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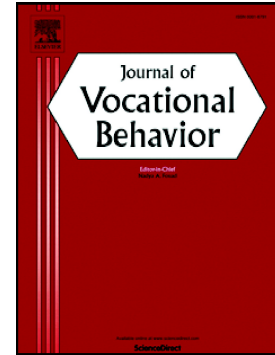
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What Drives Future Business Leaders? How Work Values and Gender Shape Young Adults'

Entrepreneurial and Leadership Aspirations

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Abstract

Who wants to become a business leader? We investigated whether young adults' *work values* (i.e., the importance placed on different job characteristics and rewards) predict their *entrepreneurial aspirations* (i.e., the intention to create a venture) and *leadership aspirations* (i.e., the intention to become a leader in a business context). Furthermore, we investigated whether gender differences in work values contribute to the pervasive gender gap in these aspirations. Analyses in a sample of young adults from Finland ($N = 1,138$) revealed that a higher importance placed on extrinsic rewards and a lower importance placed on security at age 21 predicted higher entrepreneurial and leadership aspirations at age 27 over and above personality, motivational, and sociodemographic factors. Additionally, a higher importance placed on social/interpersonal rewards predicted lower entrepreneurial but higher leadership aspirations; and a higher importance placed on autonomy predicted higher entrepreneurial aspirations. Gender differences in work values explained a substantial share of the gender gap in entrepreneurial and leadership aspirations. Here, men's higher endorsement of extrinsic rewards and lower endorsement of security proved most critical. These findings suggest that work values are implicated in shaping young people's aspirations to business leadership and contribute strongly to the gender gap therein.

Keywords: work values; job values; entrepreneurship; leadership; career development; career aspirations; business leaders; gender gap.

What Drives Future Business Leaders? How Work Values and Gender Shape Young Adults'
Entrepreneurial and Leadership Aspirations

What motivates young people to aspire to a career as a future business leader—be it as founders of their own businesses or as managers in an established organization? This question is relevant not only from an educational perspective interested in fostering entrepreneurship and leadership; but also from a selection and placement perspective interested in understanding what motivates candidates aspiring to these roles. Moreover, illuminating what leads young people to aspire to a career as a business leader may help in explaining the underrepresentation (“gender gap”) of women among entrepreneurs and top-level managers (European Commission, 2013; OECD, 2015; Hausmann & Tyson, 2015).

In search of an answer to this question, our present study addresses the role of young people's *work values* (i.e., the importance they place on different job characteristics and the types of rewards they seek to attain). Prominent theories of vocational development assign work values a central role in guiding vocational preferences and choices (e.g., Holland, 1997; Super, 1980). As a potentially important motivational factor shaping young people's aspirations to business leadership, however, work values are surprisingly understudied. To remedy this, our study pursued two aims: First, to reveal whether young people's work values predict their entrepreneurial aspirations and leadership aspirations six years later above and beyond other established predictors of these outcomes. Second, to clarify whether gender differences in work values contribute to the gender gap in vocational aspirations, whereby women are typically found to show lower aspirations than men to assume entrepreneurial and leadership roles (Schoon & Duckworth, 2012; Carli & Eagly, 2001; Elprana, Felfe, Stiehl, & Gatzka, 2015; Wood & Eagly, 2012).

Aspirations to Business Leadership: Definition and Antecedents

The target outcomes in our study are young people's aspirations to business leadership. Under this rubric, we summarize their *entrepreneurial aspirations* (or "intentions"; Obschonka, Silbereisen, & Schmitt-Rodermund, 2010; Obschonka, 2016) and *leadership aspirations* (also referred to as "motivation to lead"; Chan, & Drasgow, 2001; Stiehl, Felfe, Elprana, & Gatzka, 2015). Both aspirations are conceptually related (Vecchio, 2003) but differ in that entrepreneurial aspirations refer to becoming a self-employed founder and leader of one's own business, whereas leadership aspirations refer to seeking leadership roles in a business (but not necessarily one's own). Comparing entrepreneurial vs. managerial careers is an established perspective in research on business leadership (Brandstätter, 2011; Stewart & Roth, 2001; Zhang & Arvey, 2009). By comparing entrepreneurial and leadership aspirations, we aim to garner new insights into the similarities and differences of these aspirations and their motivational underpinnings.

There is considerable agreement that career aspirations are important motivational drivers of actual career choices and attainments (Ashby & Schoon, 2010; Schoon & Parsons, 2002). Indeed, entrepreneurial aspirations rank among the strongest predictors of actual entrepreneurial activity (Bird, 1988; Kautonen, Gelderen, & Fink, 2015; Obschonka et al., 2010). Similarly, leadership aspirations have emerged as a strong predictor of leadership behavior, potential, and performance (Chan, & Drasgow, 2001; Stiehl et al., 2015) as well as of income and occupational prestige (Judge & Kammeyer-Mueller, 2012).

Despite their widely recognized role as precursors of actual career choices and attainments, the question of what factors shape the development of such aspirations over the life course is yet to be comprehensively answered (Obschonka, 2016; Hirschi & Fischer, 2013). Previous research highlights personality traits, attitudes beliefs, and (early) learning experiences as precursors of

entrepreneurial aspirations (Zhao, Seibert, & Hills, 2005). This research shows that circumscribed traits such as risk-taking, need-for-achievement, proactivity, self-efficacy (Crant, 1996) and self-regulatory capacities (Geldhof, Weiner, Agans, Mueller, & Lerner, 2014) predict higher entrepreneurial aspirations. The same is true for the Big Five personality traits (especially a profile consisting of higher Extraversion, Conscientiousness, and Openness; and lower Agreeableness and Neuroticism; e.g., Brandstätter, 2011; Obschonka, Hakkarainen, Lonka, & Salmela-Aro, 2016). Family socialization (e.g., parental role models and SES; Schmitt-Rodermund, 2004; Schoon & Duckworth, 2012) and the wider regional and cultural context (Kibler, 2013) also contribute to formation of entrepreneurial aspirations.

Less is known about the precursors of leadership aspirations. The few existing studies point to similar personality and motivational precursors of these aspirations (see Chan & Drasgow, 2001; Vecchio, 2003). For example, extraversion, self-efficacy and past leadership behavior consistently predicted higher leadership motivation in samples from Singapore and US students (Chan, & Drasgow, 2001). Research on the related concept of ambition (i.e., aspiration to achieve a high status or rank) has linked three of the Big Five personality traits (higher Conscientiousness and Extraversion; lower Neuroticism), higher cognitive ability, and a higher family SES (Judge & Kammermeyer-Mueller, 2012) to higher ambitions.

Notwithstanding the insights this research offers, the most widely studied antecedents can only partly explain the emergence of individual differences in aspirations to business leadership (Obschonka, 2016; Chan & Drasgow, 2001). In order to obtain a more complete picture of the personal factors shaping these aspirations, including the gender gap therein, we propose to consider specific work orientations driving young people's career aspirations. In this regard, work values are a promising constructs (Hirschi & Fischer, 2013).

Work Values as Predictors of Aspirations to Business Leadership

Values are higher-order goals that form an integral part of a person's self-concept and guide choices and behaviors (Schwartz, 1992). Work values (also referred to as job or career values) are a domain-specific set of values. They refer to the importance individuals place on different job characteristics and the rewards they seek to attain in their jobs (Ros, Schwartz, & Surkiss, 1999). In this study, we distinguish between six work value dimensions: extrinsic rewards (e.g., good pay, promotion), security (e.g., good working conditions, job security), intrinsic rewards (e.g., interesting work, learning opportunities), autonomy (e.g., decision-making powers; independence), social/interpersonal relationships (e.g., working together with others; helping others), and stimulation (e.g., exciting and varied work). These work values surface in different work value categorizations and instruments, although sometimes under different labels (e.g., Berings, Fruyt, & Bouwen, 2004; Johnson et al., 2007; Jin & Rounds, 2012; Ros et al., 1999; Watt & Richardson, 2007).

Why expect that work values contribute to the formation of entrepreneurial and leadership aspirations? Prominent theories of vocational development (e.g., Holland, 1997; Super, 1980) assign (work) values a central role in guiding vocational choices. The core idea is straightforward: Individuals choose occupations that allow them to express their personal work orientations. These work orientations that guide career choices include their interests, personality traits, abilities—and in particular their work values (Balsamo, Lauriola, & Saggino, 2013; Judge & Bretz, 1992). The fit between individuals' personal work orientations and the characteristics of an occupation—its rewards and demands—therefore determines the attractiveness of this occupation and the valence of choosing this occupation (Schwartz, 1992; Holland, 1997). In choosing an occupation, individuals will aim to minimize the discrepancies or dissonances

between their work orientations and the anticipated rewards of the occupation chosen (Porfeli & Mortimer, 2010). In turn, the degree of fit (or congruence) between personal work orientations and the job characteristics determines subsequent job satisfaction, engagement, and performance (Porfeli & Mortimer, 2010; Mortimer & Lorence, 1995; Sortheix, Dietrich, Chow, & Salmela-Aro, 2013), an insight that is foundational for the broader person–environment fit perspective (e.g., Edwards, 2008).

Based on these considerations, we expect that work values that are congruent with the demands and rewards of business leadership will be related to higher entrepreneurial and leadership aspirations. In contrast, work values that are incongruent (or discrepant) with business leadership will gravitate individuals away from these aspirations.

Hypotheses: Work Values and Entrepreneurial Aspirations

Which work values, then, are congruent or incongruent with entrepreneurial aspirations more specifically? Although the evidence base is small, it provides several hints. Research linking personal values as conceptualized by Schwartz (1992) to entrepreneurial aspirations found self-enhancement (the importance of power, wealth, and achievement values) and mostly also openness-to-change values (the importance of self-direction, and stimulation) to predict higher entrepreneurial aspirations among university graduates in Spain (Jaén, Moriano, Liñán, 2013; Espíritu-Olmos and Sastre-Castillo, 2015) and in the Netherlands, Germany, and Poland (Gorgievski, Stephan, Laguna, & Moriano, 2017). In one of the few studies analyzing specific *work* values in relation to entrepreneurial aspirations, Berings et al. (2004) found that influence (being involved in policy decision making) predicted higher, whereas team-work values (work with others) predicted lower entrepreneurial aspirations (as measured with the “enterprising” vocational interest dimension of the RIASEC model). These associations held above the effect of

other work values and personality traits. However, Berings et al.'s (2004) study was cross-sectional, did not test a measurement model of work values and it was based on small and selective sample (178 economics students). Hirschi and Fischer (2013), found that pay and prestige (self-enhancement) and variety plus autonomy (openness to change) predicted higher levels, whereas security plus authority (conservation) predicted lower levels of entrepreneurial aspirations, among German university students.

Together, this evidence suggests an orientation towards extrinsic rewards, autonomy, and stimulation (which includes seeking novelty, variety, and risk) is congruent with entrepreneurial aspirations. Contrariwise, an orientation toward security, social/interpersonal aspects of work appears incongruent with entrepreneurial aspirations. This is broadly consistent with portrayals of (future) business founders as driven striving for autonomy and novelty and a willingness to take risks, often paired with a certain single-mindedness (e.g., Obschonka & Stuetzer, 2017; Zhang & Arvey, 2009). Based on this, we hypothesized:

Hypothesis 1: A higher importance placed on extrinsic rewards, stimulation, and autonomy; and a lower importance placed on security and social/interpersonal aspects of work predict higher entrepreneurial aspirations.

Hypotheses: Work Values and Leadership Aspirations

Fewer studies have explored the potential links between (work) values and leadership aspirations (e.g., Chan & Drasgow, 2001). However, the handful of studies that exist suggest similar patterns of predictive relationships as for entrepreneurial aspirations. Specifically, future business leaders were found to place increasing importance on openness-to-change (i.e., valuing novelty, variety and risk) and self-enhancement values (i.e., valuing being capable, having social recognition and power) during the 2-year period of MBA education (Krishnan, 2008).

Individuals high on leadership aspirations reported higher vertical individualism values, that is, a higher importance of achievement and competition (Chan & Drasgow, 2001). Furthermore, business students, who often aspire to managerial careers, value achievement more than students from other majors do (Myyry, & Helkama, 2001). One difference between both aspirations is the higher centrality of independence, novelty seeking and risk taking for creating and managing one's own venture compared to assuming a managerial role in an established organization (Brandtstätter, 2011; Stewart & Roth, 2001). In terms of work values, this might imply a stronger association of autonomy and stimulation with entrepreneurial than with leadership aspirations. Yet, given the lack of comparative evidence on both types of aspirations, such more nuanced considerations remain speculative. For this study, our more conservative expectation was to find essentially the same pattern of predictive relationships between work values and both aspirations.

Hypothesis 2: A higher importance placed on extrinsic rewards, stimulation, and autonomy; and a lower importance placed on security and social/interpersonal aspects of work predict higher leadership aspirations.

Given the lack of theoretical or empirical evidence, we did not expect intrinsic rewards, the sixth work value dimension considered in our study and the most highly endorsed work value in past studies (Sorthaix et al., 2015; Lechner et al., 2016), to predict either type of aspirations.

Can Work Values Explain the Gender Gap in Career Aspirations?

There is a gender gap in business leadership that has become the focus of a heated public debate. Traditionally, men have grossly outnumbered women in leadership positions in the corporate sector. Despite significant progress during past decades, these gender inequalities persist. For example, women accounted for only 29% of the 40.6 million entrepreneurs in the EU in 2012 (Hausmann & Tyson, 2015). In April 2013, women accounted for 16.6% of board

members of large publicly listed companies in the 27 EU Member States (European Commission, 2013). Because aspirations are the most proximal psychological precursor of actual career choices (Bird, 1988; Obschonka et al., 2010; Hirschi & Fischer, 2013), this gender gap manifests already early on in young men and women's career aspirations (e.g., Elprana et al., 2015; Schoon & Duckworth, 2012). We hence expected to find a gender gap in both types of aspirations.

Hypothesis 3: There is a gender gap in aspirations to business leadership, with women having lower entrepreneurial aspirations and leadership aspirations than men do.

But how does this gender gap arise? Among other factors, psychological explanations for this gender gap invoke men's and gender-specific socialization experiences, gender stereotypes and role expectations, and a lack of female role models (Carli & Eagli, 2001; Halaby, 2003; Gupta, Turban, & Bhawe, 2008; Wood & Eagly, 2012; Elprana et al., 2015). The explanatory power of these factors varies and often remains incomplete. Moreover, it is unclear through which specific mechanisms these factors exert their influences on aspirations to business leadership and associated career outcomes. If the aim is to understand why males gravitate to business leaders' roles more often than women do, we submit that work values may offer a valuable addition and a possible mechanism.

Our hypotheses are again based on the theories of career choices (Holland, 1997; Super, 1980), the dissonance / discrepancy perspective (Porfeli & Mortimer, 2010), and person–environment fit more broadly (Edwards, 2008). These accounts converge in the notion that individuals choose an occupation that best fits their work orientations, including their work values. To the extent that there are gender differences in work values, women may differ from men in the career choices they perceive as most attractive and congruent. Such gender

differences in work values may arise from socialization experiences, gender stereotypes, gender role expectations, and possibly genetic predispositions (Keller et al., 1992; Wood & Eagly, 2012; Elprana et al., 2015)—all of which may coalesce to polarize men and women's work values into stereotypically male and stereotypically female ones. Indeed, there are clear gender differences in work values (for a meta-analysis, see Konrad, Ritchie, Liebe, & Corrigan, 2000) and related work orientation measures (Mueller, 2004). On average, men place a higher importance on jobs characterized by high salaries, power, career opportunities, and jobs which involve risk-taking, challenge, and responsibility, combined with prestige (e.g., OECD, 2016; Ferriman et al., 2009; Konrad et al., 2000; Sorthaix, Chow, & Salmela-Aro, 2015; Lechner et al., 2017). Women, by contrast, place more importance on intrinsic aspects (e.g., learning opportunities), prosocial and interpersonal aspects, and work-life balance (Konrad et al., 2000; Lechner et al., 2017; Sorthaix et al., 2015; Ferriman et al., 2009; Eccles, 2009; Su & Rounds, 2015). This pattern of gender differences in work values concurs with research on personal values showing that men value achievement, power, and self-direction more than women across countries (Schwartz & Rubel, 2005). These gender differences in work values persist even in recent generations and in relatively gender egalitarian societies (European Commission, 2013), including also Finland, the country under study here (Lechner et al., 2017).

Business leadership roles (Halaby, 2003; Gupta, Turban, & Bhawe, 2008; Wood & Eagly, 2012; Elprana et al., 2015) tend to possess stereotypically masculine characteristics (e.g., agentic, dominant) that conflict with stereotypically more feminine (e.g., communal, caring) characteristics (e.g., Elprana et al. 2015; see also Wood & Eagly, 2012). Thus, given the aforementioned gender differences in work values, women may perceive business leadership roles as less attractive and more incongruent with their values than men do. Hence, gender

differences in work values may account for the gender gap in entrepreneurial and leadership aspirations. Although we are not aware of any study directly testing this explanation, evidence on the role of work values in shaping gender gaps in other career preferences supports this reasoning. For instance, gender differences in work values are an important factor explaining the lower representation of women across STEM sub-disciplines (Eccles & Wang, 2016). Women's higher emphasis on social values partly explains their opting out of engineering and computer science careers in favor of STEM careers in the biological and medical sciences (Eccles & Wang, 2016) and in teaching (Watt & Richardson, 2007). Research also showed that the desire of power (i.e., to influence others; Schuh et al., 2014) and of professional advancements (Gino, Wilmuth, & Brooks, 2015) are higher in men and partly explain the unequal gender distribution in leadership positions. Accordingly, we hypothesized that there are gender differences in work values, and that these gender differences at least partly explain men's higher proclivity to aspire to entrepreneurial and managerial careers:

Hypothesis 4: Men place a higher importance than women on work values congruent with entrepreneurial and leadership aspirations (i.e., extrinsic rewards, autonomy, and stimulation) and a lower importance on values that are incongruent with these aspirations (i.e., security, social/interpersonal). These gender differences in work values partly explain (mediate) the gender gap in entrepreneurial and leadership aspirations.

Method

Data and Sample Selection

Our investigation is based on a large and diverse sample of Finnish young adults who took part in the Finnish Educational Transitions Studies (FinEdu; <http://wiredminds.fi/projects/finedu/>). FinEdu is an ongoing longitudinal survey that started in

2004 with a sample comprising all ninth-grade students from all comprehensive schools (median age: 16) and all second-year students from all upper secondary schools (median age: 18) in a mid-sized Finnish city (population: ca. 100,000). In 2004, the sociodemographic profile (e.g., age and gender distribution, demographic dependency ratio, unemployment rate, religious affiliations, and school types) of this city's population was very similar to that of the overall Finnish population. While respondents were still in school (until 2005/2006), data collection took place in classrooms; after leaving school, respondents received postal or online questionnaires, and a small subset participated in telephone interviews. At each wave, researchers contacted all members of the master samples, including those who did not participate in the first wave; for this reason, some respondents who did not participate in earlier waves (re-)entered the panel later.

For the present analyses, we mainly used data from two waves (henceforth T1 and T2): 2008/2009 (T1; median age: 21 years) and 2013/14 (T2; median age: 27 years). T1 included a comprehensive measure of work value; T2 included measures of entrepreneurial and leadership aspirations. Our analytical sample comprised all respondents who participated in at least one of these two waves, resulting in an analysis sample of 1,304 young adults, of which 862 were present at both waves. We added further variables (e.g., gender, parents' occupation) from the wave of 2004. Table 1 provides a sample description in terms of basic sociodemographic characteristics at T1 and T2.

[Table 1]

Measures

Work values. We used a 16-item work values instrument, derived from the Meaning of Work Study (MOW International Research Team, 1987) administered at T1. Respondents indicated to what extent different job characteristics influenced their career choice on a 7-point-

scale (1 = *strongly disagree*; 7 = *strongly agree*). Previous research attests to the criterion validity of these and similar items in predicting subjective and objective career-related outcomes (Johnson & Mortimer, 2011; Porfeli, 2007; Sortheix, et al., 2015). We evaluated the dimensionality of this instrument by means of exploratory factor analyses (EFA; see Statistical Analysis and supplemental online material for details). Table 2 shows the wording of all items, along with their loadings on the six resulting factors.

[Table 2]

Aspirations to Business Leadership. Entrepreneurial and leadership aspirations were assessed at T2 with four items each. The items measuring entrepreneurial aspirations were taken from Obschonka et al. (2010) and read as follows: (1) “I am planning/going to set up a new company in the near future”; (2) “I have recently been looking for information about ways in which to set up a new company/business”; (3) “If I had the opportunity, I would establish a new business” and (4) “How likely it is that you started a new company in the future?”. Respondents rated the first three statements on a 5-point-scale (1 = *strongly disagree*; 5 = *strongly agree*) and the fourth on a 6-point scale (1 = 10%; 6 = 100%).

Leadership aspirations were measured with a short version of the Hamburg leadership motivation inventory (Felfe et al., 2012; Stiehl et al., 2012). The items read as follows: (1) “The role of leader would suit me.”; (2) “If I am part of a group, I prefer to be the director than a member.”; (3) “I’d take the leader/manager role if I was selected.”; and (4) “I would like to take the lead, especially if it brings a clear advantage.” Respondents rated these statements on a 5-point-scale (1 = *strongly disagree*; 5 = *strongly agree*). Reliabilities (*omega*; Zinnbarg et al., 2005) were equally high $\omega = .91$ for entrepreneurial aspirations and $\omega = .89$ for leadership

aspirations. Supplemental Table A1 shows the means, standard deviations, and standardized factor loadings from the full measurement model for all eight items.

Gender. To test the gender gap in entrepreneurial and leadership intentions, we coded gender such that women represented the reference group (0 = *female*; 1 = *male*).

Control variables. In exploring the predictive power of work values vis-à-vis entrepreneurial and leadership aspirations, we tested their *incremental* effects over established antecedents of these aspirations (as per our literature review). In particular, we controlled for need for achievement, risk-taking, self-esteem, and an entrepreneurial personality profile (see below). All these scales were answered on a 7-point Likert-type scale ranging from 1 (*completely disagree*) to 7 (*completely agree*) and were administered at T1 (2008/2009). Additionally, we controlled for entrepreneurial parental role models, educational attainment, and age.

To measure *need for achievement*, we selected three items from a longer scale measuring respondents' current achievement goal orientation in their work or studies (Niemivirta, 2002; Eccles, 2009); these three items referred to mastery goals ("It is important to me that I get good grades/results."; "My goal is to succeed well in studies / at work."; "An important goal for me is to succeed well in my studies / work."). As a proxy of *risk aversion*, we selected three further items from the same battery that referred to fear of failure ("It is important to me that I do not fail in front of other students / employees."; "I try to avoid situations in which I may fail or make mistakes."; "I always feel very nervous and uncertain when I have to concentrate on a demanding or difficult school / work task."). We measured *self-esteem* with three items ("I think I have many good qualities."; "I have a positive view of myself."; "All in all I am satisfied with myself.") from a Finnish short version of the Rosenberg scale (Salmela-Aro, & Nurmi, 2007).

Our measure of the *entrepreneurial personality profile* considers an agentic, hence “entrepreneurial”, constellation in the basic personality traits of a person (Obschonka et al., 2010; Obschonka & Stuetzer, 2017) comprised of high Openness, high Extraversion, and high Conscientiousness but low Neuroticism and low Agreeableness. This “entrepreneurial” Big Five profile has repeatedly emerged as more predictive of career outcomes, especially of entrepreneurship, than single dimensions (Obschonka, 2017; Obschonka & Stuetzer, 2017) and is more parsimonious than including five separate dimensions. We computed the profile based on a brief 15-item version of the Big Five Inventory (John, Donahue, & Kentle, 1991) following an established procedure (see Obschonka et al., 2016). This procedure consists in taking the squared differences between the entrepreneurial reference values (i.e., maximum scale values for O, E, C and minimum values for N and A) and a respondent’s actual scores on each Big Five trait scales. The squared differences for each of the five traits are then summed and the algebraic sign of this sum is reversed, such that higher values reflect a more “entrepreneurial” personality structure.

We captured *parental role models* by whether at least one parent was self-employed or an entrepreneur in 2004 (1 = *at least one parent*; 0 = *none*); we obtained this information from youth’s reports of their parents’ occupations, which were coded by the FinEdu project team according to a standard classification system (Official Statistics of Finland, 1989). We also controlled for *age in years* at T1 (2008/2009) and a five-categorical measure of *educational attainment* (1 = *no upper secondary degree*; 2 = *completed one upper secondary degree*; 3 = *studying for or completed another upper secondary degree, such as a vocational school certificate*; 4 = *studying for or completed a polytechnic institute degree*; 5 = *studying for or completed a university degree*, which may both be associated with work values and aspirations.

Statistical Analyses

As a preliminary step to testing our hypotheses, we built latent measurement models comprising six orthogonally rotated work values, entrepreneurial and leadership aspirations, and three control variables that were measured with multi-item scales (i.e., self-esteem, risk aversion, and need for achievement). The measurement models confirmed the hypothesized six-dimensional structure of work values (see Table 2) and demonstrated the good fit of a full measurement model including all other latent variables. The supplemental online material provides detailed information on these measurement models.

Our main analyses then comprised two steps. First, we tested the incremental predictive power of work values over the control variables and gauged the relative contribution of each work value to predicting later entrepreneurial and leadership aspirations (Hypotheses 1 and 2). For this purpose, we estimated a series of structural models regressing entrepreneurial and leadership aspirations on all control variables (Model 1) and additionally on all six work values simultaneously (Model 2).

Second, we tested whether there is a gender gap in entrepreneurial and leadership aspirations (Hypothesis 3) and whether work values can explain this gender gap (Hypothesis 4). We approached Hypothesis 4 from two complimentary perspectives, considering work values' joint and single contribution to the gender gap, respectively. To assess their joint contribution to the gender gap, we tested by how much the gender differences in entrepreneurial and leadership aspirations that remained after accounting for all personality, motivational, and sociodemographic factors would be reduced by adding work values to the model. That is, we calculated the percentage reduction in the regression coefficients (Δb) of gender between Model 1 (b_{M1}) and Model 2 (b_{M2}):

$$\Delta b = \frac{b_{M1} - b_{M2}}{b_{M1}} \times 100$$

To assess the specific contribution of each single work value, we tested the mediational chain from gender to aspirations via work values. This allowed us to unravel which specific work values are most decisive in driving the gender differences in entrepreneurial and gender differences. For this purpose, we included regressive paths from gender to each work value and subsequently estimated gender's indirect effects on entrepreneurial and leadership aspirations through work values. We used a bootstrap with 1,000 random draws to obtain bias-corrected bootstrapped confidence intervals for each indirect effect.

Results

Incremental Effects of Work Values on Aspirations to Business Leadership

Do work values predict entrepreneurial aspirations and leadership aspirations beyond other established predictors? Table 3 shows the results from our two structural equation models addressing this question. In Model 1 (covariates only), male gender, younger age, and a more entrepreneurial personality profile predicted higher entrepreneurial aspirations, whereas the other covariates were unrelated to entrepreneurial aspirations. With regard to leadership aspirations, a higher need for achievement, higher self-esteem, male gender, higher education, and a more entrepreneurial personality all predicted higher leadership aspirations. Together, the predictors in Model 1 explained about 10% the variance in entrepreneurial aspirations and 16% of the variance in leadership aspirations.

[Table 3]

In Model 2 (see also Figure 1), several work value dimensions emerged as strong predictors of aspirations to business leadership. The predictive power of work values was considerable for both types of aspirations. Compared to Model 1, work values markedly increased the amount of

variance explained, namely by 18 percentage points for entrepreneurial aspirations and by 26 percentage points for leadership aspirations.

Specifically, young adults who placed a higher importance on extrinsic rewards and autonomy reported higher entrepreneurial aspirations five years later. Moreover, those who placed higher importance on security and social/interpersonal aspects reported lower entrepreneurial aspirations. Unexpectedly, stimulation was unrelated to later entrepreneurial aspirations. Intrinsic rewards were unrelated to entrepreneurial aspirations (recall that we had no hypothesis concerning intrinsic rewards). Thus, Hypothesis 1 was confirmed for all work values except for stimulation.

For leadership aspirations, young adults who placed a higher importance on extrinsic rewards, as well as a lower value on security reported higher leadership aspirations six years later. Whereas the effects of extrinsic rewards and security were similar for both types of aspirations, valuing social/interpersonal relationships predicted higher leadership aspirations but lower entrepreneurial aspirations. Neither intrinsic rewards nor stimulation predicted later leadership aspirations. Thus, Hypotheses 2 received only partial support: Whereas the effects of extrinsic rewards and security were in line with our expectations, the null effect of autonomy and stimulation and the positive (rather than negative) effect of social/interpersonal aspects were unexpected.

[Figure 1]

Additional analyses using single Big Five dimensions instead of the profile yielded virtually identical conclusions concerning our hypotheses. The Big Five dimensions had a very limited predictive power vis-à-vis entrepreneurial and leadership aspirations. Openness predicted higher entrepreneurial intentions in Model 1, but this association vanished once work values were added in Model 2. Extraversion predicted higher leadership intentions, but its effect size halved when work values were added to the model. None of the other Big Five dimensions

predicted aspirations to business leadership. Thus, in the FinEdu data, work values clearly outpredicted Big Five personality traits irrespective of whether these traits were included as a profile or as single dimensions. Table A2 in the supplemental online material provides the results of these additional analyses.

Explaining the Gender Gap in Aspirations to Business Leadership

Can gender differences in work values explain the gender gap in business leadership aspirations? To answer this question, we first analyzed whether, as predicted by Hypothesis 3, there was indeed a gender gap in these aspirations. Figure 2 shows the distributions of the factor score estimates for entrepreneurial and leadership aspirations separately for men and women. Although the distributions overlapped widely, the gender gap was clearly evident for both aspirations. It appeared slightly more pronounced for entrepreneurial than for leadership aspirations, with more females concentrating at the left tail (i.e., at lower levels) of the distribution. The total (unconditional) mean differences between men and women shown in Figure 2 amounted to 0.54 of a standard deviation (*SD*) for entrepreneurial and 0.41 *SD* for leadership aspirations.

[Figure 2]

As per the regression coefficients for gender in Table 3 (Model 1), the gender gap was still present after controlling for all personality, motivational, and sociodemographic predictors. It amounted to 0.28 *SD* in entrepreneurial aspirations and 0.21 *SD* in leadership aspirations. That is, all covariates together accounted for less than half of the total gender gap in both aspirations.

To test whether, as stipulated by Hypothesis 4, gender differences in work values explain these gender gaps in entrepreneurial and leadership aspirations, we first tested for gender differences in work values. Statistically significant ($p < .001$) gender differences in work values emerged in the importance placed on extrinsic rewards, which was 0.28 *SD* higher in males

compared to females, as well as in security and in intrinsic rewards, which were 0.23 *SD* and 0.28 *SD* higher in females, respectively. Differences in autonomy and stimulation (males > females) and social/interpersonal aspects (females > males) were in the expected directions but small and not statistically significant (differences around 0.10 *SD*).

We then assessed the joint (global) contributions of all six work values to these gender gaps. When adding work values to the model (i.e., comparing Model 2 to Model 1 in Table 2), the regression coefficient of gender in predicting entrepreneurial aspirations decreased by $\Delta b = .19$, which represents a 66% reduction of effect size. The regression coefficient of gender in predicting leadership aspirations decreased by $\Delta b = .20$, amounting to a 97% reduction of effect size. The effects of gender on entrepreneurial and leadership aspirations were no longer statistically significant, implying that all work values together almost fully accounted for the part of the gender gap in these aspirations that remained unexplained by all predictors in Model 1.

We next gauged the specific contributions of each work value by testing indirect effects from gender to entrepreneurial and leadership aspirations via work values. Table 4 shows the detailed mediation results (unstandardized coefficients with bootstrapped confidence intervals). Among the specific indirect effects of gender on entrepreneurial aspirations, that via extrinsic rewards (standardized $\beta = -.09$), that via security ($\beta = -.06$), and, albeit only marginally, that via interpersonal relationships ($\beta = -.01$), were significantly different from zero. Similarly, among the specific indirect effects of gender on leadership aspirations, only that via extrinsic rewards ($\beta = -.13$), and that via security ($\beta = 0.06$) were different from zero. The sum of indirect effects of gender via work values was $\beta = -0.16$ for entrepreneurial aspirations and $\beta = -0.18$ for leadership aspirations.

In sum, although clear-cut and marked gender differences in work values emerged only with respect to extrinsic rewards and security (plus intrinsic rewards, which we had not hypothesized), the joint contribution of all work values to the gender gap in entrepreneurial and leadership intentions was very strong, whereby men's higher importance put on extrinsic rewards and security turned out to be the most important drivers of these gender gaps.

Discussion

What motivates young people to aspire to a career as a business leader? In this study, we approached this question by unraveling the role of work values and gender in shaping entrepreneurial aspirations and leadership aspirations. Our analyses in a sample of young adults in their early-to-mid-twenties yielded two main findings that offer novel insights into the role of values as developmental precursors of these aspirations—and a new perspective on the gender differences therein.

Our first finding was that work values (measured at age 21, before most respondents had their first work experience that might influence these values) incrementally predicted entrepreneurial aspirations and leadership aspirations (measured at age 27, when most had transitioned to the labor market) over a range of established antecedents of these aspirations. The combined predictive power of all six work value dimensions was remarkable, given that six years elapsed between the measurement of work values and that of aspirations, with work values incrementally explaining about one-fifth to one-fourth of the variance in these aspirations. Although entrepreneurial and leadership aspirations were only moderately correlated, the pattern of predictive relationships was mostly similar for entrepreneurial and leadership aspirations, with some important qualifications: Among the six work value dimensions examined, especially extrinsic rewards (positively) and security work values (negatively) proved to be powerful

predictors of both entrepreneurial and leadership aspirations. Autonomy predicted entrepreneurial aspirations but not leadership aspirations. Social/interpersonal work values had opposing effects on both types of aspirations, predicting higher leadership aspirations but lower entrepreneurial aspirations. As expected, intrinsic rewards did not predict either aspiration.

This pattern of predictive relationships is consistent with the idea that entrepreneurship requires high autonomy and self-reliance (Geldhof et al., 2014). It is also consistent with accounts portraying entrepreneurs and business leaders/managers as success-driven and achievement oriented (Chan & Drasgow, 2001; Berings et al., 2004; Myyry & Helkama, 2001); and (future) entrepreneurs as somewhat more individualistic and less interpersonally oriented (Berings et al., 2004; Hirschi & Fischer, 2013) and as less security-oriented and more risk-taking (Stewart & Roth, 2001; Hirschi & Fischer, 2013; Zhang & Arvey, 2009). The positive relationship of social/interpersonal work values to leadership aspirations was unexpected but seems plausible, as leadership involves the capacity to inspire and gain respect from others (Hogan & Kaiser, 2005); this is not always the case for entrepreneurs who start an independent company on their own or with a few peers, for whom a crucial drive is having greater autonomy and social distinction. These similarities and differences in work values' links to entrepreneurial and leadership aspirations—along with the strong but far-from-perfect correlation of these intentions in our data—is reminiscent of research comparing managers and entrepreneurs more broadly, where the typical findings is that entrepreneurs and managers share many important personality and motivational characteristics but differ in others (e.g., Brandstätter, 2011; Stewart & Roth, 2001; Zhang & Arvey, 2009; see also Vecchio, 2003).

Our second main finding was that gender differences in work values contribute substantially to the gender gap in aspirations to business leadership. The gender gaps in

entrepreneurial and leadership aspirations emerged clearly from the data, amounting to about half a standard deviation each; all personality, motivational, and sociodemographic factors in the model accounted for less than 50% of this gender gap. Gender differences in all work values (considered jointly) almost fully accounted for the remaining gender gap in these aspirations that could not be explained by the other personality, motivational, and sociodemographic factors in the model. Hereby, gender differences in the importance placed on extrinsic rewards (higher in males) and on security (higher in females) emerged as the most critical mediators. Overall, these results offer a novel and hitherto understudied explanation for the persistent gender gap in aspirations to business leadership: Women, on average, still seek to obtain different rewards from their jobs than men do; the lower value women place on extrinsic rewards as well as the higher value they place on security renders entrepreneurial and managerial roles—which involve risk-taking, uncertainty, and independence—less attractive to them. Our results indicate that work values occupy a central role as a motivational factor explaining the persisting gender gap in entrepreneurial and leadership intentions, supporting similar earlier findings concerning vocational interests (Woods & Hampson, 2010) and specific work motivations (Gino, Wilmuth, & Brooks, 2015; Schuh et al., 2014; Mueller, 2004). These gender differences are likely to reflect the combined influence of socialization experiences, gender stereotypes, gender role expectations, and genetic predispositions (Keller et al., 1992; Wood & Eagly, 2012; Elprana et al., 2015).

Theoretical and Practical Implications

Our findings have theoretical implications. First and foremost, they point to a hitherto understudied, but demonstrably relevant, motivational factor that shapes young people's aspirations: their work values. Personal work orientations, including work values in particular, have long been recognized as important in guiding career choices (Balsamo, Lauriola, & Saggino,

2013; Judge & Bretz, 1992; Holland, 1997; Super, 1980); as our results show, this is also true for career aspirations related to business leadership. At least in this sample, work values played a far more decisive role in shaping these aspirations than more global personality and motivational factors did. We concur with other authors (e.g., Fayolle, Liñán, & Moriano, 2014; Gorgievski et al., 2017; Stoll et al., 2017) that specific work-related motivations such as work values and vocational interests deserve to play a more prominent role in models of entrepreneurship and leadership and associated empirical efforts than they currently do.

Second, our findings highlight gender differences in work values as possible drivers of the gender gap in career aspirations related to business leadership, which persists despite intensified policy efforts to narrow it (Kelley, Brush, Green, & Litovsky, 2011). The gender gap obviously has multiple causes, including structural ones (e.g., human and social capital, family roles, or the makeup of labor market and welfare institutions; Elprana et al., 2015; Hausmann, & Tyson, 2015; Kelley et al., 2011). Yet, in line with Obschonka, Schmitt-Rodermund, and Terracciano (2014), our findings show that gender differences in motivational factors such as work values also play a role in driving the gender gap in career aspirations. This suggests that—beyond socialization, social and situational obstacles for women's access to these roles—personal motivations for work matter (see also Woods & Hampson, 2010; Schuh et al. 2014). At the same time, our results caution that the gender gap in career aspirations should not be overstated (at least not in the Finnish context), as there were still a substantial number of women in our data who do aspire to entrepreneurial and especially leadership roles (Figure 2).

Our results also have potential practical implications. For educators and policymakers interested in identifying the potential future entrepreneurs early on, work values might provide a valuable screening instrument to identify young individuals who are more likely to self-select into

business leader positions. This information can be used to funnel support and encouragement to those individuals, helping them to put their entrepreneurial or leadership aspirations into practice. Work values might also be a possible target for interventions aimed at encouraging women to aspire to business leadership roles. Children and adolescents develop their interests and values in interaction with family members and teachers, media, and peers, which in turn impacts on the conceptions they have of work (including their work values and motivations). Through new experiences (e.g., extracurricular activities, part-time work experiences), they could develop work values that drive them towards leadership and entrepreneurial careers. Although work values are already fairly stable by the time individuals reach young adulthood, some change may occur even in adulthood (Lechner et al. 2017; Jin & Rounds, 2012; Ferriman et al., 2009), and high stability does not preclude the possibility that work values might be changed through intervention even at later ages. Whether such interventions are feasible and effective is matter of investigation for future research.

Limitations and Directions for Future Research

Future research should address some limitations of our study. First, our work value instrument comprised 16 items measuring six work value dimensions. Although we gained precision by looking at narrowly circumscribed work values, rather than broader dimensions, three or more items should ideally measure each work value dimensions to ensure reliability and stable factor structures. Like most work value measures, ours fell short of this rule of thumb for some of the work value dimensions. Future studies could add robustness by using longer scales.

Second, although its two-wave design spanning six years is strength of our study, our data are still correlational, precluding causal interpretations. Studies linking longer-term changes in work values to changes in entrepreneurial and leadership aspirations could yield further insights.

Ultimately, however, the question of causality could only be conclusively resolved by randomized control trials targeting young people's work values and observing the effects of this intervention on later entrepreneurial aspirations and behaviors.

Finally, our study focused on entrepreneurial and leadership aspirations; the FinEdu data did not (yet) allow us to address the question to what extent work values predict actual entrepreneurial and leadership activities. Although research has established substantial correlations between entrepreneurial aspirations and subsequent entrepreneurial behaviours such as venture creation (Kautonen, Gelderen, & Fink, 2015; Obschonka et al., 2010), entrepreneurial or leadership aspirations are perhaps best conceived as *necessary* but not sufficient condition for an actual career as a business leader. Therefore, future research could glean important further insights by investigating how work values relate to actual entrepreneurial and leadership in behaviors and effectiveness. Such research could also shed light on the gender gap by unravelling the interplay between personal and contextual factors that might prevent women from translating aspirations they may have into actual career choices and outcomes. Conceiving of personality and motivational factors as embedded in a larger sociohistorical context that offers specific structural opportunities and constraints is likely to further advance our understanding of how entrepreneurs and leader's careers are made (George, Helson, & John, 2011; Obschonka & Stuetzer, 2017; Obschonka, 2017).

Conclusion

Our study is among the first to examine the role of work values in shaping young adults' career preferences related to business leadership. Work values emerged as strong predictors of entrepreneurial and leadership aspirations over six years—above and beyond the effects of established personality, motivational, and sociodemographic antecedents of these aspirations.

Entrepreneurial and leadership aspirations were partly driven by the same (i.e., a higher importance of extrinsic rewards and of autonomy; a lower importance of security) and partly by different work values (a higher vs. a lower importance of social/interpersonal aspects). Our results also demonstrate that gender differences in work values—especially men's higher average importance placed on extrinsic rewards and lower importance placed on security—contribute strongly to the gender gap in aspirations to business leadership. This offers a novel perspective on how this gender gap emerges—and might ultimately be reduced through interventions. We contend that future research on entrepreneurship and leadership from a career development perspective should assign a more central role to values as a proximal motivational factor guiding young people's career aspirations and choices. Our results can also inform the development of promotion programs that foster youth interest in business leader careers.

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Figure 1. Standardized regression coefficients (with 95% confidence intervals) for the links of the six work value dimensions (measured at age 21) to entrepreneurial and leadership aspirations (measured six years later, at age 27). The underlying latent regression model controls for personality, motivational, and sociodemographic characteristics (for detailed results, see Table 2).

Figure 2. Distribution of the factor scores for entrepreneurial aspirations (left panel) and leadership aspirations (right panel) by gender. The dashed lines represent the sample means for each gender and outcome. The mean for males was fixed at zero for estimation, whereas that for females was freely estimated. The unconditional mean differences (men > women) amounted to 0.54 *SD* in entrepreneurial aspirations and to 0.41 *SD* in leadership aspirations, respectively.

Table 1 *Sociodemographic Profile of the Sample at the two Survey Waves Under Study (T1, T2)*

Background characteristic	T1 (2008/2009)	T2 (2013/2014)
Age in years, <i>M (SD)</i>	20.9 (1.07)	27.0 (1.09)
Female, %	60.6	59.6
Main activity, %		
In education or training	55.7	28
Employed	19.2	54.9
Unemployed	4.5	1.8
Other	15.9	13
Married, %	2.1	16.2
Has kids, %	2.7	16.8
<i>N</i>	1,029	1,137

Note. The number of participants in FinEdu increased between T1 and T2 because respondents who could not be located and/or refused to participate in T1 could be successfully re-included at T2.

Table 2 *EFA Loadings of the 16 Work Value Items on the Six Work Value Dimensions*

	"My career choice is particularly influenced by the fact that the job offers..."	Work value dimension					
		I	II	III	IV	V	VI
		Extrinsi c rewards	Securit y	Intrinsi c rewards	Autono my	Social/ interper sonal	Stimulatio n
1	Good pay	.68	.33	-.02	.02	-.08	.09
2	Respect	.45	.07	.30	.19	.30	-.01
3	Good opportunities for upgrading and promotion	.70	.12	.09	.07	.01	.31
4	convenient work hours and good physical working conditions	.18	.52	.13	.05	.21	-.16
5	work that offers promising employment prospects	.35	.54	.10	.01	.16	.03
6	a lot of opportunity to learn new things	.23	.08	.60	.10	.16	.27
7	work that is interesting	.06	-.07	.69	-.05	.14	.23
8	Work that is important and valuable to me	-.01	.04	.62	.17	.41	.08
9	Good match between my job requirements and my abilities and experience	.09	.18	.66	.17	.09	.02
1	work where I make the decisions independently	.16	.07	.09	.80	-.07	.17
1	a lot of autonomy (I decide how to do my work)	.12	-.02	.30	.66	-.10	.16
1	work where I can help other people	.15	.00	.18	-.08	.76	.23
1	work where I can work together with others	.15	.24	.41	-.06	.46	.02
1	good interpersonal relations (supervisor, co-workers)	-.08	.13	.20	-.02	.65	.06
1	exciting work	.20	-.14	.15	.22	.15	.72
1	a lot of variety	.18	.01	.45	.10	.17	.55

Note. Values are standardized factor loadings (in EFA metric). Relevant loadings defining each factor ($\lambda > .40$) are set

in bold.

Table 3 *Predicting Entrepreneurial and Leadership Aspirations From Work Values*

	Entrepreneurial Aspirations at T2 (2013/2014)		Leadership Aspirations at T2 (2013/2014)	
	Model 1	Model 2	Model 1	Model 2
<i>Work values at T1 (2008/2009)</i>				
Extrinsic rewards		0.33*** (0.06)		0.46*** (0.06)
Security		-0.27*** (0.07)		-0.28*** (0.07)
Intrinsic rewards		0.04 (0.07)		0.07 (0.07)
Autonomy		0.12** (0.04)		0.07 (0.04)
Social/interpersonal		-0.12* (0.05)		0.11* (0.05)
Stimulation		0.02 (0.06)		-0.08 (0.06)
<i>Gender (ref: male)</i>	-0.28*** (0.03)	-0.09 (0.06)	-0.21*** (0.03)	-0.01 (0.06)
<i>Covariates at T1 (2008/2009)</i>				
Age in years at T1	-0.11** (0.03)	-0.09* (0.04)	-0.06 (0.03)	-0.02 (0.04)
Educational attainment	0.02 (0.04)	-0.07 (0.06)	0.08* (0.04)	-0.03 (0.06)
Self-esteem	-0.05 (0.05)	0.02 (0.07)	0.10* (0.05)	0.13 (0.07)
Need for achievement	0.09 (0.05)	0.02 (0.08)	0.13** (0.05)	0.03 (0.08)
Risk taking	0.01 (0.05)	0.02 (0.06)	0.03 (0.04)	0.03 (0.06)
Parental role models	0.06 (0.04)	0.05 (0.04)	0.01 (0.05)	-0.01 (0.05)
“Entrepreneurial” personality profile	0.09* (0.04)	-0.01 (0.05)	0.23*** (0.04)	0.10* (0.05)
R ²	.10	.28	.16	.42

Note. N = 1,304. Cell values are standardized regression coefficients with standard errors in parentheses.
***p < 0.001, **p < 0.01, *p < 0.05.

Table 4

Detailed Results: Indirect Effects of Gender on Entrepreneurial and Leadership Intentions Via Work Values

	Entrepreneurial Aspirations 2013/14			Leadership Aspirations 2013/14		
	<i>b</i>	CI _{95%}	β	<i>b</i>	CI _{95%}	β
Effects of gender (reference: male)						
Specific indirect effects via...						
Extrinsic rewards	-0.16**	[-0.35, -0.08]	-0.09	-0.25**	[-0.55, -0.14]	-0.13
Security	-0.11*	[-0.29, -0.04]	-0.06	-0.12*	[-0.29, -0.04]	-0.06
Intrinsic rewards	0.02	[-0.08, 0.11]	0.01	0.04	[-0.08, 0.14]	0.02
Autonomy	-0.02	[-0.08, 0.00]	-0.01	-0.01	[-0.06, 0.00]	-0.01
Social/interpersonal	-0.02	[-0.06, 0.00]	-0.01	0.02	[-0.00, 0.07]	0.01
Stimulation	0.00	[-0.01, 0.04]	0.00	-0.01	[-0.04, 0.00]	-0.01
Sum of indirect effects	-0.28**	[-0.62, -0.16]	-0.16	-.34**	[-0.82, -0.17]	-0.18

* $p < .05$, ** $p < .01$, *** $p < .001$.

Note. Confidence intervals for unstandardized coefficients (*b*) are from a bias-corrected bootstrap with 1,000 random draws.

Highlights

- Work values strongly predict later entrepreneurial aspirations and leadership aspirations
- The pattern of relationships was similar but not identical for both aspirations
- There is a gender gap in both entrepreneurial aspirations and leadership aspirations
- Gender differences in work values contribute to the gender gap in these aspirations

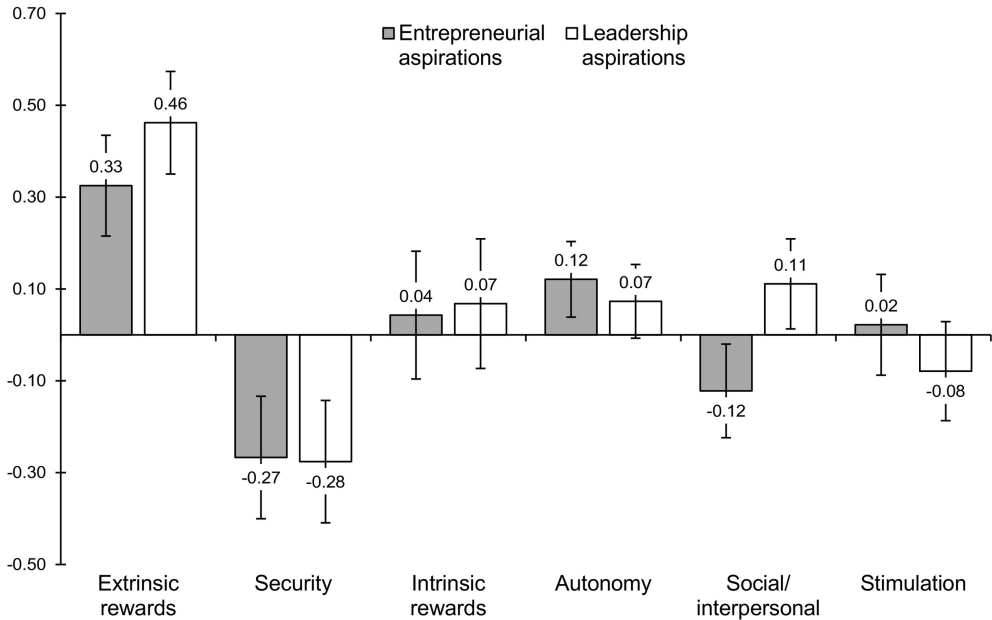


Figure 1

Entrepreneurial aspirations

Leadership aspirations

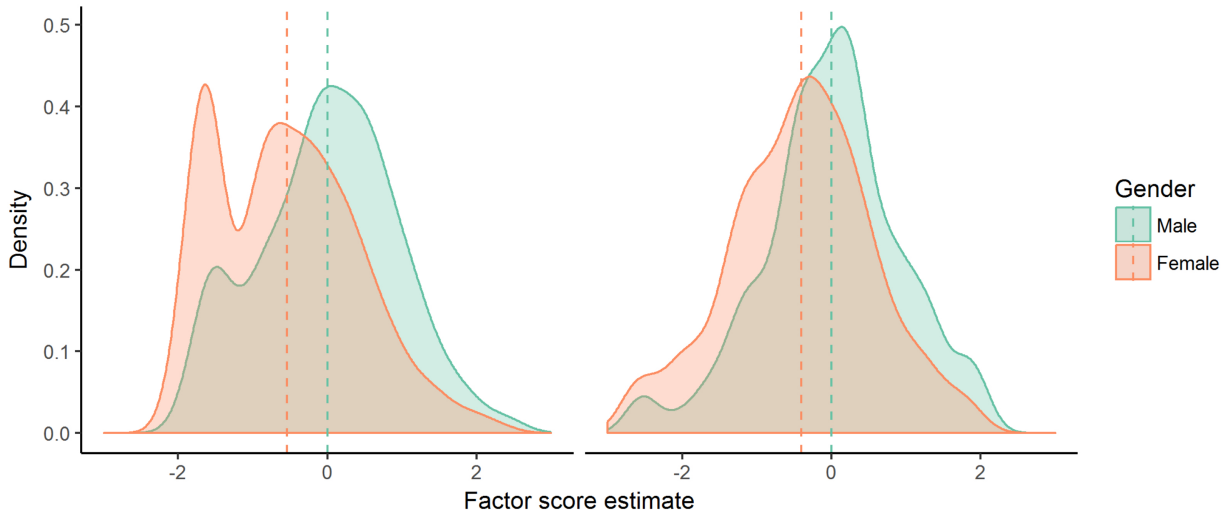


Figure 2