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# Longitudinal bidirectional associations between personality and becoming a leader

Eva Asselmann, Elke Holst, Jule Specht

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# Longitudinal bidirectional associations between personality and becoming a leader

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## Abstract

**Objective:** Leaders differ in their personalities from non-leaders. However, when do these differences emerge? Are leaders “born to be leaders” or does their personality change in preparation for a leadership role and due to increasing leadership experience?

**Method:** Using data from the German Socio-Economic Panel Study, we examined personality differences between leaders ( $N = 2683$  leaders, women:  $n = 967$ ; 36.04%) and non-leaders ( $N = 33,663$ ) as well as personality changes before and after becoming a leader.

**Results:** Already in the years before starting a leadership position, leaders-to-be were more extraverted, open, emotionally stable, conscientious, and willing to take risks, felt to have greater control, and trusted others more than non-leaders. Moreover, personality changed in emergent leaders: While approaching a leadership position, leaders-to-be (especially men) became gradually more extraverted, open, and willing to take risks and felt to have more control over their life. After becoming a leader, they became less extraverted, less willing to take risks, and less conscientious but gained self-esteem.

**Conclusions:** Our findings suggest that people are not simply “born to be leaders” but that their personalities change considerably in preparation for a leadership role and due to leadership experience. Some changes are transient, but others last for a long time.

## KEYWORDS

Big Five, development, leadership, manager, occupational success

## 1 | INTRODUCTION

Leaders play a crucial role in organizational success and growth. They take landmark decisions, manage different projects and teams, and ideally inspire and support their subordinates to fully unfold their potentials. According to previous research, leadership success not only depends

on professional expertise but also on personality (Bono & Judge, 2004; Judge et al., 2009; Judge, Bono, et al., 2002), and leaders differ in their personality from employees in non-leadership positions (Boudreau et al., 2001; Caliendo et al., 2012; Fietze et al., 2009; Furnham & Crump, 2015; Li et al., 2011; Moutafi et al., 2007; Wells et al., 2016). However, when these differences arise remain unresolved.

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Are leaders more or less “born to be leaders”? Or does their personality change in preparation for a leadership role and/or due to increasing leadership experience?

Based on data from a nationally representative panel study from Germany ( $N = 33,663$ ; leaders:  $N = 2683$ ), this study focuses on the association between leadership emergence and personality development. Specifically, we investigate (a) personality differences between leaders and non-leaders as well as (b) nuanced personality changes in leaders before and after starting a leadership position. We consider a variety of personality traits (i.e., the Big Five, perceived control, self-esteem, risk willingness, trust, tendency to forgive, and reciprocity) and also focus on gender differences.

### 1.1 | Why personality?

In a narrow sense, personality can be well described with the Big Five personality traits extraversion, openness to experience, emotional stability, conscientiousness, and agreeableness (McCrae & Costa, 2008). In a broader sense, personality also includes other traits such as perceived control, self-esteem, risk willingness, trust, tendency to forgive, or positive and negative reciprocity (Kandler et al., 2014). Personality traits are relatively stable across time but can change due to environmental experiences (Bleidorn et al., 2018; Denissen et al., 2019; Specht et al., 2011; Stieger et al., 2021). Previous findings suggest that major life events and transitions in the domain of work play a crucial role for personality development (Bleidorn et al., 2018; Nye & Roberts, 2019).

### 1.2 | Personality differences between leaders and non-leaders

On average, personality differs between leaders and employees in non-leadership positions (Boudreau et al., 2001; Caliendo et al., 2012; Fietze et al., 2009; Furnham & Crump, 2015; Judge, Bono, et al., 2002; Li et al., 2011; Moutafi et al., 2007; Wells et al., 2016). With respect to the Big Five, leaders tend to be more extraverted, open, emotionally stable, and conscientious but less agreeable than non-leaders (Boudreau et al., 2001; Fietze et al., 2009; Furnham & Crump, 2015; Judge, Bono, et al., 2002; Moutafi et al., 2007; Wells et al., 2016). Leaders are further characterized by higher perceived control (Kerr et al., 2019), self-esteem (Li et al., 2011), risk willingness (Fietze et al., 2009; Kerr et al., 2019), trust (Caliendo et al., 2012), and positive reciprocity as well as lower negative reciprocity (Caliendo et al., 2012).

However, it remains an open question where these personality differences come from: Do they result from **selection effects** because individuals with certain predisposing

personality traits are more likely to become leaders (e.g., because their probability is higher to self-select or be promoted into leadership positions)? Or do they result from **personality changes** before and/or after starting a leadership position (e.g., because emergent leaders prepare for a leadership role in advance and adjust to their leadership responsibilities over time)?

In line with research on personality-situation transactions and person-environment fit (Cable & Edwards, 2004; Edwards et al., 1998), all these ideas appear plausible because personality and work are reciprocally connected and influence each other over time (Hudson et al., 2012; Hudson & Roberts, 2016; Nye & Roberts, 2019; Woods et al., 2019). That is, people tend to select into (work) environments that match their personality. At the same time, these (work) environments affect their thoughts, feelings, and behavior, which might trigger personality development (Denissen et al., 2014).

### 1.3 | Selection effects

Several personality characteristics have been associated with higher job satisfaction, motivation, performance, and occupational success (Furnham, 2018; Judge & Bono, 2001; Judge, Heller, & Mount, 2002) as well as with leadership emergence and effectiveness (Judge et al., 2009; Judge, Bono, et al., 2002). These characteristics include especially higher extraversion but also higher openness, emotional stability, and conscientiousness<sup>1</sup> (Duckworth et al., 2019; Judge, Bono, et al., 2002; Judge, Heller, & Mount, 2002; Wilmot & Ones, 2019), perceived control (Judge & Bono, 2001; Ng et al., 2006; Wang et al., 2010), self-esteem (Bowling et al., 2010; Judge & Bono, 2001), risk willingness (Colquitt et al., 2007), trust (Dirks & Ferrin, 2002), tendency to forgive (Fehr & Gelfand, 2012), as well as higher positive and lower negative reciprocity (Greco et al., 2019). Therefore, these traits might predict a higher probability of becoming a leader. Specifically, people with higher levels on these traits might be more likely to search for and self-select into jobs with leadership tasks. At the same time, they might have a greater chance to be hired for and be promoted into leadership positions (e.g., in personnel selection) (Lievens & Johnson, 2017).

### 1.4 | Personality changes before and after becoming a leader

Certain work experiences have been associated with changes in specific personality traits, most notably conscientiousness (Asselmann & Specht, 2021a; Bleidorn et al., 2018; Nye & Roberts, 2019; Specht et al., 2011).

For example, conscientiousness tends to increase when people start working but decreases when people retire (Asselmann & Specht, 2021a; Specht et al., 2011).

The Social Investment Principle (Roberts & Wood, 2006) posits that major life events and transitions often lead to new social roles and that heightened psychological and behavioral investments in these roles might trigger personality development. For instance, leaders typically need to guide different projects and people, instruct others, and represent their teams internally and externally. As suggested by research on personality development and social investments at work (Hudson et al., 2012), behaving in line with these role expectations might lead to an increase of specific personality traits (e.g., extraversion) over time.

In line with the Correspondive Principle (Roberts et al., 2003), selection effects and transition-related personality changes often correspond (Nye & Roberts, 2019; Woods et al., 2019). That is, people tend to select (work) environments that match and thus reinforce their personality, leading to an increased person-environment fit. Therefore, specific personality traits might not only increase the likelihood of becoming a leader but also accentuate in preparation and reaction to this transition. For instance, extraverted people might be more likely to self-select and be promoted into leadership positions and, at the same time, become even more extraverted in the surrounding years (i.e., due to their leadership responsibilities).

However, how personality changes before and after becoming a leader has received little attention so far. Li et al. (2020) used data from the National Survey of Midlife in the United States (MIDUS) and the Household, Income, and Labor Dynamics in Australia (HILDA) Survey. They compared employees who did versus did not start a leadership position with respect to changes in conscientiousness and emotional stability over three waves, each spaced 10 (MIDUS) or 4 years (HILDA) apart. They found that employees who did versus did not become leaders during the study more strongly increased in conscientiousness. Becoming a leader, however, was unrelated to changes in emotional stability.

Nieß and Zacher (2015) also used data from the HILDA Survey to compare employees who did versus did not start a leadership position with respect to Big Five personality changes over two waves, spaced 4 years apart. They found that more open employees were more likely to become leaders in the following years (selection effect). In line with the Correspondive Principle (Roberts et al., 2003), their findings further revealed that employees who did versus did not start a leadership position more strongly increased in openness in the surrounding years (transition-related personality change). However, no associations with other personality traits were found.

## 1.5 | Open questions

Taken together, previous findings suggest that people with certain personality traits (e.g., higher extraversion, openness, emotional stability, and conscientiousness) might be more likely to become leaders and that some of these traits (e.g., openness and conscientiousness) might accentuate around this transition. However, when do such trait changes occur? Do they already start before becoming a leader (e.g., because emerging leaders invest more time and efforts into their career and prepare for their new role)? Or does personality change mainly after taking on a leadership position (e.g., due to new role demands)? How long does it take to adjust to the new role? Do personality changes occur immediately (e.g., because new leaders adopt their new role right away) or unfold gradually over long periods of time (e.g., due to accumulating leadership experience)? Do personality changes in emergent leaders last for several years or are they transient and attenuate in the long run? For example, based on Set-Point Theory (Ormel et al., 2017), it would be plausible to assume that personality traits only change in the short term but bounce back to their baseline levels later on (e.g., after the first year of being a leader).

## 2 | DIFFERENCES BETWEEN WOMEN AND MEN

Assessing leadership personalities requires taking potential differences between women and men into account. Role Congruity Theory posits that female (versus male) gender stereotypes are less congruent with leadership roles, which may lead to less positive perceptions and evaluations of female (versus male) leaders (Eagly & Karau, 2002). Consistent with these ideas, past studies found that women and men not only differed in their leadership behavior (Eagly & Johnson, 1990) but were also evaluated differently (Bass & Bass, 2009; Eagly et al., 1992). For instance, women tended to lead in a more participative but less directive way (Eagly & Johnson, 1990) and were more often devalued when behaving in line with a stereotypically masculine (e.g., directive) leadership style (Eagly et al., 1992). Thus, it is plausible to assume that becoming a leader relates to gender-specific challenges and that selection effects as well as personality changes before and after starting a leadership position differ between women and men.

### 2.1 | Aims

Based on data from the German Socio-Economic Panel Study (SOEP), this study investigates how becoming a

leader relates to personality development. In the total sample, we examine whether leaders differ in their personality from non-leaders in the years before (selection effects) and after (post-transition differences) becoming a leader.

In leaders, we further analyze personality changes from 5 years before until 5 years after becoming a leader. Specifically, we model anticipation effects (i.e., gradual personality trait changes in the 5 years before becoming a leader) and socialization effects (i.e., gradual personality trait changes in the 5 years before becoming a leader). Moreover, abrupt and transient trait changes in the first year as well as enduring trait changes beyond the first year of being a leader, are taken into account. To this end, we analyze personality differences in the first year of being a leader compared to all other years (short-term post-transition effects) and personality differences after the first year of being a leader compared to all previous years (long-term post-transition effects). We test for potential differences between women and men. The hypotheses are not preregistered and conducted exploratorily.

## 3 | METHODS

### 3.1 | Study sample

We used data from the Socio-Economic Panel Study (SOEP), a nationally representative household panel study from Germany with multistage probability sampling. The SOEP started in 1984 and is still ongoing. In this paper, we consider information until 2018, the most recent wave so far. Data were collected yearly and mostly stem from face-to-face interviews with all adult members of the target households. To counteract attrition, to increase the overall sample size, and to allow for detailed sub-group analyses, the sample is regularly replenished with refreshment cohorts. More detailed information on the SOEP (including the sample structure, subsamples, and panel attrition) has been previously presented (Goebel et al., 2019; Kroh et al., 2018) and can be found at <https://paneldata.org/soep-core>. All procedures and measures collected in the SOEP are described at <https://data.soep.de/soep-core>. A summary of previous SOEP publications can be found at [https://www.diw.de/sixcms/detail.php?id=diw\\_02.c.298578.en](https://www.diw.de/sixcms/detail.php?id=diw_02.c.298578.en). The SOEP data are available from the DIW Berlin after signing a data distribution contract ([https://www.diw.de/en/diw\\_02.c.222829.en/access.html](https://www.diw.de/en/diw_02.c.222829.en/access.html)). Thus, they cannot be made available directly via an open accessible online repository. Because our study only involved secondary analyses of anonymized SOEP

data provided by the DIW Berlin, ethical approval was not required.

### 3.2 | Assessment of leadership

Panel members were yearly asked about their employment status. In people who were employed at the time of the survey, their occupation was assessed from 1984 until 2017 with the International Standard Classification of Occupations from 1988 (ISCO-88) (International Labor Office, 1990).<sup>2</sup> The ISCO-88 system enables to organize jobs into clearly defined groups according to their tasks and duties. We distinguished between leaders (with occupations of ISCO-88 group 1) and non-leaders (with occupations that fall into other ISCO-88 groups).

### 3.3 | Assessment of personality

In the SOEP, not only sociodemographic data but also personality traits were assessed repeatedly in different years. These traits are considered herein. The **Big Five** openness, conscientiousness, extraversion, agreeableness, and emotional stability were assessed in 2005, 2009, 2013, and 2017 with the BFI-S, a short version of the Big Five Inventory (John et al., 1991, 2008; Lang et al., 2011). The BFI-S has 15 items (three items per trait), labeled from 1 (“strongly disagree”) to 7 (“strongly agree”).

**Perceived control** was assessed in 1999, 2005, 2010, and 2015 with seven items (“How my life goes depends on myself.”; “Compared to others I have not achieved what I deserved.”; “What one achieves in life is mainly a question of luck or fate.”; “I often have the experience that others make decisions with respect to my life.”; “When I encounter difficulties I have doubts about my abilities.”; “The opportunities I have in life are determined by social conditions.”; “I have little control over the things that happen in my life.”). These items were labeled from 1 (“strongly agree”) to 5 (“strongly disagree”) in 1999 and labeled from 1 (“strongly disagree”) to 7 (“strongly agree”) in all other years. In line with previous research (Specht et al., 2013), we projected the scale from 1999 to the scale from 2005 to allow for comparisons across different waves (values 1, 2, 3, and 4 from 1999 were recoded to 1, 3, 5, and 7, respectively).

**Self-esteem** was assessed in 2010 and 2015 with a single-item measure (“To what degree does the following statement apply to you personality: I have a positive attitude toward myself.”), labeled from 1 (“does not apply to me at all”) to 7 (“applies to me perfectly”), based on the Rosenberg Self-Esteem Scale (Robins et al., 2001).

**Risk willingness** was assessed in 2004 and 2006 as well as yearly from 2008 until 2018 with a single-item measure

(“How do you see yourself: Are you generally a person who is very willing to take risks or do you try to avoid taking risks?”), labeled from 0 (“not at all willing to take risks”) to 10 (“very willing to take risks”) (Dohmen et al., 2005).

**Trust** was assessed in 2003, 2008, 2013, and 2018 with a three-item measure (“On the whole, one can trust people.”; “Nowadays one can’t depend on anyone.”; “When dealing with strangers, it is better to be cautious before trusting them.”), labeled from 1 (“agree completely”) to 4 (“disagree completely”) (Dohmen et al., 2008; Naef & Schupp, 2009). The measure is based on the scales used in the General Social Survey and World Values Survey (one item, item 2, was added).

**Tendency to forgive** was assessed in 2010 and 2015 with the German version of the Tendency to Forgive Scale (Brown, 2003; Weinhardt & Schupp, 2011). The scale has four items (“When someone hurts my feelings, I get over it relatively quickly.”; “When somebody has wronged me, I often think about it for quite a while.”; “I tend to bear grudges.”; “When other people wrong me, I try to just forgive and forget.”), labeled from 1 (“does not apply to me at all”) to 7 (“applies to me perfectly”).

**Reciprocity** was assessed in 2005, 2010, and 2015 with the German short version of the Personal Norm of Reciprocity Questionnaire (Dohmen et al., 2008, 2009; Perugini et al., 2003). The scale has three items to measure positive reciprocity (“If someone does me a favor, I am prepared to return it.”; “I go out of my way to help somebody who has been kind to me in the past.”; “I am ready to assume personal costs to help somebody who has helped me in the past.”), and three items to measure negative reciprocity (“If I suffer a serious wrong, I will take revenge as soon as possible, no matter what the cost.”; “If somebody puts me in a difficult position, I will do the same to him/her.”; and “If somebody offends me, I will offend him/her back.”), labeled from 1 (“does not apply to me at all”) to 7 (“applies to me perfectly”).

### 3.4 | Statistical analysis

Individuals were considered who (a) provided any information on their personality in any year and (b) indicated their current occupation (according to ISCO-88) at least twice during the entire study ( $N = 33,663$ ). We distinguished between leaders, who started their first leadership position during the study ( $N = 2683$ ), and non-leaders, who never were in a leadership position throughout the entire study ( $N = 30,980$ ). Individuals who were or had been in a leadership position when they entered the study were excluded from the analyses. Table S1 of the SI Appendix shows how many participants of the total sample ( $N = 33,663$ ; women:  $N = 16,915$ ; 50.25%) as well as how many leaders ( $N = 2683$ ;

women:  $N = 967$ ; 36.04%) and non-leaders ( $N = 30,980$ ; women:  $N = 15,948$ ; 51.48%) provided information on the respective personality trait. Missing data were not imputed.

Stata 15 (StataCorp, 2017) was used for the analyses. Openly accessible data analysis scripts are attached as supplemental material. In leaders, we coded the year in which they took on a leadership role relative to the years in which they provided information on the respective personality trait. Afterward, we transformed the data from wide to long format to combine within- and between-person information and thus obtain fine-grained information on the respective personality trait in different years before and after becoming a leader. In line with previous studies (Asselmann & Specht, 2020a, 2020b, 2021b; Denissen et al., 2019), we applied multilevel analyses with measurement occasions (Level 1) nested within persons (Level 2), built separate models per trait and modeled the effects as fixed effects.

In the total sample, we investigated personality differences between leaders and non-leaders. Specifically, we regressed the standardized score of the respective personality trait on a categorical selection/post-transition difference variable to test for selection effects and post-transition differences. In leaders only, we further examined nuanced personality changes from 5 years before until 5 years after becoming a leader. Specifically, we regressed the standardized score of the respective personality trait on four transition-related predictors to model anticipation, socialization, as well as short- and long-term post-transition effects. Each model was adjusted for gender (to account for differences between women and men), linear, quadratic, and cubic age (to account for continuous and discontinuous age effects), and testing effects (to account for effects due to repeated personality assessments). To test for differences between women and men, we repeated the main analyses and added interaction terms between the respective transition-related predictor and gender. Table S2 of the SI Appendix summarizes how each predictor was defined and coded. For each trait, the number of observations per cell and predictor is shown in Table S3 of the SI Appendix. The alpha level was set at .05. We did not control for multiple testing because each analysis refers to another research question (Savitz & Olshan, 1995).

## 4 | RESULTS

### 4.1 | Personality differences between leaders and non-leaders

As shown in Table 1, people who became leaders in the following years differed considerably in their personality from non-leaders (selection effects). Specifically,

TABLE 1 Personality differences between leaders ( $N = 2683$ ) and non-leaders ( $N = 30,980$ ) in the total sample ( $N = 33,663$ )

	Openness		Conscientiousness		Extra-version		Agreeableness		Emotional stability		Perceived control		Self-esteem		Risk willingness		Trust		Tendency to forgive		Positive reciprocity		Negative reciprocity		
	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	
Number of observations	57,407		57,421		57,421		57,427		57,420		56,583		31,065		205,559		62,275		31,120		46,101		46,082		
Intercept	-0.016 (0.007)	0.102 <sup>*</sup> (0.007)	0.005 (0.007)	-0.010 (0.007)	-0.003 (0.007)	-0.009 (0.007)	0.003 (0.009)	-0.033 <sup>*</sup> (0.005)	0.007 (0.007)	-0.022 <sup>*</sup> (0.008)	0.020 <sup>*</sup> (0.007)	0.007 (0.007)	-0.030 <sup>*</sup> (0.010)	0.012 (0.011)	0.022 <sup>*</sup> (0.011)	0.020 <sup>*</sup> (0.007)	0.007 (0.007)	-0.022 <sup>*</sup> (0.008)	0.007 (0.007)	-0.022 <sup>*</sup> (0.008)	0.020 <sup>*</sup> (0.007)	0.020 <sup>*</sup> (0.007)	-0.059 <sup>*</sup> (0.007)	-0.059 <sup>*</sup> (0.007)	
Gender (men vs. women)	-0.181 <sup>*</sup> (0.011)	-0.161 <sup>*</sup> (0.011)	-0.241 <sup>*</sup> (0.011)	-0.305 <sup>*</sup> (0.011)	0.388 <sup>*</sup> (0.011)	0.060 <sup>*</sup> (0.010)	0.153 <sup>*</sup> (0.012)	0.343 <sup>*</sup> (0.009)	-0.030 <sup>*</sup> (0.010)	0.337 <sup>*</sup> (0.012)	0.022 <sup>*</sup> (0.011)	0.007 (0.008)	-0.004 (0.006)	0.050 <sup>*</sup> (0.008)	-0.011 (0.007)	0.022 <sup>*</sup> (0.007)	-0.031 <sup>*</sup> (0.007)	0.050 <sup>*</sup> (0.008)	-0.004 (0.006)	0.050 <sup>*</sup> (0.008)	-0.011 (0.007)	0.022 <sup>*</sup> (0.007)	-0.031 <sup>*</sup> (0.007)	0.301 <sup>*</sup> (0.011)	0.301 <sup>*</sup> (0.011)
Linear age	0.002 (0.006)	0.052 <sup>*</sup> (0.006)	-0.074 <sup>*</sup> (0.006)	0.019 <sup>*</sup> (0.006)	-0.014 <sup>*</sup> (0.006)	-0.062 <sup>*</sup> (0.006)	0.007 (0.008)	-0.095 <sup>*</sup> (0.004)	0.007 (0.008)	0.050 <sup>*</sup> (0.008)	-0.011 (0.007)	0.007 (0.008)	-0.004 (0.006)	0.050 <sup>*</sup> (0.008)	-0.011 (0.007)	0.022 <sup>*</sup> (0.007)	-0.031 <sup>*</sup> (0.007)	0.050 <sup>*</sup> (0.008)	-0.004 (0.006)	0.050 <sup>*</sup> (0.008)	-0.011 (0.007)	0.022 <sup>*</sup> (0.007)	-0.031 <sup>*</sup> (0.007)	0.018 <sup>*</sup> (0.002)	0.018 <sup>*</sup> (0.002)
Quadratic age	0.007 (0.002)	-0.059 <sup>*</sup> (0.002)	-0.001 (0.002)	0.005 (0.002)	-0.002 (0.002)	-0.010 (0.002)	-0.003 (0.003)	0.022 (0.001)	-0.010 (0.002)	0.011 (0.003)	-0.012 (0.002)	-0.003 (0.003)	0.003 (0.003)	0.022 (0.001)	-0.010 (0.002)	0.011 (0.003)	-0.012 (0.002)	0.011 (0.003)	-0.010 (0.002)	0.011 (0.003)	-0.012 (0.002)	0.011 (0.003)	-0.012 (0.002)	0.018 <sup>*</sup> (0.002)	0.018 <sup>*</sup> (0.002)
Cubic age	-0.003 (0.001)	0.012 <sup>*</sup> (0.001)	0.002 (0.001)	0.003 (0.001)	0.000 (0.001)	0.007 (0.001)	0.004 (0.001)	-0.006 (0.001)	0.007 (0.001)	-0.002 (0.001)	0.006 (0.001)	0.004 (0.001)	-0.006 (0.001)	0.006 (0.001)	-0.002 (0.001)	-0.002 (0.001)	0.006 (0.001)	-0.002 (0.001)	-0.000 (0.001)	-0.002 (0.001)	0.006 (0.001)	0.006 (0.001)	-0.004 (0.001)	-0.004 (0.001)	
Testing	-0.003 (0.004)	-0.075 <sup>*</sup> (0.004)	0.002 (0.004)	-0.052 (0.004)	0.043 (0.004)	-0.033 (0.004)	-0.051 (0.011)	0.007 (0.001)	-0.033 (0.004)	0.056 <sup>*</sup> (0.004)	-0.050 (0.010)	-0.051 (0.011)	0.007 (0.001)	0.056 <sup>*</sup> (0.004)	-0.050 (0.010)	-0.055 (0.006)	-0.047 (0.006)	-0.050 (0.010)	0.056 <sup>*</sup> (0.004)	-0.050 (0.010)	-0.055 (0.006)	-0.047 (0.006)	-0.047 (0.006)	-0.047 (0.006)	
Selection	0.148 (0.027)	0.097 <sup>*</sup> (0.027)	0.201 <sup>*</sup> (0.027)	-0.035 (0.028)	0.098 <sup>*</sup> (0.027)	0.239 (0.024)	0.058 (0.040)	0.177 (0.019)	0.239 (0.024)	0.139 <sup>*</sup> (0.025)	-0.012 (0.039)	0.058 (0.040)	0.177 (0.019)	0.139 <sup>*</sup> (0.025)	-0.012 (0.039)	0.018 (0.029)	0.001 (0.028)	-0.012 (0.039)	0.139 <sup>*</sup> (0.025)	-0.012 (0.039)	0.018 (0.029)	0.018 (0.029)	0.001 (0.028)		
Post-transition difference	0.167 (0.020)	0.054 <sup>*</sup> (0.020)	0.180 <sup>*</sup> (0.020)	-0.047 (0.020)	0.121 <sup>*</sup> (0.020)	0.247 (0.020)	0.067 (0.024)	0.180 <sup>*</sup> (0.016)	0.247 (0.020)	0.119 <sup>*</sup> (0.020)	0.051 <sup>*</sup> (0.023)	0.067 (0.024)	0.180 <sup>*</sup> (0.016)	0.119 <sup>*</sup> (0.020)	0.051 <sup>*</sup> (0.023)	0.042 (0.021)	-0.003 (0.021)	0.051 <sup>*</sup> (0.023)	0.042 (0.021)	0.051 <sup>*</sup> (0.023)	0.042 (0.021)	-0.003 (0.021)			

Note: *b* = coefficient from multilevel mixed-effect models. Standard errors are in parenthesis. Positive coefficients indicate higher trait levels in leaders versus non-leaders. The effect sizes of individual predictors are comparable across different models and personality traits due to their standardization in the total sample.

\* $p < .05$ .

leaders-to-be were more extraverted, open, emotionally stable, conscientious, and willing to take risks, felt to have greater control, and trusted others more compared to non-leaders.

The same personality differences were found between people who had already started a leadership position and non-leaders (post-transition differences). In addition, leaders were less agreeable but had higher levels of self-esteem, tendency to forgive, and positive reciprocity than non-leaders.

#### 4.1.1 | Differences between women and men

Examining interactions with gender revealed that the post-transition difference for agreeableness differed between women and men ( $b = 0.128$ ;  $SE = 0.041$ ;  $p = .002$ ). That is, female leaders were less agreeable than female non-leaders ( $b = -0.131$ ;  $SE = 0.032$ ;  $p < .001$ ), but agreeableness did not differ between male leaders and male non-leaders.

Moreover, the post-transition difference for perceived control differed between women and men ( $b = 0.108$ ;  $SE = 0.041$ ;  $p = .009$ ). That is, both male and female leaders felt to have greater control than same-sex non-leaders, but this difference between leaders and non-leaders was more pronounced in men ( $b = 0.295$ ;  $SE = 0.025$ ;  $p < .001$ ) compared to women ( $b = 0.168$ ;  $SE = 0.033$ ;  $p < .001$ ).

### 4.2 | Personality changes before and after becoming a leader

Personality changes before and after becoming a leader are shown in [Table 2](#) and [Figure 1](#). In the 5 years before starting a leadership position, leaders-to-be became gradually more extraverted, open, and willing to take risks and felt to have more control over their life (anticipation effects).

In and after the first year of being a leader, leaders were less extraverted than before (short- and long-term post-transition effects). Moreover, leaders became gradually less conscientious and less willing to take risks but gained self-esteem in the 5 years after starting a leadership position (socialization effects). Agreeableness, emotional stability, trust, tendency to forgive, and reciprocity did not change in emergent leaders.

#### 4.2.1 | Differences between women and men

The anticipation effect on extraversion differed between women and men ( $b = 0.088$ ;  $SE = 0.041$ ;  $p = .032$ ). That is, only male (but not female) leaders-to-be became gradually

more extraverted in the 5 years before starting a leadership position ( $b = 0.092$ ;  $SE = 0.029$ ;  $p = .001$ ).

Besides, the socialization effect on openness differed between women and men ( $b = 0.054$ ;  $SE = 0.027$ ;  $p = .047$ ) but was neither significant in women nor men, so we do not discuss this interaction further.

## 5 | DISCUSSION

Our main findings are as follows: Already before starting a leadership position, leaders were more extraverted, open, emotionally stable, conscientious, and willing to take risks, felt to have greater control, and trusted others more than non-leaders. Over and above these selection effects, personality changed in emergent leaders: Leaders-to-be became more extraverted, open, and willing to take risks and also felt to have more control while approaching a leadership position. After becoming a leader, they became less extraverted, less willing to take risks, and less conscientious but gained self-esteem.

### 5.1 | Personality differences between leaders and non-leaders

We found that leaders differed from non-leaders in many personality traits, and these differences were already seen a long time *before* they transitioned into leadership roles. For example, leaders were more extraverted and more open than non-leaders, and this was already true *before* they started a leadership position.

These findings highlight the importance of selection effects: To some notable extent, people already have specific leadership traits *before* being leaders. Due to these traits, their chance to acquire and maintain a leadership position might be higher. For instance, more extraverted people might feel better and have more success when instructing others and representing a team (Judge et al., 2009; Judge, Bono, et al., 2002). Therefore, their probability might be higher to self-select and be promoted into leadership positions.

### 5.2 | Personality changes before and after becoming a leader

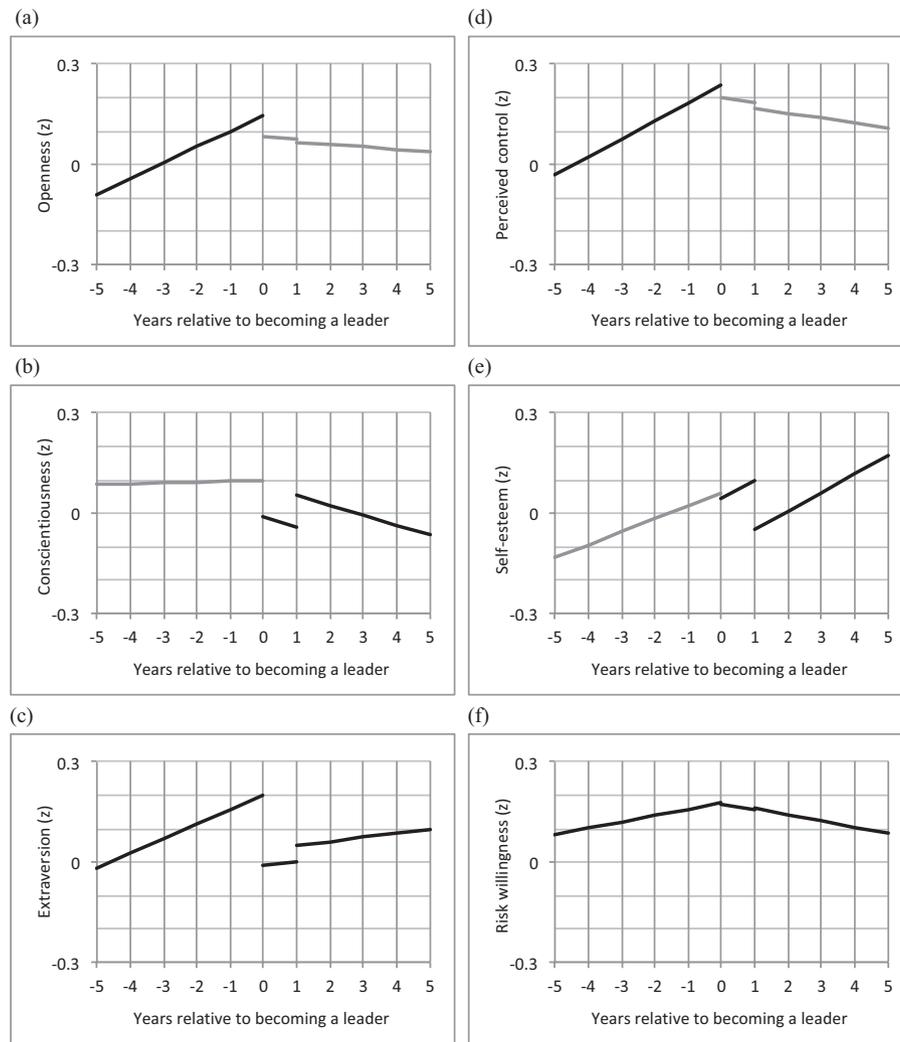
At the same time, personality changed in emergent leaders, and most of these changes already started in preparation for a leadership role. Leaders-to-be became gradually more extraverted, open, and willing to take risks and felt to have more control as they approached a leadership position. These findings are remarkable because

TABLE 2 Personality changes before and after becoming a leader in leaders only ( $N = 2683$ )

Coefficient	Openness		Conscientiousness		Extra-version		Agreeableness		Emotional stability		Perceived control		Self-esteem		Risk willingness		Trust		Tendency to forgive		Positive reciprocity		Negative reciprocity	
	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)	<i>b</i>	(SE)
Number of observations	3012		3013		3013		3013		3012		3166		1607		10,853		3227		1607		2507		2506	
Intercept	0.275*	(0.068)	0.148*	(0.069)	0.318*	(0.064)	-0.032	(0.073)	0.224*	(0.068)	0.347*	(0.056)	0.132	(0.076)	0.228*	(0.030)	0.158*	(0.061)	0.023	(0.082)	0.101	(0.065)	-0.123	(0.065)
Gender (men vs. women)	-0.222*	(0.043)	-0.134*	(0.041)	-0.170*	(0.043)	-0.188*	(0.044)	0.393*	(0.044)	0.133*	(0.039)	0.181*	(0.049)	0.377*	(0.035)	-0.033	(0.042)	0.345*	(0.053)	0.051	(0.041)	0.280*	(0.043)
Linear age	0.085*	(0.030)	0.075*	(0.029)	-0.046	(0.030)	0.058	(0.031)	0.044	(0.031)	-0.094*	(0.029)	0.025	(0.040)	-0.024	(0.022)	0.021	(0.031)	0.093*	(0.043)	-0.018	(0.031)	-0.019	(0.032)
Quadratic age	0.020	(0.013)	-0.012	(0.012)	0.007	(0.012)	0.022	(0.013)	-0.008	(0.013)	0.010	(0.012)	0.001	(0.017)	0.011	(0.009)	-0.020	(0.013)	0.018	(0.018)	0.026*	(0.013)	0.006	(0.013)
Cubic age	-0.009	(0.007)	0.018*	(0.007)	-0.010	(0.007)	-0.009	(0.008)	-0.004	(0.007)	0.026*	(0.007)	-0.001	(0.012)	-0.013*	(0.005)	0.005	(0.007)	-0.017	(0.013)	0.016	(0.008)	-0.014	(0.008)
Testing	-0.060*	(0.021)	-0.084*	(0.021)	-0.018	(0.021)	-0.044*	(0.022)	0.071*	(0.022)	-0.067*	(0.022)	-0.138*	(0.054)	0.000	(0.005)	0.058*	(0.025)	-0.108	(0.058)	-0.011	(0.028)	0.026	(0.029)
Anticipation	0.048*	(0.022)	0.002	(0.023)	0.044*	(0.021)	0.009	(0.024)	0.017	(0.022)	0.054*	(0.018)	0.038	(0.027)	0.019*	(0.008)	-0.036	(0.019)	0.033	(0.029)	0.036	(0.022)	-0.022	(0.022)
Socialization	-0.007	(0.014)	-0.029*	(0.014)	0.012	(0.013)	-0.001	(0.015)	0.017	(0.014)	-0.015	(0.018)	0.056*	(0.028)	-0.019*	(0.008)	0.000	(0.016)	0.012	(0.031)	-0.015	(0.021)	-0.012	(0.021)
Short-term post-transition	-0.084	(0.080)	-0.067	(0.080)	-0.190*	(0.075)	-0.076	(0.085)	-0.054	(0.080)	-0.047	(0.077)	-0.023	(0.097)	-0.006	(0.028)	-0.022	(0.079)	0.095	(0.106)	-0.022	(0.086)	-0.097	(0.087)
Long-term post-transition	-0.094	(0.072)	0.027	(0.074)	-0.142*	(0.067)	-0.035	(0.078)	-0.099	(0.071)	-0.064	(0.081)	-0.173	(0.111)	0.000	(0.030)	0.035	(0.077)	-0.032	(0.121)	-0.058	(0.088)	0.078	(0.090)

Note: *b* = coefficient from multilevel mixed-effect models. Standard errors are in parenthesis. The effect sizes of individual predictors are comparable across different models and personality traits due to their standardization in the total sample.

\* $p < .05$ .



**FIGURE 1** Changes in (a) openness, (b) conscientiousness, (c) extraversion, (d) perceived control, (e) self-esteem, and (f) risk willingness from 5 years before until 5 years after becoming a leader in leaders ( $N = 2683$ ). The first line indicates changes in the respective personality trait in the 5 years before becoming a leader. It is based on the selection effect plus the anticipation effect multiplied by the time (in years) until becoming a leader. The second line indicates changes in the respective trait in the first year of being a leader. It is based on the post-transition difference effect plus the socialization effect multiplied by the time after becoming a leader and the short-term post-transition effect. The third line indicates changes in the respective trait after the first year of being a leader. It is based on the post-transition difference effect plus the socialization effect multiplied by the time after becoming a leader and the long-term post-transition effect. A black line indicates that any of the effects during the respective time frame (first line: anticipation effect; second line: socialization effect and/or short-term post-transition effect; third line: socialization effect and/or long-term post-transition effect) reached statistical significance ( $p < .05$ )

anticipation effects have rarely been found for other life events and transitions (Asselmann & Specht, 2020a, 2020b, 2021b; Denissen et al., 2019). They also highlight the relevance of strategic long-term career planning for occupational and leadership success. Because all these traits have been linked to leadership emergence (and effectiveness) (Colquitt et al., 2007; Judge et al., 2009; Judge & Bono, 2001; Judge, Bono, et al., 2002; Ng et al., 2006; Wang et al., 2010), developing higher trait levels (e.g., regarding extraversion) might be associated with higher career ambitions (Jones et al., 2017) and increase the chance of becoming a leader.

Moreover, leaders-to-be might increasingly select into environments that require these traits. While preparing for a leadership role, they might take initial leadership responsibilities (e.g., for smaller projects), network, and participate in job interviews and assessment centers. Such activities might, for instance, require being more open-minded, creative, and sociable to build a career. In line with the Social Investment Principle (Roberts & Wood, 2006), these behavioral changes might promote higher trait levels of extraversion and openness over time.

After starting a leadership position, leaders maintained relatively high levels of openness and perceived control.

Higher levels of these traits have been associated with occupational success as well as leadership emergence and effectiveness and might thus be useful to acquire but also maintain a leadership role (Judge et al., 2009; Judge & Bono, 2001; Judge, Bono, et al., 2002; Ng et al., 2006; Wang et al., 2010). Moreover, leaders gained self-esteem in the 5 years after starting a leadership position, which could be due to higher leadership success, income, status, and prestige over time.

In contrast and in line with Set-Point Theory (Ormel et al., 2017), extraversion and risk willingness bounced back to their baseline levels after starting a leadership position. Specifically, extraversion dropped immediately, whereas risk willingness decreased gradually in the 5 years after becoming a leader. Besides, leaders became gradually less conscientious after taking on a leadership role.

At first sight, these findings might be surprising because higher levels of these traits have been linked to occupational and leadership success (Colquitt et al., 2007; Judge et al., 2009; Judge, Bono, et al., 2002) and thus would be particularly useful after starting a leadership position. However, becoming a leader typically relates to higher job demands (Barling & Cloutier, 2017; Debus et al., 2019; Li et al., 2018), which could explain our results: Due to a heavier workload and more responsibilities, new leaders often need to concentrate on their core tasks at work, have less time and energy to socialize with family and friends, and might thus become less extraverted. Their focus might shift from establishing to maintaining and protecting their leadership role, which could lead to lower risk willingness. Furthermore, leaders often have to flexibly switch between different projects, delegate tasks, prioritize, and compromise. With increasing leadership experience, they might develop a higher fault tolerance and thus become more laid-back and less conscientious.

In sum, our study supports the idea that some personality changes in emergent leaders are transient (e.g., in extraversion and risk willingness) but others last (e.g., in openness and perceived control). From a methodological perspective, this highlights the importance to distinguish between nuanced short- and long-term personality changes in the years before and after becoming a leader. Otherwise, transient and/or counteracting trait changes around this transition might be overseen and falsely suggest stability (e.g., in terms of extraversion and risk willingness). From a theoretical perspective, these results imply that some role demands and developmental tasks differ before and after becoming a leader, which might trigger partially counteracting personality changes over time. For instance, leaders-to-be might strive to acquire but leaders to maintain their leadership role, which could explain why risk willingness increased before but decreased after starting a leadership position.

### 5.3 | The role of gender

We found that female but not male leaders were less agreeable than same-sex non-leaders after starting a leadership position. Compared to men, women tend to be more agreeable (Specht et al., 2011), which, however, is incongruent with leadership role stereotypes of being competitive, assertive, and potentially even aggressive (e.g., in negotiation contexts). Thus, women but not men might often need to adjust to their new role by becoming less agreeable after starting a leadership position, which could explain these results.

Moreover, especially male leaders felt to have greater control over their life than same-sex non-leaders after starting a leadership position. Compared to women, men not only tend to be more self-confident but are also perceived and evaluated more positively in leadership positions (Bass & Bass, 2009; Eagly et al., 1992). Compared to women, men might thus feel more secure and also receive more positive feedback after becoming a leader, leading to a steeper increase of perceived control in the following years.

Furthermore, male but not female leaders-to-be became gradually more extraverted in the years before starting a leadership position. Compared to women, men tend to be more extraverted, which is congruent with male (but not female) gender stereotypes as well as leadership roles (Badura et al., 2018; Eagly & Karau, 2002; Eagly & Wood, 2012). In preparation for a leadership position, especially men but not women might thus tend to become more extraverted and be perceived and evaluated more positively due to this change, which could explain our results.

### 5.4 | Strengths and limitations

We used data from a large and nationally representative panel study from Germany (SOEP) with ongoing yearly assessments since 1984. Information on leadership was assessed yearly, and information on various personality traits was assessed repeatedly in multiple years. These data allowed us to model personality differences between leaders and non-leaders as well as nuanced personality changes before and after becoming a leader, including gender interactions.

Nonetheless, this study is not without limitations. First, the SOEP was regularly replenished with refreshment cohorts, which means that only some individuals participated throughout the entire study (i.e., since 1984). Second, not all personality traits were assessed in yearly intervals. To obtain fine-grained information on personality traits among leaders in different years before

and after starting a leadership position, we combined within- and between-person information. Third, leaders and non-leaders could have differed from each other in sociodemographic, occupational, and other individual and environmental factors. However, we did not align both groups (e.g., via propensity score matching) because we wanted to compare leaders to a representative sample of non-leaders (reflecting non-leaders within the general population). Fourth, the SOEP primarily focuses on socio-economic changes, so that personality traits were assessed with short scales, which might be less reliable than longer measures. Fifth, personality was assessed via self-report, and other assessment methods might reveal different results. For example, new leaders might feel particularly stressed and thus less conscientious than before. These subjective perceptions, however, might not necessarily reflect their objective behavior at work. Additional research based on external ratings (e.g., from colleagues), narratives, and behavioral data are thus needed to replicate and extend our results. Sixth, because our data comes from a nationally representative sample from Germany, the generalizability to other countries might be limited.

## 5.5 | Conclusions

Our findings suggest that people are not simply “born to be leaders” but that their personalities change in preparation for a leadership role and due to increasing leadership experience. Some of these personality changes are transient and attenuate over time, but others last for several years.

Our results have several practical implications: Success-related leadership traits (e.g., higher extraversion and openness) in our study were already seen in leaders-to-be a long time before they actually started a leadership position. Thus, paying even greater attention to these traits in personnel selection (e.g., assessment centers) could be useful (Lievens & Johnson, 2017). Moreover, emerging leaders could benefit from targeted personality change interventions (Stieger et al., 2021) to promote important leadership traits along with strategies for successful long-term career planning.

Future research may investigate whether personality development is differently associated with leadership emergence and leadership effectiveness. For example, additional studies may examine whether personality changes differ between (emergent) leaders who lead their teams effectively compared to those who do not. Furthermore, it may be studied how not only starting but also ending leadership positions affects personality change.

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## AUTHOR CONTRIBUTIONS

All authors contributed to the conceptualization of the article. Eva Asselmann conducted the analyses and wrote the manuscript. Elke Holst and Jule Specht provided feedback and advice. All authors approved the final version of the manuscript to be submitted.

## ETHICS STATEMENT

Because this study only involved secondary analyses of anonymized SOEP data provided by the DIW Berlin, additional ethical approval was not required. The authors assert that all procedures contributing to this work comply with the Helsinki Declaration of 1975, as revised in 2013.

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## ENDNOTES

<sup>1</sup> Findings on the role of agreeableness for occupational success were less consistent and suggest that being more or less agreeable might both have favorable as well as unfavorable effects on one's career (Anderson et al., 2020).

<sup>2</sup> Since 2018, job positions in the SOEP are no longer classified according to ISCO-88 (the revised version from 2008, ISCO-08, is used instead). Because we aimed to use consistent job status information throughout the study, the data from 2018 are not included herein.

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