-.16	-.14	.13	.21	.30	.23	.42	.38	—		
16. Income <sup>a</sup>	-0.01	0.98	.09	-.16	.05	.07	.18	.11	-.11	-.13	.05	.09	.26	.21	.18	.15	.25	—	
17. Life satisfaction	3.48	0.97	-.02	.12	.02	.11	.02	.02	-.02	-.02	.02	-.02	.10	.09	.10	.02	.11	-.03	—
18. Mortality	0.32	0.47	.22	-.08	-.05	-.06	.03	-.03	-.03	-.04	-.08	-.02	.02	-.05	-.04	.01	-.01	.08	-.22

Note. For  $|r| > .11$ ,  $p < .01$ . For  $|r| > .09$ ,  $p < .05$ .

<sup>a</sup> Standardized variables (*M*, *SD* are not exactly 0, 1 due to listwise deletion). Listwise  $N = 717$ .

attainment,  $R^2 = .28$ ; educational prestige,  $R^2 = .25$ ; occupation prestige,  $R^2 = .31$ ; income,  $R^2 = .15$ ; life satisfaction,  $R^2 = .05$ ; mortality,  $R^2 = .11$ .

We should note that in either Alternative Model 3 (adding links from the distal traits—extraversion, conscientiousness, neuroticism, and general mental ability—to all endogenous variables) or Alternative Model 4 (adding links from parents' occupation prestige to all endogenous variables), the significance of the coefficients of ambition on education or extrinsic success changed relatively little. In Alternative Model 3, the coefficients on ambition changed as follows: educational attainment, from  $\beta = .48$  ( $p < .01$ ) to  $\beta = .52$  ( $p < .01$ ); income, from  $\beta = .28$  ( $p < .01$ ) to  $\beta = .27$  ( $p < .01$ ); occupation prestige, from  $\beta = .28$  ( $p < .01$ ) to  $\beta = .20$  ( $p < .01$ ). In this model, conscientiousness positively predicted life satisfaction ( $\hat{\gamma} = .15$ ,  $p < .05$ ) and negatively predicted mortality ( $\hat{\gamma} = -.22$ ,  $p < .01$ ). Extraversion did not predict any endogenous variable (beside ambition). Neuroticism negatively predicted mortality ( $\hat{\gamma} = -.17$ ,  $p < .05$ ). General mental ability positively predicted educational attainment ( $\hat{\gamma} = .16$ ,  $p < .01$ ) and occupation prestige ( $\hat{\gamma} = .09$ ,  $p < .05$ ). Though the direct effects of the distal traits were often not significant, except for neuroticism, the total effects generally were significant. Conscientiousness had a significant total effect with 6 of 7 endogenous variables; extraversion and general mental ability had a significant total effect with 4 of 7 endogenous variables.

In Alternative Model 4, similar results were observed. The coefficients on ambition changed as follows: educational attainment, from  $\beta = .48$  to  $\beta = .41$  ( $p < .01$ ); income, from  $\beta = .28$  to  $\beta = .32$  ( $p < .01$ ); occupation prestige, from  $\beta = .28$  to  $\beta = .27$  ( $p < .01$ ). Parents' occupation prestige predicted educational attainment ( $\hat{\gamma} = .09$ ,  $p < .01$ ) and educational prestige ( $\hat{\gamma} = .08$ ,  $p < .05$ ) but no other endogenous variable.<sup>6</sup>

### Assessment of Mediation and Effect Size Estimates

We hypothesized that the relationship of ambition to extrinsic career success would be mediated by education (educational attainment, educational prestige). Table 4 suggests that the mediation effects varied widely by endogenous variable. Overall, somewhat more than half (59%) of the total effects were indirect. Moreover, except for educational attainment (where no indirect effect was possible in the model), all of the indirect effects were significant. One measure of effect size is to examine the total effects in Table 4, which represent the overall (direct + indirect) relationships of ambition with the endogenous variables. As shown in the table, except for mortality, the total effects are significant and “moderate” in magnitude (except for life satisfaction and mortality, which were significant but weak).

### Relationship Between Educational Attainment and Prestige

The hypothesized model contains a linkage from educational attainment to educational prestige. This makes sense, given the nature and coding of the variables. Because we assigned a prestige value of 0 for those who did not attend college (presumably it is less prestigious to not have a college degree than to have a degree from a lackluster university), attainment must precede prestige. On

<sup>6</sup> If instead of using the average occupational prestige, we used only the father's occupational prestige (as might be expected, more fathers [82.2%] had jobs outside the home than mothers [40.6%]), the results were quite similar to those reported in Figure 2. Indeed, the significance of no variable changed, and, on average, the average coefficient changed by only .005. The coefficient on parents'/father's occupational prestige to ambition increased slightly, from  $\hat{\gamma} = .26$ ,  $p < .01$ , to  $\hat{\gamma} = .29$ ,  $p < .01$ .

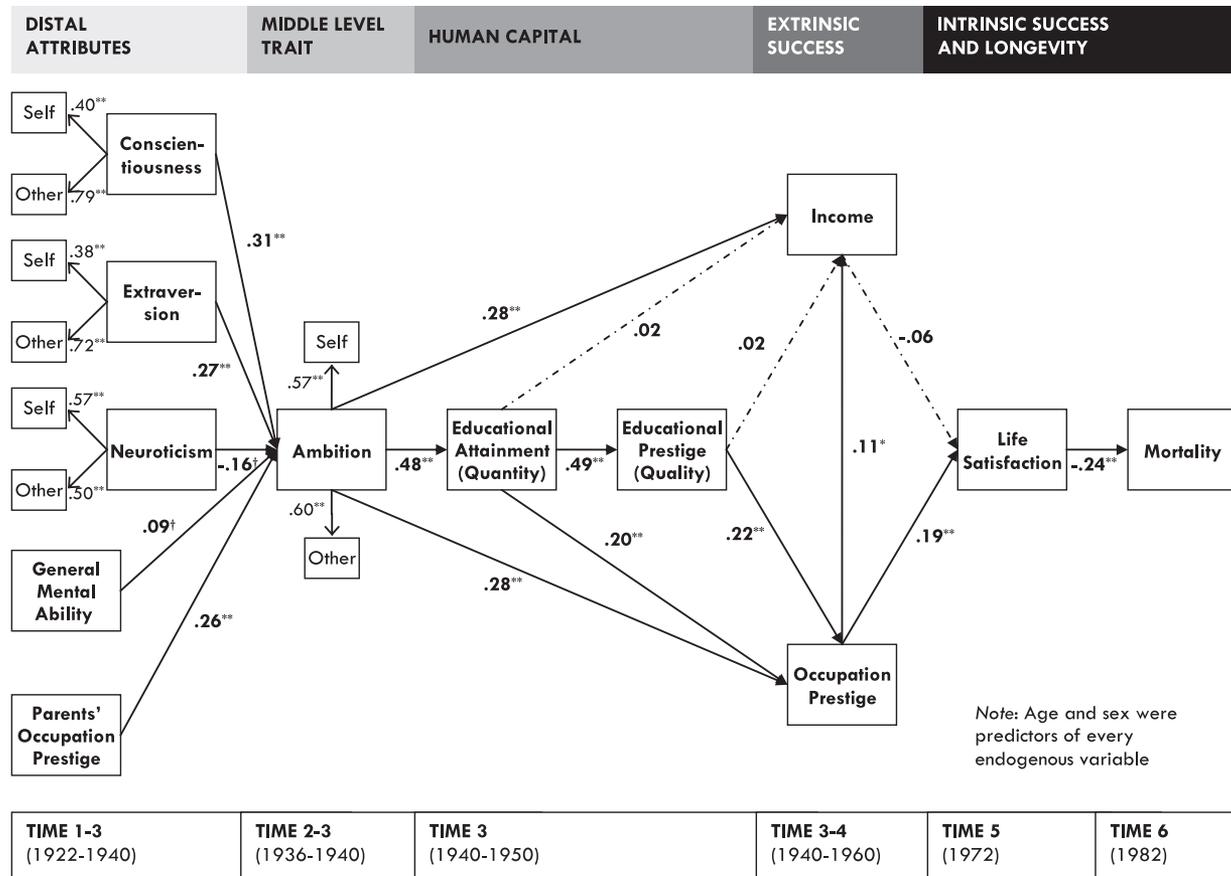


Figure 2. Hypothesized model results. Solid lines represent statistically significant relationships. Dotted lines represent nonsignificant relationships. \*  $p < .05$ , two-tailed. \*\*  $p < .01$ , two-tailed. †  $p < .10$ , two-tailed.

the other hand, one might reasonably view educational attainment and educational prestige as separate variables, with one not necessarily influencing the other. Accordingly, we undertook a supplementary analysis wherein educational prestige was assigned a missing value for those who did not attend college (thus excluding non-college graduates from the analysis). We specified direct links from ambition to educational attainment and to education prestige and dropped the link between educational attainment and educational prestige.

This model fit the data relatively well ( $\chi^2 = 188.36$ ; CFI = .94; NNFI = .92; SRMR = .043; RMSEA = .04; PNFI = .60). Ambition significantly predicted educational attainment ( $\beta = .41$ ,  $p < .01$ ) and educational prestige ( $\beta = .23$ ,  $p < .01$ ), as well as the previously specified links to occupational prestige ( $\beta = .28$ ,  $p < .01$ ) and income ( $\beta = .19$ ,  $p < .01$ ). The total effects of ambition on occupational prestige (TE = .41,  $p < .01$ ), income (TE = .25,  $p < .01$ ), life satisfaction (TE = .05,  $p < .10$ ), and mortality (TE = -.01,  $p = .11$ ) were slightly weaker than those from the hypothesized model (see Table 4). Thus, how the education variables are specified does have some effect on the results, though they are largely consistent with the hypothesized model results presented in Figure 2 and Tables 2–4.

### Does Ambition Have Nonlinear Effects?

As suggested by a reviewer on an earlier version of this paper, it is possible that ambition may be useful only to a point,

at which point it becomes “too much of a good thing.” This implies diminishing returns to the positive effect of ambition on career success. To test this possibility, we computed a quadratic term using the standardized ambition measure. We then entered the linear and quadratic terms into a series of regression equations, using the same variables as the specifications shown in Figure 1. Out of six regressions, the quadratic term significantly predicted the criterion in only one case. In predicting quantity of education, the linear ambition term was positive and significant ( $\beta = .21$ ,  $p < .01$ ) whereas the quadratic term was negative and significant ( $\beta = -.09$ ,  $p < .05$ ). When plotting the predicted values, it showed that increasing levels of ambition were associated with higher levels of educational attainment but the positive effects diminished at higher levels of education, such that the education differences between very low ambition and moderate ambition were stronger than the differences between moderate ambition and very high ambition. In none of the other five equations was the quadratic term significant.

### Analysis Using Only Other Reports of Ambition

Self-reports of personality have been criticized in the literature (Morgeson, Campion, Dipboye, Hollenbeck, Murphy, & Schmitt, 2007), and some have advocated use of observer reports (Connelly & Ones, 2010; Hogan, 1996; Oh, Wang, & Mount, 2011; Zim-

Table 3  
Fit Statistics for Hypothesized and Alternative Models

Model	$\chi^2$			CFI	NNFI	SRMR	RMSEA ( $\epsilon$ )			PNFI
	$\chi^2$	df	$\Delta\chi^2$				$\epsilon$	CI <sub>L</sub>	CI <sub>U</sub>	
Hypothesized	184.63*	103		.97	.95	.036	.034	.026	.041	.62
Alternative 1 (“Ambition direct effects”). Add links from ambition to all endogenous variables.	173.42*	100	11.21*	.97	.95	.034	.032	.024	.040	.61
Alternative 2 (“Ambition full mediation”). Drop links from ambition to all endogenous variables except education quantity.	221.43*	105	36.80*	.95	.93	.044	.039	.031	.046	.63
Alternative 3 (“Distal direct effects”). Add links from traits to education, career success, and longevity.	128.63	80	56.00*	.98	.96	.028	.029	.019	.038	.50
Alternative 4 (“Parental direct effects”). Add links from parents’ occupation prestige to education, career success, and longevity.	169.75*	97	14.88*	.97	.95	.035	.033	.025	.041	.59

Note.  $\chi^2$  = chi-square; df = degrees of freedom;  $\Delta\chi^2$  = change in  $\chi^2$  over hypothesized model; CFI = comparative fit index; NNFI = non-normed fit index; SRMR = standardized root-mean-square residual; RMSEA = root-mean-square error of approximation; CI<sub>L</sub> and CI<sub>U</sub> = the lower and upper limits of 90% confidence interval around RMSEA; PNFI = parsimony normed fit index.  
\*  $p < .05$ .

merman, del Carmen Triana, & Barrick, 2010). Although the results in Figure 2 show that both self- and other-reports contribute to the ambition latent variable, it is of interest to test the model utilizing only the other-reports of ambition. When we re-specified the model in Figure 2 using only other-reports of ambition (and thereby treating ambition as a manifest variable observed with measurement error), the results were relatively similar. No variable changed in significance, the average path coefficient changed by only .008 (.01 for the paths leading to and from ambition only), and the average standardized fit statistic changed by only  $-.004$ . Because the most complete measure of personality includes both self and other perspectives (Connolly, Kavanagh, & Viswesvaran, 2007), we relied on both self- and other-reports in testing the hypothesized model. However, relying only on other-reports would not have changed the interpretations of the model results.

**Discussion**

In discourse over the ages, disparaging comments regarding ambition are plentiful. In the first century C. E., Seneca (1806)

Table 4  
Direct, Indirect, and Total Effects of Ambition on Endogenous Variables

Endogenous variable	Direct	Indirect	Total	% mediated
Educational attainment	.48**	.00	.48**	0.00
Educational prestige		.23**	.23**	100.00
Occupation prestige	.28**	.15**	.43**	34.88
Income	.28**	.06**	.34**	17.65
Life satisfaction		.06**	.06**	100.00
Mortality		-.01*	-.01*	100.00

Note. Estimates are from hypothesized model, which did not include direct links from ambition to educational prestige, life satisfaction, and mortality. % mediated = proportion of total effect mediated (indirect ÷ total effect).  
\*  $p < .05$ , two-tailed test. \*\*  $p < .01$ , two-tailed test.

noted, “Ambition is like a gulf, everything is swallowed up in it and buried; beside the dangerous consequences of it” (pp. 143–144). Thomas Otway (1680) focused on the ceaseless striving aspects of ambition when he wrote, “Ambition is a lust that’s never quenched, grows more enflam’d and madder by enjoyment” (p. 66). The poet Walter Savage Landor’s (1829) dialogue between Lord Brooke and Sir Phillip Sydney noted, “Ambition is but avarice on stilts, in a mask.” T. S. Eliot (1935, p. 49) wrote, “Ambition fortifies the will of man to become ruler over other men: it operates with deception, cajolery, and violence, it is the action of impurity upon impurity.” More recently, John Dean (1976) titled his autobiography concerning criminal behavior during the Watergate break-in *Blind Ambition*. All of these examples characterize ambition as a character flaw that leads to dishonesty and dissatisfaction.

Our results suggest that despite these negative connotations of ambition, there are positive life outcomes of ambition. Participants who were more ambitious did not appear to be made miserable or insatiable by their ambitions. Instead, we found that individuals who were more ambitious had higher levels of attainment in both educational and work domains. This success, in turn, was associated with higher levels of life satisfaction and longevity (though the links from ambition to life satisfaction and longevity were quite weak). These results indicate that ambition—at least as operationalized here—does not create a feeling of unquenchable desire for unattainable outcomes.

There are several potential reasons why a weakly positive relationship between ambition and intrinsic success was found. First, it may be that concrete achievements in education and work domains create satisfaction because they help to minimally satisfy ambitious individuals’ competence-related desires (Sheldon, Ryan, & Reis, 1996). Second, goal-setting research has suggested that though the process of setting high expectations for oneself can produce initial dissatisfaction (Mento et al., 1992), the subsequent success produced by goals leads to setting increasingly higher goals (Locke, Cartledge, & Knerr, 1970) and, ultimately, to higher

satisfaction (Locke & Latham, 2002). Thus, ambition may have a mild net effect on life satisfaction as a result. Alternatively, perhaps the educational and occupational stratifications produced by ambition cause individuals to compare themselves predominately to others within their strata, thus nullifying much of the satisfying effects these attainments might produce. These process explanations, as well as the relationship between ambition and specific goal-setting behavior, are worthy of future research.

In addition to demonstrating the importance of ambition as a predictor of positive life outcomes, our study can serve to spur further consideration of middle-level traits, especially generalized life tasks (Cantor, 1990, 2003) like ambition. As noted by Romero et al. (2009), "Despite the interest focused on middle-level units in the last two decades, little is known about their relationship with traits, a deficiency that substantially limits our knowledge about the integrative functions of personality" (p. 536). Our results demonstrate that ambition has stronger effects on career and life success than do distal personality traits, ability, and socioeconomic status (though those characteristics mattered as well). The predictive strength of ambition as a middle-level trait suggests that the field of organizational behavior may fruitfully examine the role of this and other middle-level traits.

Several features of the present study help answer questions raised in previous theoretical work related to middle-level traits and their relationship to the broader personality literature. We found that ambition is predicted by conscientiousness and extraversion (and, to a lesser degree, neuroticism) and predicted life success criteria better than these traits. This is consistent with the idea that ambition is a more contextually relevant personal characteristic for life success than the more abstract, general traits identified in the five-factor model. Prior research has established that broad personality dispositions are related to educational and career success (Judge et al., 1999; Seibert & Kraimer, 2001) and that the five-factor model traits are predictive of life goals over time (Roberts et al., 2004), but such studies have not examined how ambition acts as a mediator between five-factor model traits and specific occupational and educational achievements. By demonstrating that ambition is a more proximal correlate of success, we hope to generate additional research investigating other life tasks that might further explain the relationship between five-factor model traits and success.

Our hypotheses proposed that there would be a significant relationship from neuroticism to ambition, based on the premise that those who experienced high levels of anxiety and lacked self-confidence would be less prone toward setting ambitious life goals for themselves. This result, albeit not strong in magnitude, is consistent with prior research that has shown that neuroticism is negatively related to motivation over shorter time periods (Judge & Ilies, 2002; Wang & Erdheim, 2007). This result implies that setting ambitious goals may be related to worries about goal attainment, or that neurotic individuals appraise more long-term ambition related goals as pessimistically as they appraise more proximal goals.

Our results also suggest that ambition acts as a mediator between general mental ability and success. This result suggests that ambition can be predicted by factors other than personality and therefore is not simply an aggregate of already identified traits. Ours is the first investigation of which we are aware that has positioned a middle-level motivational construct as a mediator

between general mental ability and success. Consistent with the cognitive, constructivist tradition of middle-level traits (e.g., Cantor, 2003), ambition appears to be partially conditioned on a realistic appraisal of one's likelihood of obtaining success. This relationship between ambition and ability is also consistent with James's investment model of personality (Pelham, 1995), which proposes that individuals will put greater emphasis on those areas or domains in which they have the greatest degree of success. Individuals high in general mental ability will likely emphasize success in academic and career-related domains specifically because they have reason to believe they will experience success in these domains.

We also hypothesized a relationship between educational attainment and prestige on income, but this relationship was not supported for this sample after occupational prestige was taken into account. As can be seen in the correlation matrix, there was a positive zero-order relationship between these educational markers and income, which suggests that the effects of education on income are mediated through the prestige of the job one obtains after graduation. This makes sense if one considers the case of a person with a prestigious law degree who gets a job as a lawyer making more than a person with a similar degree who takes a less prestigious job as a low-level manager.

Besides the evidence that personality and individual differences are related to ambition, a relationship was found between parental socioeconomic status and ambition. This relationship between background characteristics and ambition is again consistent with the positioning of ambition as a contextualized middle-level trait. The relationship between parental socioeconomic status and ambition was positive, suggesting that individuals whose parents have been more successful are also more ambitious. There are a variety of ways this intergenerational transmission of ambition might take place. One possibility is that children whose parents achieve success see their parents as role models for their own behavior (Bandura, 1999). Conversely, it may be that ambitious parents have children who are genetically predisposed to be ambitious. Given the voluminous literature demonstrating the genetic transmission of other personality traits (Plomin & Caspi, 1999), this possibility should not be discounted. However, because the genetically determined characteristics most likely to be related to ambition (i.e., five-factor model personality and general mental ability) were already taken into account in our modeling strategy, it is likely that at least some of the remaining effect of parental characteristics on ambition is due to the role modeling explanation.

In sum, we found that ambition was related to important human capital-related outcomes including educational attainment and educational prestige, which in turn related to higher wages, more prestigious work, and greater satisfaction with life. Although some prior research has suggested that specific aspirations predict these criteria (e.g., Alexander et al., 1975), we are aware of no previous research that has established a relationship between a general tendency toward ambitious striving and these major life attainments. Our results therefore demonstrate the practical utility of studying ambition as a construct for careers research in particular and organizational behavior research in general.

## Limitations

There are several shortcomings in the present study that might require further development in future research. Our measure of ambition is unusual, reflecting the unique nature of the sample to which the items were applied. That is, the measure was heterogeneous in terms of time (items were measured over two time periods separated by 4 years), source (some items were self-reported and parent-reported), and instrumentation. Although the unique nature of our data set with significant other-reports of ambition makes us believe that the results are still quite impressive for an untested predictor scale, the very nature of the data made it impossible for us to perform comprehensive tests of discriminant or convergent validity. As a result, the construct validity of the measure is not well established. Future researchers wishing to study ambition would be wise to adapt and expand upon the items contained in the measure, or utilize a different measure of ambition. Another related shortcoming of the data is that we used measures of school quality from 1983, which is quite some time after most of our participants would have been in school. However, as we show in Footnote 3, ratings of school quality are quite stable over time.

The advantage of this study—that it followed the lives and careers of a unique sample of individuals over the better part of the 20th century—is also a significant limitation. The sample comprised intelligent individuals initially raised in California whose working careers peaked a half century ago. Thus, it is difficult to know whether the findings observed here generalize to other samples of individuals. In particular, our sample consisted of individuals born and raised in the United States during a time period when having a formal education and having a high-status occupation were primary mechanisms for attaining high social status. The specific social situations sought by individuals to enact their ambition would likely be different if assessed in a different cultural milieu. Still, all samples have limitations on their generalizability, and one would hope that the insights afforded by the uniqueness of this sample and rigor of the design are not wholly undermined by legitimate concerns over its generalizability. Future studies should examine the extent to which these findings replicate in samples that are more contemporary and diverse in terms of ability.

## Future Research Directions

The fact that this research reveals positive, long-term implications of ambition raises several issues. Future research might consider the potential “dark side” implications of ambition in terms of behavior. Our study demonstrated that individuals who are ambitious are more likely to obtain success by obtaining a higher degree of education, by holding higher prestige and higher wage jobs, and having a satisfying life, but we were not able to explicate the specific actions that ambitious individuals took to achieve these ends. It may be that there is more to the rather ominous tone of several quotations offered in our first paragraph than our study could discover. As for those characterized by narcissism, which can enhance one’s perception of self but create more negative reactions in others (Judge, LePine, & Rich, 2006; Robins & Beer, 2001), it may be that ambitious individuals have both virtuous characteristics for the self (e.g., goal striving and higher levels of work activity) and negative characteristics for

others around the ambitious individual (e.g., a desire to “win at all costs” or a willingness to undermine others to achieve their own ends). Future research should investigate whether individuals who are more ambitious enact these more “cutthroat” strategies as part of their journey toward success, or if they get ahead by working harder and longer to obtain their desired success in life.

If middle-level traits are indeed dependent in part on context, as proposed by Cantor (1990) and as suggested by social cognitive approaches to personality (Bandura, 1999; Mischel & Shoda, 1995), it might be possible to shape contexts that will permit even those who are not high in conscientiousness, extraversion, general mental ability, and parental status to enjoy the income and life satisfaction benefits of high levels of ambition. From a social cognitive perspective, behavior is the result of an interaction between a person’s dispositions and the environments he or she encounters, so it is possible that by changing one’s environment sufficiently one might be able to change behaviors even for those who might not otherwise possess the traits associated with ambition. In the case that one cannot adopt a more optimal level of ambition, understanding the process through which ambition impacts life outcomes (e.g., through education) could prove useful for designing effective interventions. For instance, one may assess the value of identifying substitutes for ambition—those that lead to greater educational and occupational attainment.

As noted in the introduction, we expect that ambitions are less ephemeral in nature than shorter term motivations and desires. Instead, as a middle-level trait, ambition should be persistent across time and situations. Our results support this view of ambition, linking measures of ambition taken relatively early in life with later measures of success in two distinct life domains (work and education). Although future research is necessary to confirm that ambition does indeed possess stronger test–retest reliability than measures of temporally bounded personal attributes, the initial results from our study do indeed suggest that ambition fulfills one of the primary requirements of a middle-level trait in that it persists over time.

Given the demonstrated importance of ambition in predicting outcomes, what other middle-level traits might be given greater attention in future research? One example that comes to mind is integrity, which like ambition is predicted by a variety of personality traits and which also is linked more strongly to relevant behavior than the traits that make it up (Ones & Viswesvaran, 2001). Also like ambition, integrity is a middle-level trait describing a general tendency to act the same way across a wide variety of contexts. Other middle-level traits that might also act as mediators between general personality traits and life outcomes can include sociability (likely formed by a combination of life circumstances, agreeableness, and extraversion), empathy (likely formed by a combination of experiences with empathic others, agreeableness, and openness to experience), adaptability (a compound of high openness and high intelligence and low neuroticism and conscientiousness), or a creative disposition (likely formed by a combination of encouragement to be creative early in life, openness to experience, ability, and conscientiousness).

Our final suggestion is that researchers examine other possible intrinsic outcomes of ambition. Although we found that ambition was positively but weakly related to life satisfaction, there may also be negative consequences of ambition for individuals when various dimensions of satisfaction are considered. In particular, the relationship between ambition and other values such as altruism,

spirituality, social relationships, or aesthetic achievement should be explored (Hitlin, 2006; Roberts et al., 2004). The quotes in the introduction and start of the Discussion section suggest that many intellectuals have seen ambition in a negative light, as a single-minded drive to accomplish intrinsic success at the expense of other areas of one's life. Self-determination theory proposes that striving after extrinsic success will be detrimental to the development of true personal happiness (e.g., Kasser & Ryan, 1993; Ryan et al., 1999). Future research examining a variety of intrinsic, as well as extrinsic, outcomes of higher levels of ambition is needed.

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Received February 24, 2011

Revision received February 23, 2012

Accepted February 27, 2012 ■