



Linnæus University
Sweden

The Role of Personality and Positive Psychological Capital in
Business Students' Motivation to Lead

Liz Heiner



Author: Liz Heiner
Supervisor: Jens Agerström
Examiner: Rickard Carlsson
Term: Spring 2021
Subject: Psychology
Level: Master thesis
Course code: 5PS22E



Author Note

This study with its hypotheses, measures, anticipated sample size and planned analyses was registered with the Open Science Framework. Gathered data as well as the survey and all analyses are openly available at: https://osf.io/h7jvt/?view_only=eef3bcd150664f5c9dc65e75741079df.

Abstract

Given the strong focus of both organizations and institutions of higher education on leadership development, understanding antecedents to leadership motivation is a topic of great interest. This pre-registered study set out to investigate personality factors as antecedents to motivation to lead (MTL) and positive psychological capital (PsyCap). Additionally, the framework was expanded by integrating PsyCap as a predictor of MTL and mediator between personality and MTL. 258 business students served as a convenience sample for the cross-sectional study. The online survey included measures of the Big Five personality factors, PsyCap, and MTL. Several multiple regression and mediation analyses were conducted. The findings supported the proposed role of Openness, Conscientiousness, Extraversion, and Neuroticism as antecedents to PsyCap. Additionally, Extraversion, Agreeableness, and PsyCap were identified as predictors of affective-identity MTL and PsyCap was found to predict socio-normative MTL. The mediation hypotheses were partially supported. The results imply that developing students' PsyCap can potentially benefit their leadership motivation and help preparing them for future careers through making beneficial first leadership experiences in academic settings. As limitations are discussed, further research specifically investigating the role of cultural values is encouraged.

Keywords: motivation to lead, psychological capital, personality, business students, leadership development



Introduction

Leadership has become one of the most prominent topics in organizational psychology which has led to extensive research on leader characteristics, leader-follower interactions and much more (Northouse, 2015; Robbins & Judge, 2013; Yukl, 2013). Practitioners apply scientific findings by recruiting based on knowledge, skills and abilities while also taking individual characteristics related to leader emergence, effectiveness (Judge et al., 2002) and leadership styles (Bono & Judge, 2004) into consideration. The high demand for effective leaders has led to an increase in organizations' investment in leadership development programs (DeRue & Myers, 2014; Gurdjian et al., 2014; Reyes et al., 2019) and the development of future leaders has become a focal point in business-focused higher education and leadership programs (Komives, 2011; Seemiller, 2016; Smart et al., 2002). In preparation for future roles, universities aim at equipping students with knowledge as well as relevant skills and attitudes. Although a general interest in leadership can be assumed when enrolling in business-related programs (Thompson, 2006), students' leadership motivation has received little scholarly attention. As positive cognitive resources have become a competitive advantage in the labor market, a focus on students' psychological strengths has further become important (You, 2016). Therefore, the present study aims at investigating a possible connection between students' psychological resources and their leadership motivation.

Motivation to Lead by Chan and Drasgow (2001)

Leader characteristics and employee motivation have been researched extensively while the motivation to emerge into leader positions has received less attention. Chan and Drasgow (2001) addressed this gap by proposing the individual difference construct motivation to lead (MTL) through which personality traits and values relate to leader emergence and leadership behaviors. MTL is



considered a link between individual differences and experiences that both influence leadership behaviors. It affects an individual's decision to seek out and participate in leadership roles and activities that foster relevant skills for leading a group of people. The authors define three correlated factors. Affective-identity MTL (AFF-MTL) represents "the degree to which one enjoys leadership roles and sees oneself as a leader" (Badura et al., 2020, p. 331) whereas socio-normative MTL (SN-MTL) refers to perceiving leadership as a responsibility and duty. Noncalculative MTL (NC-MTL) is characterized by seeing leadership opportunities positively even though costs and responsibilities may outweigh the benefits (Badura et al., 2020). MTL was shown to predict leader emergence as well as transformational and transactional leadership and leadership effectiveness (Badura et al., 2020; Chan & Drasgow, 2001). With MTL potentially influencing leader emergence in academic contexts, students could profit by developing their leadership mind-set and making relevant experiences. Fostering students' MTL already in higher education leadership programs can therefore be a promising target.

Positive Psychological Capital by Luthans et al. (2007)

Positive psychological capital (PsyCap), proposed by Luthans et al. (2007), is a psychological resource with four components loading on a higher-order construct (F. Luthans et al., 2010). Hope is described to represent an individual's perseverance and ability to redirect paths if needed to reach a goal. Secondly, optimism is defined as "making a positive attribution [...] about succeeding now and in the future" (F. Luthans et al., 2010, p. 42) whereas resilience refers to the capacity to sustain in adversity. The fourth component contributing to PsyCap is self-efficacy (F. Luthans, Youssef, et al., 2007) which reflects the belief in one's abilities to master a specific task (Bandura, 1997) and is "a major determinant of intention" (Bandura, 2006, p. 309). Originally a task-specific construct, research suggests the existence of a more general self-efficacy that applies to a whole domain like leadership or even life in general (B. C. Luthans et al., 2012; F. Luthans et al., 2007; Paglis, 2010; Parker, 1998). This general



construct and component of PsyCap can be understood as the confidence to succeed at a broader set of tasks and does not depend on narrow and task-specific mastery experiences (F. Luthans, Youssef, et al., 2007; F. Luthans et al., 2010). PsyCap can be applied to professional as well as academic settings and was found to fall between traits and states as it is more stable than emotions but not as stable as personality traits (F. Luthans, Youssef, et al., 2007; F. Luthans et al., 2010). PsyCap can thus be developed through interventions and trainings (B. C. Luthans et al., 2014).

Research has found PsyCap to predict performance and satisfaction, both in business and academic contexts. Individuals with high PsyCap can be described as more hopeful and realistically optimistic while confidently taking on challenges and overcoming setbacks (B. C. Luthans et al., 2014). Desirable outcomes such as citizenship behavior, organizational commitment as well as less cynicism, deviance or turnover intentions were connected to PsyCap (Avey et al., 2011; Gooty et al., 2009; Wu & Nguyen, 2019). Moreover, studies found high PsyCap to relate to higher academic performance (Jafri, 2013; B. C. Luthans et al., 2012), increased motivation and engagement (Datu et al., 2018) as well as less stress-related health issues (Riolli et al., 2012). PsyCap can therefore be considered a psychological resource that students can benefit from regarding their current academic situation but may also enable them to take on new challenges such as leader roles in academic contexts.

Personality as an Antecedent to PsyCap and MTL

Antecedents to PsyCap have been scarcely investigated (Avey, 2014). Supervisors and leaders have been shown to positively influence followers' PsyCap through their leadership styles, empowerment and providing moderately challenging tasks (Avey, 2014; Gooty et al., 2009; Wu & Nguyen, 2019) but individual differences were of less interest to previous research. Avey (2014) found proactive personality and self-esteem to be the strongest predictors of PsyCap and significant correlations between personality factors and PsyCap were reported by Brandt et al. (2011) and Yildiz



(2018). Personality traits are expected to influence which situations an individual chooses to enter (Ickes et al., 1997) and the selected experiences one learns and draws confidence from (Bandura, 1997). For example, Neuroticism is connected to more negative emotions and cognitions which goes along with a less positive outlook on future endeavors (Robbins & Judge, 2013) and negative relationships with self-efficacy (Judge et al., 2007; Lyons et al., 2015), hope (Halama, 2010), optimism (Sharpe et al., 2011) and resilience (Campbell-Sills et al., 2006; Lyons et al., 2015). Highly conscientious individuals, on the other hand, are described as organized and determined (Robbins & Judge, 2013) which makes them more likely to endure (Campbell-Sills et al., 2006; Wei & Taormina, 2014), “have more efficacious beliefs” (Yang et al., 2011, p. 373), be optimistic (Sharpe et al., 2011) and hopeful (Halama, 2010). Similarly, Extraversion is related to action-orientation, optimism as well as social engagement and dominance (Robbins & Judge, 2013; Wang et al., 2016) and has been shown to predict the four individual PsyCap components (Campbell-Sills et al., 2006; Ciarrocchi et al., 2008; Halama, 2010; Judge et al., 2007; Sharpe et al., 2011; Yang et al., 2011). Individuals high on Openness to experience tend to be curious, show higher flexibility and autonomy (Robbins & Judge, 2013). With creativity and imagination, they seek novel experiences, are adaptable to changes and redirect paths if necessary (Ciarrocchi et al., 2008; Fayombo, 2010). Openness was further found to predict self-efficacy (Wang et al., 2016) and creative self-efficacy (Karwowski et al., 2013). Lastly, Agreeableness is connected to the willingness to compromise and adapt to people and situations. Agreeable individuals tend to be friendly and optimistic (Fayombo, 2010; Sharpe et al., 2011) while the trait was further found to predict self-efficacy (Wang et al., 2016) and resilience (Fayombo, 2016). This study aims at providing further insights into the role of personality as an antecedent to the higher-order construct PsyCap.

H1a: *The higher Openness to experience, the higher the overall PsyCap score.*



H1b: *The higher Conscientiousness, the higher the overall PsyCap score.*

H1c: *The higher Extraversion, the higher the overall PsyCap score.*

H1d: *The higher Agreeableness, the higher the overall PsyCap score.*

H1e: *The lower Neuroticism, the higher the overall PsyCap score.*

Chan and Drasgow (2001) defined several antecedents to MTL, including personality.

Contemporary trait approaches no longer assume leaders to be born as such, yet personality traits are shown to relate to leader emergence and effectiveness (Judge et al., 2002). Based on Hogan's socioanalytic theory (Hogan, 1983, 1996), the link between traits and leader emergence can be explained by the motives of "getting ahead" (agency) and "getting along" (communion) that are elicited by traits (Judge et al., 2009). Agency is "conceptualized as seeing oneself as a differentiated individual" (Badura et al., 2020, p. 332), striving for individualism, mastery and preserving ones self-identity. In contrast, communion represents the perception of oneself as part of a community and is connected to affiliation and acting in the interest of the group (Abele & Wojciszke, 2019; Wiggins, 1991). Within this framework, Extraversion and Openness to experience are agentic personality traits whereas Agreeableness is a communal one (Grijalva & Zhang, 2016). Conscientiousness is a predictor of performance but further connected to following rules, responsibility and dutifulness as well as stability and quality of relationships (Grijalva & Zhang, 2016; Roberts et al., 2014; Roberts & Bogg, 2004). Facets of the trait therefore align with agency, others with communion (Ghaed & Gallo, 2006) but referring to previous MTL research (Badura et al., 2020; Chan & Drasgow, 2001), this study defines Conscientiousness as a communal personality trait. PsyCap, broadly representing a belief in oneself and one's capabilities, can be considered an agentic resource (Bandura, 2008; F. Luthans et al., 2010).



Chan and Drasgow (2001) found personality traits, sociocultural values as well as leadership experience and leadership self-efficacy to be antecedents to MTL. In turn, MTL predicts an individual's engagement in leadership roles which then creates opportunities to make relevant experience and increase one's self-efficacy (Chan et al., 2013). The overall framework was meta-analytically supported (Badura et al., 2020). Concurrent with the theoretical relationships, agentic characteristics such as Extraversion, leadership self-efficacy or individualism were stronger predictors of AFF-MTL whereas the other MTL types were predicted by communal antecedents like Agreeableness and collectivism (Badura et al., 2020). As AFF-MTL is conceptualized as enjoying to lead, it can be considered an agentic motive whereas SN- and NC-MTL represent communal motives of taking responsibility for a group or not calculating costs and benefits of being a leader (Chan & Drasgow, 2001).

Considering the lack of professional leadership experiences, the present study expects students' general self-efficacy and the other psychological resources summarized in PsyCap to be an important source of confidence to take on leadership roles in academic contexts. Based on previous findings (Badura et al., 2020; Chan & Drasgow, 2001), it is hypothesized that personality traits will be found as antecedents to MTL in the student sample and the agentic psychological resource PsyCap will be predicting AFF-MTL.

H2a: *AFF-MTL is predicted by the agentic antecedents Openness to experience, Extraversion and PsyCap.*

H2b: *SN- and NC-MTL are predicted by the communal antecedents Conscientiousness and Agreeableness.*



Mediating Role of PsyCap

The MTL framework is based on the distal-proximal framework of motivation by Kanfer (1990) which defines personality traits as distal antecedents that act through more proximal individual differences. In the MTL framework, personality traits and cultural values have an indirect effect on leader emergence and performance through MTL. Similarly, personality traits influence MTL itself through the proximal antecedent leadership self-efficacy (Badura et al., 2020; Chan et al., 2013; Chan & Drasgow, 2001). In support of the theoretical assumption, leadership self-efficacy was found to mediate the relationship between Extraversion and Conscientiousness and MTL (Badura et al., 2020; Chan et al., 2013; Chan & Drasgow, 2001) as well as between personality and leader effectiveness (Ng et al., 2008). Also, the relationships between Openness to experience and MTL (Chan & Drasgow, 2001) and Agreeableness and MTL were mediated by leadership self-efficacy (Chan et al., 2013).

University students are, in majority, not expected to have leadership experiences from professional contexts that foster leadership self-efficacy. Instead of the task-specific form of self-efficacy, their PsyCap including general self-efficacy is hypothesized to provide them with confidence to take on leadership roles in the academic context which helps generating mastery-experiences and contributes to a leadership mind-set. PsyCap is therefore hypothesized to act as a mediator in the relationship between personality traits and MTL.

H3a: *PsyCap mediates the relationship between Openness to experience and AFF-MTL.*

H3b: *PsyCap mediates the relationship between Extraversion and AFF-MTL.*

H3c: *PsyCap mediates the relationship between Conscientiousness and SN-MTL.*

H3d: *PsyCap mediates the relationship between Conscientiousness and NC-MTL.*

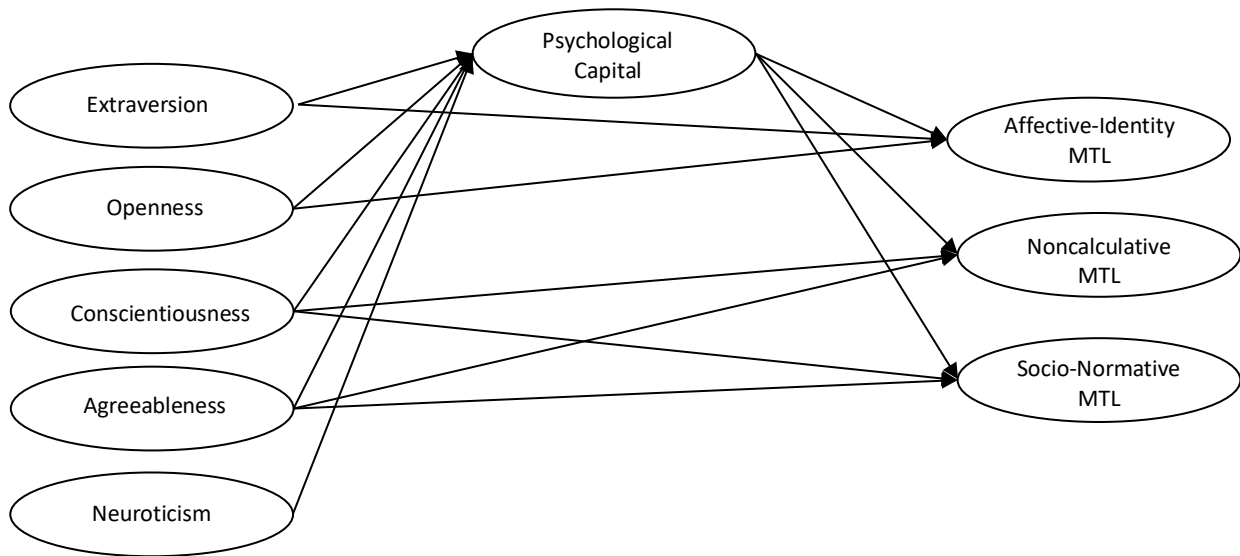
H3e: *PsyCap mediates the relationship between Agreeableness and SN-MTL.*



H3f: *PsyCap mediates the relationship between Agreeableness and NC-MTL.*

Figure 1

Proposed Model of the Relationships Between Personality Factors, Psychological Capital, and Motivation to Lead



Purpose of the Study

The purpose of this paper is the further exploration of MTL, PsyCap and a possible connection between the two constructs in the academic context. As MTL predicts leader effectiveness and emergence, it can be considered a desirable individual difference that can be targeted in organizations' leadership programs and higher education. The study aims at supporting previous findings on antecedents to both MTL and PsyCap in the specific group of business students which has been topic to little research. Novelty is provided by expanding the existing MTL framework and investigating the connection between positive psychological resources and MTL. In case the proposed relationship can be supported by empirical data, micro-interventions to increase PsyCap among students, as proposed by B.



C. Luthans et al. (2012, 2014), could be a valuable addition to business-related higher education by potentially benefitting well-being and academic performance but also fostering students' leadership mind-set in preparation for their future careers.

Method

Pre-Registration

The present study followed methods specified prior to data collection. The pre-registration defined plans for participant exclusion, sampling procedure as well as anticipated sample size, measures and covariates and the analytical strategy. Deviations are reported when they occur.

Participants

Inclusion and Exclusion Criteria

The study focuses on the subgroup of business students at university. Following the registration, participants indicating other main fields of study were excluded from the analyses. Other exclusion criteria were not applied.

Participant Characteristics

After three weeks, a total of 295 subjects had participated in the study. Removing participants that were not business students, 258 complete sets of data remained. The final sample was in majority female (66.9 % women), had a median age of 24 (range 18 - 57) and comprised 52 nationalities. 33.7% of the sample stated to be of German origin, followed by 10.9% being British. A detailed sample description is included in Appendix A.

Procedure

Sampling Procedure

As registered, the online survey was distributed via Facebook. The link to the questionnaire was posted to groups for students of business-related subjects. Deviating from the initial plan, the link was



additionally posted to survey exchange groups on Facebook in which researchers recruit subjects in exchange for their own participation in survey studies. The post, informing readers about the target group of business students and the study language, remained the same. Data was collected over three weeks from March 16, 2021 to April 5, 2021. Participants received no compensation.

Sample Size, Power, and Precision

The anticipated sample size for the study was determined in the registration and the critical sample size of 200 was reached within three weeks. Data collection was ended after this time span and 258 complete data sets were entered into the analyses.

Ethical Considerations

The study was designed following the guidelines for ethical research and checked with a self-evaluation form. Participants were thoroughly informed about the general purpose of the conducted research. It was explicitly stated that participation is voluntary and withdrawal from the study possible at any time. Moreover, contact details were provided as well as anonymity of data assured. Data would only be used for the present study and no natural person could be identified from it.

Measures

Concurrent with the registration, the online survey consisted of three demographic items (gender, age, nationality), the filter item asking for the main field of study and three scales measuring Big Five, PsyCap and MTL. All items can be found on OSF.

Big Five Personality Factors

The Ten-Item Personality Inventory (TIPI) by Gosling et al. (2003) was used to measure the self-reported Big Five Personality traits. The five subscales Extraversion, Openness to Experience, Conscientiousness, Agreeableness, and Emotional Stability consisted of two items each. Participants



indicated their agreement with seeing themselves as described in the respective items on a 7-point Likert scale ranging from disagree strongly (1) to agree strongly (7).

Being a very short instrument, Gosling et al. (2003) described the TIPI as a reasonable alternative to longer personality scales. Reported internal consistency coefficients of the short subscales were low with Cronbach's alpha ranging from .40 (Agreeableness subscale) to .73 (Emotional Stability subscale). The TIPI showed adequate convergent validity with the Big Five Inventory and adequate test-retest reliability. Given the length of the other scales included in the survey, the brief scale was specifically chosen to counteract potential participant fatigue.

Psychological Capital

Psychological Capital regarding the academic domain and life in general was measured with the A-PCQ by B. C. Luthans et al. (2012), an adapted version of the original scale measuring PsyCap in the work context (F. Luthans, Avolio, et al., 2007; F. Luthans et al., 2015; F. Luthans, Youssef, et al., 2007). The scale consisted of 24 items equally distributed over the four subscales hope, optimism, self-efficacy, and resilience. Each item was answered both regarding the academic domain and life in general on a 6-point Likert scale ranging from strongly disagree (1) to strongly agree (6).

B.C. Luthans et al. (2012) reported adequate reliability of the A-PCQ ($\alpha = .90$). Psychometric properties of the adapted questionnaire remained equivalent to the PCQ by F. Luthans et al. (2007). Overall, the authors reported high reliability of the PsyCap measure with Cronbach's alpha of .88 and .89 in four studies. Cronbach's alpha of the individual subscales "hope (.72, .75, .80, .76), resilience (.71, .71, .66, .72), self-efficacy (.75, .84, .85, .75), optimism (.74, .69, .76, .79)" (F. Luthans, Avolio, et al., 2007, p. 555) indicated overall adequate reliabilities as well.



Motivation to Lead

MTL was measured using the scale developed by Chan and Drasgow (2001) with 27 items on three subscales (affective-identity, socio-normative, and noncalculative MTL). Participants indicated their agreement on a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5).

The authors reported the reliability of the scale as “generally good” (Chan & Drasgow, 2001, p. 485) across all three initial studies. Cronbach’s alpha of the subscale AFF-MTL ranged between $\alpha = .84$ and $\alpha = .91$ while NC-MTL showed internal consistency between $\alpha = .80$ and $\alpha = .84$. SN-MTL had the lowest reported Cronbach’s alpha ranging from $\alpha = .65$ to $\alpha = .75$ (Chan & Drasgow, 2001).

Covariates

Socio-demographic variables were not the main interest of the study, yet they could potentially influence the variables PsyCap and MTL. The variables age (in years) and gender (female = 1, male = 0, no answer = NA) were therefore included as covariates.

Psychometrics

Although consisting of only two items each, the TIPI subscales were checked for reliability. The results showed considerably lower reliabilities than reported by the authors. Cronbach’s alpha for the subscales Extraversion ($\alpha = .66$) and Emotional Stability ($\alpha = .65$) was questionable and unacceptably low for Agreeableness, Conscientiousness and Openness with .12, .29 and .46 respectively. Given the number of items per subscale, low reliability coefficients were expected from the beginning. Based on the content validity proven by Gosling et al. (2003), the collected data was entered into the analyses although possible consequences will be discussed.

The four PsyCap subscales showed acceptable or high reliabilities. Both self-efficacy and hope subscale had a high Cronbach’s alpha of .89. Lower but still acceptable were the reliability coefficients for resilience ($\alpha = .79$) and optimism ($\alpha = .80$).



In line with the original reports, reliability of the AFF-MTL subscale was high with $\alpha = .85$ and Cronbach's alpha for the subscale NC-MTL ($\alpha = .78$) was acceptable. As reported by Chan and Drasgow (2001), the SN-MTL subscale had the lowest reliability with $\alpha = .67$ and must be deemed questionable.

Statistical Analysis

Data Diagnostics

After removing 37 respondents that were not business students, answers were recoded, and indices computed as described in the registration. Differing from the registration, also the MTL items marked as reverse scored were recoded. Additionally, the composite scores for the three MTL types were calculated by summing up the respective items instead of averaging them as was mistakenly registered. Furthermore, the computed variable Emotional Stability was reverse scored into a new variable so that high scores indicate Neuroticism. Missing cases for the relevant variables were not found. Outliers were included into the analyses.

Analytical Strategy

The data analysis followed the registered strategy and was conducted with jamovi version 1.2.27.0 (The jamovi project, 2020) and the jmv module (Love et al., 2020). Mediation analyses were conducted using the PROCESS macro (Hayes, 2020) in the jamovi Rj module (Love, n.d.). The alpha level $\alpha = 0.01$ was used for all analyses.

Matching the research plan, multiple linear regression was used to test the first set of hypotheses with the personality traits as predictors, PsyCap as dependent variable and age and gender as covariates. To test the second set of hypotheses, three multiple regression analyses were conducted. The personality factors Extraversion, Openness to experience, Agreeableness and Conscientiousness as well as PsyCap were used as predictor variables. AFF-MTL, SN-MTL and NC-MTL were used as dependent variable and age and gender were again entered as covariates. Lastly, six mediation analyses were



conducted following the technique by Hayes (2018) with 5000 bootstrap samples. Due to missing cases in the covariates, the sample size was $N = 255$. The personality factors Extraversion, Agreeableness, Openness to experience and Conscientiousness were entered as independent variables, PsyCap as mediator and the respective MTL types as dependent variables. Age and gender were again used as covariates.

Results

Descriptive Statistics

The descriptive statistics for the variables used in the present study are displayed in Table 1. The correlation matrix is provided in Appendix B.

Table 1

Descriptive Statistics for Continuous Study Variables

	<i>Mean</i>	<i>Median</i>	<i>SD</i>	<i>Minimum</i>	<i>Maximum</i>
Extraversion	4.35	4.50	1.40	1.00	7.00
Agreeableness	4.39	4.50	1.01	1.00	7.00
Conscientiousness	5.32	5.50	1.05	2.50	7.00
Neuroticism	3.53	3.50	1.40	1.00	7.00
Openness	5.28	5.50	1.12	2.00	7.00
PsyCap	205.00	206.00	28.00	62.00	266.00
AFF-MTL	28.20	28.00	6.38	13.00	44.00
NC-MTL	24.50	25.00	5.53	9.00	36.00
SN-MTL	30.60	31.00	4.46	17.00	45.00

Note. $N = 258$. Values are unstandardized, variables are scored on different scales.



Confirmatory Analyses

Multiple Regression Analysis of Personality Traits Predicting PsyCap

A multiple regression analysis with Extraversion, Openness to experience, Agreeableness, Conscientiousness and Neuroticism as predictors and the dependent variable PsyCap was conducted. Age and gender were entered as covariates. The assumption of normal distribution of the residuals was supported ($W = 0.987, p = .017$). With VIF ranging from 1.04 to 1.18, the predictors did not correlate too strongly.

Four of the five hypotheses were supported by the results. The analysis showed age, gender, and Agreeableness to not significantly predict PsyCap and hypothesis H1d is rejected. Supporting H1a, H1b, H1c, and H1e, the personality factors Extraversion ($\beta = 0.22, t(247) = 4.17, p < .001, 95\% \text{ CI} = [0.12, 0.32]$), Conscientiousness ($\beta = 0.29, t(247) = 5.67, p < .001, 95\% \text{ CI} = [0.19, 0.39]$), Openness to experience ($\beta = 0.21, t(247) = 4.00, p < .001, 95\% \text{ CI} = [0.11, 0.32]$) and Neuroticism ($\beta = -0.31, t(247) = -5.86, p < .001, 95\% \text{ CI} = [-0.41, -0.21]$) were significantly predicting PsyCap. With all other predictors included in this model staying constant, higher scores on Extraversion, Conscientiousness and Openness, respectively, can therefore be expected to increase the overall PsyCap score. Similarly, high Neuroticism is expected to decrease the PsyCap score. Overall, the model was shown to explain a statistically significant amount of variance in the dependent variable PsyCap ($F(7, 247) = 23.7, p < .001$). The fit of the model ($R^2 = 0.40, R^2_{\text{Adjusted}} = 0.39$) can be considered moderate.



Table 2

Summary of Multiple Regression Analysis Examining Personality Factors as Predictors of Psychological Capital

<i>Predictor</i>	<i>b</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	<i>95% CI</i>	
						<i>Lower</i>	<i>Upper</i>
age	0.32	0.32	0.05	1.01	.314	-0.05	0.15
gender	1.18	3.13	0.02	0.38	.706	-0.08	0.12
Extraversion	4.43	1.06	0.22	4.17	< .001***	0.12	0.32
Agreeableness	-1.61	1.43	-0.06	-1.13	.262	-0.16	0.04
Conscientiousness	7.80	1.38	0.29	5.67	< .001***	0.19	0.39
Neuroticism	-6.26	1.07	-0.31	-5.86	< .001***	-0.41	-0.21
Openness	5.47	1.37	0.21	4.00	< .001***	0.11	0.32

Note. N = 258. b = regression weight, SE = standard error, β = standardized regression weight.

* $p < .05$, ** $p < .01$, *** $p < .001$, two-tailed.

Multiple Regression Analyses of Antecedents to MTL

Three multiple regression analyses with the predictor variables Extraversion, Openness to experience, Agreeableness and Conscientiousness as well as PsyCap and age and gender as covariates were conducted. The first analysis used AFF-MTL as dependent variable. Residuals were normally distributed ($W = 0.987$, $p = .022$) and collinearity assumptions were met (VIF between 1.04 and 1.47).

The results partially support hypothesis H2a. As hypothesized, Extraversion ($\beta = 0.38$, $t(247) = 6.70$, $p < .001$, 95% CI = [0.27, 0.49]) and PsyCap ($\beta = 0.20$, $t(247) = 3.29$, $p = .001$, 95% CI = [0.08, 0.33]) were statistically significant predictors of AFF-MTL. While the hypothesized antecedent Openness to



experience remained non-significant, Agreeableness ($\beta = -0.28$, $t(247) = -5.32$, $p < .001$, 95% CI = [-0.38, -0.18]) was found to significantly predict AFF-MTL. Keeping the other predictors constant, higher levels of Extraversion and PsyCap are thus expected to increase AFF-MTL. High levels of Agreeableness have a negative influence on the outcome variable. The model was statistically significant ($F(7, 247) = 19.7$, $p < .001$) and explained 34% of variance in the dependent variable ($R^2 = 0.36$, $R^2_{Adjusted} = 0.34$).

Table 3

Summary of Multiple Regression Analysis Examining Personality Factors and Psychological Capital as Predictors of Affective Motivation to Lead

Predictor	b	SE	β	t	p	95% CI	
						Lower	Upper
age	-0.02	0.08	-0.02	-0.31	.759	-0.12	0.09
gender	0.34	0.71	0.03	0.48	.632	-0.08	0.13
Extraversion	1.73	0.26	0.38	6.70	< .001***	0.27	0.49
Agreeableness	-1.78	0.33	-0.28	-5.32	< .001***	-0.38	-0.18
Conscientiousness	0.05	0.34	0.01	0.14	.889	-0.10	0.12
Openness	0.41	0.33	0.07	1.23	.220	-0.04	0.18
PsyCap	0.05	0.01	0.20	3.29	.001**	0.08	0.33

Note. N = 258. b = regression weight, SE = standard error, β = standardized regression weight.

* $p < .05$, ** $p < .01$, *** $p < .001$, two-tailed.



The second multiple regression analysis used NC-MTL as dependent variable, the predictors remained the same. Again, the assumptions of normal distribution of residuals ($W = 0.995, p = .516$) and low collinearity were met (VIF between 1.04 and 1.47).

The statistical model was significant ($F(7, 247) = 4.26, p < .001$) but showed very poor model fit ($R^2 = 0.11, R^2_{Adjusted} = 0.08$) which points at a weak relationship between the predictors and NC-MTL.

Supporting this assumption, all predictors remained non-significant and hypothesis H2b is therefore rejected.

Table 4

Summary of Multiple Regression Analysis Examining Personality Factors and Psychological Capital as Predictors of Noncalculative Motivation to Lead

Predictor	b	SE	β	t	p	95% CI	
						Lower	Upper
age	-0.07	0.08	-0.06	-0.93	.354	-0.18	0.06
gender	-1.80	0.72	-0.15	-2.49	.013*	-0.28	-0.03
Extraversion	0.32	0.26	0.08	1.22	.225	-0.05	0.21
Agreeableness	0.32	0.34	0.06	0.94	.348	-0.06	0.18
Conscientiousness	-0.65	0.35	-0.12	-1.86	.064	-0.25	0.01
Openness	-0.61	0.34	-0.12	-1.80	.073	-0.25	0.01
PsyCap	-0.03	0.01	-0.16	-2.23	.027*	-0.31	-0.02

Note. N = 258. b = regression weight, SE = standard error, β = standardized regression weight.

* $p < .05$, ** $p < .01$, *** $p < .001$, two-tailed.



A third multiple regression analysis with the predictors and the dependent variable SN-MTL was run. Normally distributed residuals ($W = 0.997$, $p = .937$) and low collinearity of predictors with VIF ranging from 1.04 to 1.47 were given.

The results showed the model to be statistically significant ($F(7, 247) = 10.2$, $p < .001$) and explaining 20% of variance ($R^2 = 0.22$, $R^2_{\text{Adjusted}} = 0.20$) in the dependent variable SN-MTL. Hypothesis H2b was, however, again not supported with the predictors Agreeableness and Conscientiousness being not statistically significant. The only independent variable found to predict SN-MTL was PsyCap ($\beta = 0.42$, $t(247) = 6.18$, $p < .001$, 95% CI = [0.29, 0.55]). According to the results, high PsyCap can thus be expected to increase SN-MTL while all other predictors of the model are kept constant.

Table 5

Summary of Multiple Regression Analysis Examining Personality Factors and Psychological Capital as Predictors of Socio-Normative Motivation to Lead

Predictor	b	SE	β	t	p	95% CI	
						Lower	Upper
age	0.06	0.06	0.05	0.96	.339	-0.06	0.17
gender	-0.11	0.55	-0.01	-0.19	.848	-0.13	0.10
Extraversion	0.14	0.20	0.04	0.71	.481	-0.08	0.17
Agreeableness	-0.56	0.26	-0.12	-2.15	.033*	-0.24	-0.01
Conscientiousness	0.03	0.27	0.01	0.11	.916	-0.12	0.13
Openness	0.13	0.26	0.03	0.51	.614	-0.09	0.16
PsyCap	0.07	0.01	0.42	6.18	< .001***	0.29	0.55

Note. N = 258. b = regression weight, SE = standard error, β = standardized regression weight

* $p < .05$, ** $p < .01$, *** $p < .001$, two-tailed.



Mediation Analyses

Six analyses investigating the mediating role of PsyCap in the relationship between personality factors and MTL were conducted. The path and effect estimates are summarized in Tables 6 and 7. The results of the first analysis showed a significant total effect of Openness on AFF-MTL ($\beta = 0.21$, $t(250) = 3.43$, $p < .001$). Analyzing the indirect effect, the mediating role of PsyCap in the relationship between Openness and AFF-MTL is supported ($\beta = 0.12$, Percentile Bootstrap 95% CI = [0.05; 0.19]). Openness to experience was shown to significantly predict PsyCap ($\beta = 0.35$, $t(250) = 5.87$, $p < .001$) and PsyCap, in turn, positively affects AFF-MTL ($\beta = 0.33$, $t(250) = 5.24$, $p < .001$). After accounting for the mediating role of PsyCap, Openness was not a statistically significant predictor of AFF-MTL ($\beta = 0.10$, $t(250) = 1.56$, $p = .120$). The results support hypothesis H3a that assumed PsyCap to mediate the relationship between Openness to experience and AFF-MTL.

Secondly, a significant total effect of Extraversion on AFF-MTL ($\beta = 0.50$, $t(250) = 9.07$, $p < .001$) was found. The indirect effect supported the mediating role of PsyCap ($\beta = 0.08$, Percentile Bootstrap 95% CI = [0.03; 0.14]). Extraversion was shown to significantly predict PsyCap ($\beta = 0.37$, $t(250) = 6.25$, $p < .001$) which, in turn, positively affects AFF-MTL ($\beta = 0.21$, $t(250) = 3.61$, $p < .001$). Accounting for the mediator, Extraversion remained a statistically significant predictor of AFF-MTL ($\beta = 0.42$, $t(250) = 7.32$, $p < .001$). The significant indirect effect supports hypothesis H3b of PsyCap mediating the relationship between Extraversion and AFF-MTL.

The third analysis investigated the relationship between Conscientiousness and SN-MTL. The total effect ($\beta = 0.18$, $t(250) = 2.86$, $p = .005$) was statistically significant on an alpha level of 0.01, as opposed to the previous analyses with lower p-values. The hypothesized mediating role of PsyCap was supported by the results ($\beta = 0.18$, Percentile Bootstrap 95% CI = [0.12; 0.26]). Conscientiousness significantly predicted PsyCap ($\beta = 0.41$, $t(250) = 7.11$, $p < .001$) and PsyCap, in turn, was shown to



positively affect SN-MTL ($\beta = 0.45$, $t(250) = 7.25$, $p < .001$). After accounting for the mediator, Conscientiousness was not a statistically significant predictor of SN-MTL ($\beta = -0.01$, $t(250) = -0.11$, $p = .914$). The results support hypothesis H3c which stated PsyCap to mediate the relationship between the personality factor Conscientiousness and SN-MTL.

The fourth mediation analysis showed the total effect of Conscientiousness on NC-MTL ($\beta = -0.19$, $t(250) = -3.12$, $p = .002$) as statistically significant, again on an alpha level of 0.01. Looking at the indirect effect, PsyCap as a mediator was supported by the results ($\beta = -0.07$, Percentile Bootstrap 95% CI = [-0.14; -0.02]). Conscientiousness significantly predicted PsyCap ($\beta = 0.41$, $t(250) = 7.11$, $p < .001$) and PsyCap emerged as a predictor of NC-MTL ($\beta = -0.17$, $t(250) = -2.64$, $p = .009$). After accounting for the mediator, Conscientiousness was not significantly predicting NC-MTL ($\beta = -0.18$, $t(250) = -1.80$, $p = .072$). Hypothesis H3d proposing PsyCap to mediate the relationship between Conscientiousness and NC-MTL is accepted.

Next, the total effect of Agreeableness on SN-MTL ($\beta = -0.11$, $t(250) = -1.80$, $p = .074$) was not significant. Also, the estimates for the indirect effect do not support the hypothesized mediating role of PsyCap in the relationship between Agreeableness and SN-MTL ($\beta = 0.01$, Percentile Bootstrap 95% CI = [-0.05; 0.07]). Agreeableness did not significantly predict PsyCap ($\beta = 0.02$, $t(250) = 0.36$, $p = .716$) but the results showed PsyCap to be a statistically significant predictor of SN-MTL ($\beta = 0.45$, $t(250) = 8.02$, $p < .001$). After accounting for the mediating role of PsyCap, the direct effect of Agreeableness on SN-MTL was also not significant ($\beta = -0.12$, $t(250) = -2.19$, $p = .029$). Based on the results, hypothesis H3d proposing PsyCap as a mediator in the relationship between Agreeableness and SN-MTL is rejected.

Lastly, the total effect of Agreeableness on NC-MTL ($\beta = 0.02$, $t(250) = 0.30$, $p = .763$) was not statistically significant. The indirect effect with PsyCap mediating between Agreeableness and NC-MTL remained not statistically significant as well ($\beta = -0.01$, Percentile Bootstrap 95% CI = [-0.04; 0.02]).



Agreeableness did not significantly predict PsyCap ($\beta = 0.02$, $t(250) = 0.36$, $p = .716$). The results showed PsyCap to predict NC-MTL ($\beta = -0.22$, $t(250) = -3.68$, $p < .001$). The direct effect of Agreeableness on NC-MTL, accounting for PsyCap as a potential mediator, remained not significant ($\beta = 0.02$, $t(250) = 0.39$, $p = .694$). Hypothesis H3f predicting PsyCap to mediate the relationship between Agreeableness and NC-MTL is rejected. The revised model, based on the results, is depicted in Figure 2.

Table 6

Summary of Path Estimates

	<i>b</i>	β	<i>t</i>	<i>p</i>
Openness → PsyCap	8.99	0.35	5.87	< .001***
PsyCap → AFF-MTL	0.08	0.33	5.24	< .001***
Openness → AFF-MTL	0.58	0.10	1.56	.120
Extraversion → PsyCap	7.39	0.37	6.25	< .001***
PsyCap → AFF-MTL	0.05	0.21	3.61	< .001***
Extraversion → AFF-MTL	1.93	0.42	7.32	< .001***
Conscientiousness → PsyCap	11.01	0.41	7.11	< .001***
PsyCap → SN-MTL	0.07	0.45	7.25	< .001***
Conscientiousness → SN-MTL	-0.03	-0.01	-0.11	.914
Conscientiousness → PsyCap	11.01	0.41	7.11	< .001***
PsyCap → NC-MTL	-0.03	-0.17	-2.64	.009**
Conscientiousness → NC-MTL	-0.63	-0.12	-1.80	.072

(continued)



	<i>b</i>	β	<i>t</i>	<i>p</i>
Agreeableness → PsyCap	0.65	0.02	0.36	.716
PsyCap → SN-MTL	0.07	0.45	8.02	< .001***
Agreeableness → SN-MTL	-0.55	-0.12	-2.19	.029*
Agreeableness → PsyCap	0.65	0.02	0.36	.716
PsyCap → NC-MTL	-0.04	-0.22	-3.68	< .001***
Agreeableness → NC-MTL	0.13	0.02	0.39	.694

Note. N = 255. *b* = regression weight, β = standardized regression weight.

* *p* < .05, ** *p* < .01, *** *p* < .001, two-tailed.

Table 7

Summary of Standardized Effect Estimates

	β	<i>SE</i>	<i>t</i>	<i>p</i>	95% <i>CI</i>	
					<i>Lower</i>	<i>Upper</i>
H3a: Openness → PsyCap → AFF-MTL						
Total	0.21	0.36	3.43	< .001***	0.53	1.96
Direct	0.10	0.37	1.56	.120	-0.15	1.30
Indirect	0.12	0.04			0.05	0.19
H3b: Extraversion → PsyCap → AFF-MTL						
Total	0.50	0.25	9.07	< .001***	1.78	2.77
Direct	0.42	0.26	7.32	< .001***	1.41	2.45
Indirect	0.08	0.03			0.03	0.14

(continued)



	β	SE	t	p	95% CI	
					Lower	Upper
H3c: Conscientiousness → PsyCap → SN-MTL						
Total	0.18	0.27	2.86	.005**	0.24	1.28
Direct	-0.01	0.27	-0.11	.914	-0.55	0.49
Indirect	0.18	0.04			0.12	0.26
H3d: Conscientiousness → PsyCap → NC-MTL						
Total	-0.19	0.32	-3.12	.002**	-1.64	-0.37
Direct	-0.12	0.35	-1.80	.072	-1.31	0.06
Indirect	-0.07	0.03			-0.14	-0.02
H3e: Agreeableness → PsyCap → SN-MTL						
Total	-0.11	0.28	-1.80	.074	-1.06	0.05
Direct	-0.12	0.25	-2.19	.029*	-1.05	-0.06
Indirect	0.01	0.03			-0.05	0.07
H3f: Agreeableness → PsyCap → NC-MTL						
Total	0.02	0.34	0.30	.763	-0.57	0.78
Direct	0.02	0.33	0.39	.694	-0.53	0.79
Indirect	-0.01	0.02			-0.04	0.02

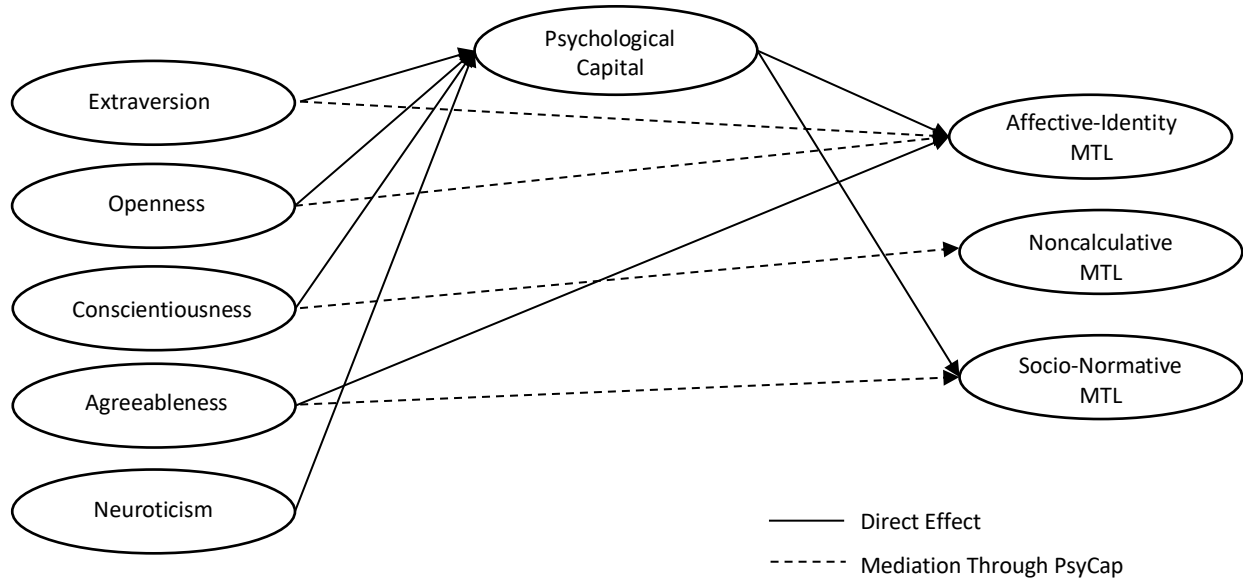
Note. N = 255. β = standardized effect estimate, SE = standard error. Indirect effects were estimated using Percentile Bootstrapping with 5000 Bootstrap samples.

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



Figure 2

Revised Model of Direct and Indirect Effects of Personality, Psychological Capital, and Motivation to Lead



Discussion

This study aimed at investigating the relationships between personality traits, positive psychological resources, and motivation to lead. The first set of hypotheses focused on personality factors as antecedents to PsyCap. In support of H1a, H1b and H1c, Extraversion, Openness and Conscientiousness were found to positively affect PsyCap. Concurrent with H1e, Neuroticism was found to negatively affect PsyCap. Agreeableness was not significantly predicting PsyCap and H1d rejected. The results provide novel insights as the Big Five have not been investigated as predictors of the higher-order construct PsyCap before. Only proactive personality and self-esteem were previously found to predict PsyCap (Avey, 2014) and correlations between personality traits and PsyCap were confirmed by Yildiz (2018) and Brandt et al. (2011). The positive correlation between PsyCap and Conscientiousness and Openness as well as the negative correlation with Neuroticism was confirmed in the present study. Agreeableness did, however, not significantly correlate with PsyCap and Extraversion correlated



positively as opposed to the findings by Yildiz (2018). As personality is expected to affect which experiences an individual makes (Ickes et al., 1997), further variables such as social interactions and mastery experiences can be expected to influence the relationship with PsyCap. The model with personality as predictor only explained 39% of variance in PsyCap, further investigation of antecedents to the psychological resource is thus needed.

Secondly, antecedents to MTL were investigated. The results supported hypothesis H2a only partially. As hypothesized, Extraversion and PsyCap positively predicted AFF-MTL. Contrary to the assumptions, Openness was not found to predict AFF-MTL whereas Agreeableness emerged as negatively affecting AFF-MTL. Theoretically, highly agreeable individuals may indeed enjoy leading less because of potential disagreements and discussions. Furthermore, hypothesis H2b is rejected as Conscientiousness and Agreeableness were not significantly predicting SN- and NC-MTL. Instead, PsyCap emerged as a significant predictor of SN-MTL. The results regarding Extraversion are concurrent with previous research (Badura et al., 2020; Chan & Drasgow, 2001). Openness to experience not being a direct predictor of any MTL-type does also support initial findings (Chan & Drasgow, 2001). PsyCap, introduced as a new variable, was predicting AFF- and SN-MTL similarly to leadership self-efficacy. However, the findings regarding the communal antecedents to MTL contradict previous research. As the proposed models for NC- and SN-MTL only explained 8% and 20% of variance, respectively, a stronger influence of sociocultural values is suspected. With both MTL types being characterized by a feeling of responsibility and duty to lead, higher importance of learned values such as individualism and collectivism is theoretically likely (House & Javidan, 2004).

Lastly, the mediating role of PsyCap in the relationship between personality and MTL was investigated. In support of H3a, H3b, H3c and H3d, PsyCap was found to mediate between Openness and AFF-MTL, Extraversion and AFF-MTL as well as Conscientiousness and SN- and NC-MTL. H3e and H3f



are rejected as no mediation effect was confirmed between Agreeableness and SN- and NC-MTL. PsyCap was introduced to the framework to investigate whether it would have a similar effect as leadership self-efficacy. The indirect effect of Openness on AFF-MTL through PsyCap is concurrent with Chan and Drasgow (2001) who also only found an indirect effect regarding the personality trait. The effect of Extraversion on AFF-MTL was originally found to be direct whereas the present study confirmed mediation through PsyCap. In their original study, the researchers discovered the effect of Conscientiousness on SN-MTL to be mediated by leadership self-efficacy which was here replicated with PsyCap.

Limitations

As a first limitation to the generalizability of results, it must be noted that data was collected via an online survey using self-report measures. Common method bias therefore is a concern (Conway & Lance, 2010; Podsakoff et al., 2003, 2012). Especially regarding personality and psychological resources, participants may want to present themselves in a positive and socially desired way, even though the survey was anonymous. Additionally, the scales had similarly formulated items, a similar answer format and were rather long so that fatigue and misunderstandings, that could not be cleared up due to the online setting, may have negatively impacted the quality of results. However, with personality, psychological resources and motivations being of interest, the use of self-report measures is theoretically adequate and the online survey the most feasible option to ensure a wide distribution.

Furthermore, the present study employed a cross-sectional design which is not optimal for conducting mediation analyses and makes causal inferences inappropriate (Maxwell et al., 2011; Maxwell & Cole, 2007; Yan et al., 2014). Statements about causal relations and their directionality are hence made on a theoretical rather than empirical basis and should be understood as such. Although personality was investigated as a predictor, reverse causality cannot be ruled out. For example, a state



of low PsyCap may enhance neurotic tendencies whereas high PsyCap may reinforce extravert characteristics such as being outgoing. Regarding the number of analyses conducted, it was aimed at counteracting alpha accumulation by lowering the alpha level for all analyses, but the risk of inflated Type I error probability remains.

The study relied on a convenience sampling strategy which poses a limitation to external validity and generalizability of the findings. Attempting to counter this problem, business students from different universities and cultural backgrounds were recruited. The sampling strategy led to an imbalanced sample, especially regarding gender and nationality. Gender was entered as a covariate and significant effects were not found. Nationality, however, was not controlled for. As differences in PsyCap were found in a European comparison (Brandt et al., 2011) and cultural values were originally included as antecedents to MTL (Badura et al., 2020; Chan et al., 2013; Chan & Drasgow, 2001), cultural influences on the constructs of interest should be subject to further research. Another drawback is the relatively small sample size which increases Type II error probability (Cohen, 1992).

Another limitation refers to the psychometric properties of utilized scales. Especially the reliabilities found for the subscales of the personality measure TIPI must be addressed as they were even lower than expected based on having only two items per subscale. Cronbach's alpha for Agreeableness ($\alpha = .12$), Conscientiousness ($\alpha = .29$) and Openness ($\alpha = .46$) was alarmingly low. Looking at the inter-item correlations, it appears that especially the respective items of the subscales Agreeableness ($r = 0.06$) and Conscientiousness ($r = 0.18$) show even lower correlations than found by Ehrhart et al. (2009) which explains the lack of internal consistency and emphasizes the trade-off for higher content validity of the measure (Gosling et al., 2003). However, the present study's results appear to be contradicting previous findings regarding just these two personality factors. Except for PsyCap mediating between Conscientiousness and SN- and NC-MTL, hypotheses regarding the role of



Agreeableness and Conscientiousness in MTL were rejected. Although the TIPI is generally considered a valid instrument (Furnham, 2008; Gosling et al., 2003), Ehrhardt et al. (2009) specifically highlighted the Agreeableness subscale's factor loading as a potential cause for concern. A pilot study could have revealed this shortcoming and an alternative to the TIPI scale might have been selected for the current study. Due to time constraints, a pilot was not conducted and the TIPI was specifically chosen because of its brevity. With the risk of the quality of the current findings being negatively affected by low validity and reliability of the TIPI subscales, the results must be interpreted with caution. To ensure validity and reliability of results, further research is advised to conduct a pilot study and, if necessary, utilize an alternative personality scale with better psychometric properties.

Lastly, the study was conducted in English. Even though university students are assumed to possess a general language proficiency and the survey language was stated beforehand, nuances in understanding of items may have been lost in translation. Given the online setting, explanations could not be provided. With participants from 52 nations, measurement errors based on misunderstanding of items must be expected which further impacts reliability and validity. Referring to the potential culture influences, research would be advised to utilize measures in the respective languages to reduce noise.

Implications

Even though conclusions should be drawn with caution, the study adds to literature by illustrating the relationships between personality traits, positive psychological resources, and leadership motivation. As organizations and institutions of higher education increasingly focus on developing future leaders, a deeper understanding of antecedents to leadership motivation that precedes leader emergence is needed. The findings support the role of personality factors in MTL which emphasizes the importance of assessing personality in the process of selection and recruitment, especially when looking for future leaders (Hurtz & Donovan, 2000; Lounsbury et al., 2016). Additionally, mind-set and



psychological resources have emerged as a competitive advantage as employees are needed to take on responsibility and be willing to learn and develop. The higher-order construct PsyCap, combining hope, optimism, resilience, and self-efficacy (F. Luthans, Avolio, et al., 2007; F. Luthans et al., 2010), was previously shown to positively impact performance, commitment and citizenship behavior (Avey et al., 2011; Gooty et al., 2009; Wu & Nguyen, 2019). With the new insight of PsyCap potentially affecting leadership motivation as well, organizations should consider integrating the construct into their hiring and personnel development process. Interventions specifically targeting PsyCap, as developed by F. Luthans et al. (2006), could be a valuable addition to personnel development strategies that could positively impact the whole workforce as well as current and future leaders in particular.

However, leadership development already begins in higher education programs that teach relevant skills and knowledge but also develop mind-sets (Smart et al., 2002; Waldman et al., 2013). While positive psychological resources are generally desirable, PsyCap has been connected to increased academic performance (Jafri, 2013; B. C. Luthans et al., 2012), higher motivation and engagement (Datu et al., 2018) and less stress-related health issues (Riolli et al., 2012). Together with the connection to MTL, students could benefit from fostering PsyCap in their academic situation but may also take on leadership roles in academic settings. Making relevant experiences may then increase confidence to pursue a management career and act as a competitive advantage on the labor market. Even though all students could benefit from an increased focus on PsyCap, especially business and leadership programs should consider integrating interventions to prepare the students even better for their future careers (B. C. Luthans et al., 2014; B. C. Luthans et al., 2012).

Finally, further research into the proposed relationships between PsyCap and MTL is encouraged. The present study was a first attempt to integrate the psychological resource into the MTL framework. As limitations and inconsistencies have been discussed, further investigation is encouraged



to gain a deeper understanding of the relationships. Especially sociocultural factors should be considered as cultural values can influence attitudes towards leadership (House & Javidan, 2004) and regional differences in PsyCap have previously been discovered (Brandt et al., 2011). An experimental design with PsyCap interventions and control group could be a starting point to investigate PsyCap and MTL further. To integrate sociocultural factors, items regarding individualism and collectivism could be added. On a larger scale, samples could be drawn from the student population of selected universities in specific cultural clusters so that cultural influences can be controlled for. While using scales in the respective languages is advised, integrating peer evaluations could be increasing the quality of results as well.

Conclusion

Given the strong focus on leadership development in professional and academic settings, understanding leadership motivation and its antecedents is a topic of great interest. Even though further research is needed, the present study encourages a new perspective by integrating psychological resources into the existing MTL framework and provides first empirical results supporting personality as antecedent to not only MTL but also PsyCap. Furthermore, the mediating role of PsyCap between personality and MTL was hypothesized and partially supported by the findings. As limitations to the present study and its results have been discussed, the non-significance of some of the proposed relationships should encourage researchers to bring their attention to the role of other confounding variables such as sociocultural influences to investigate the relationship between PsyCap and MTL even further.



References

- Abele, A. E., & Wojciszke, B. (Eds.). (2019). *Agency and communion in social psychology* (1 Edition). Routledge, Taylor & Francis Group.
- Avey, J. B. (2014). The Left Side of Psychological Capital: New Evidence on the Antecedents of PsyCap. *Journal of Leadership & Organizational Studies*, 21(2), 141–149.
<https://doi.org/10.1177/1548051813515516>
- Avey, J. B., Reichard, R. J., Luthans, F., & Mhatre, K. H. (2011). Meta-analysis of the impact of positive psychological capital on employee attitudes, behaviors, and performance. *Human Resource Development Quarterly*, 22(2), 127–152. <https://doi.org/10.1002/hrdq.20070>
- Badura, K. L., Grijalva, E., Galvin, B. M., Owens, B. P., & Joseph, D. L. (2020). Motivation to lead: A meta-analysis and distal-proximal model of motivation and leadership. *Journal of Applied Psychology*, 105(4), 331–354. <https://doi.org/10.1037/apl0000439>
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. W.H. Freeman.
- Bandura, A. (2006). Self-Efficacy Beliefs of Adolescents. In F. Pajares & T. C. Urdan (Eds.), *Self-efficacy beliefs of adolescents* (pp. 307–337). IAP - Information Age Pub.
<http://public.ebookcentral.proquest.com/choice/publicfullrecord.aspx?p=3315034>
- Bandura, A. (2008). An agentic perspective on positive psychology. In S. J. Lopez (Ed.), *Positive psychology: Exploring the best in people* (Vol. 1, pp. 167–196). Greenwood Publishing.
- Bono, J. E., & Judge, T. A. (2004). Personality and Transformational and Transactional Leadership: A Meta-Analysis. *Journal of Applied Psychology*, 89(5), 901–910.
- Brandt, T., Gomes, J. F. S., & Boyanova, D. (2011). Personality and psychological capital as indicators of future job success? *Liiketaloudellinen Aikakauskirja*, 3, 263–289.



Campbell-Sills, L., Cohan, S. L., & Stein, M. B. (2006). Relationship of resilience to personality, coping, and psychiatric symptoms in young adults. *Behaviour Research and Therapy*, *44*(4), 585–599.

<https://doi.org/10.1016/j.brat.2005.05.001>

Chan, K.-Y., & Drasgow, F. (2001). Toward a theory of individual differences and leadership:

Understanding the motivation to lead. *Journal of Applied Psychology*, *86*(3), 481–498.

<https://doi.org/10.1037/0021-9010.86.3.481>

Chan, K.-Y., Li, Y., Ho, M.-Ho. R., Chernyshenko, O., & Sam, Y. L. (2013). Affective, Non-calculative and Social Motivation to lead: What we know from studies of Entrepreneurial, Professional & Leadership motivation. *Paper Presented at the 16th Congress of the European Association of Work and Organizational Psychology (EAWOP), Münster, Germany.*

<https://doi.org/10.13140/2.1.1799.5529>

Ciarrocchi, J. W., Dy-Liacco, G. S., & Deneke, E. (2008). Gods or rituals? Relational faith, spiritual discontent, and religious practices as predictors of hope and optimism. *The Journal of Positive Psychology*, *3*(2), 120–136. <https://doi.org/10.1080/17439760701760666>

Cohen, J. (1992). A power primer. *Psychological Bulletin*, *112*(1), 155–159.

<https://doi.org/10.1037/0033-2909.112.1.155>

Conway, J. M., & Lance, C. E. (2010). What Reviewers Should Expect from Authors Regarding Common Method Bias in Organizational Research. *Journal of Business and Psychology*, *25*(3), 325–334.

<https://doi.org/10.1007/s10869-010-9181-6>

Datu, J. A. D., King, R. B., & Valdez, J. P. M. (2018). Psychological capital bolsters motivation, engagement, and achievement: Cross-sectional and longitudinal studies. *The Journal of Positive Psychology*, *13*(3), 260–270. <https://doi.org/10.1080/17439760.2016.1257056>



DeRue, D. S., & Myers, C. G. (2014). Leadership development: A review and agenda for future research.

In D. V. Day (Ed.), *The Oxford handbook of leadership and organizations* (pp. 832–855). Oxford University Press.

Ehrhart, M. G., Ehrhart, K. H., Roesch, S. C., Chung-Herrera, B. G., Nadler, K., & Bradshaw, K. (2009).

Testing the latent factor structure and construct validity of the Ten-Item Personality Inventory. *Personality and Individual Differences*, *47*(8), 900–905.

<https://doi.org/10.1016/j.paid.2009.07.012>

Fayombo, G. (2010). The Relationship between Personality Traits and Psychological Resilience among

the Caribbean Adolescents. *International Journal of Psychological Studies*, *2*(2), 105–116.

Furnham, A. (2008). Relationship among Four Big Five Measures of Different Length. *Psychological*

Reports, *102*(1), 312–316. <https://doi.org/10.2466/pr0.102.1.312-316>

Ghaed, S. G., & Gallo, L. C. (2006). Distinctions Among Agency, Communion, and Unmitigated Agency

and Communion According to the Interpersonal Circumplex, Five-Factor Model, and Social-Emotional Correlates. *Journal of Personality Assessment*, *86*(1), 77–88.

https://doi.org/10.1207/s15327752jpa8601_09

Gooty, J., Gavin, M., Johnson, P. D., Frazier, M. L., & Snow, D. B. (2009). In the Eyes of the Beholder:

Transformational Leadership, Positive Psychological Capital, and Performance. *Journal of Leadership & Organizational Studies*, *15*(4), 353–367.

<https://doi.org/10.1177/1548051809332021>

Gosling, S. D., Rentfrow, P. J., & Swann, W. B. (2003). A very brief measure of the Big-Five personality

domains. *Journal of Research in Personality*, *37*(6), 504–528. [https://doi.org/10.1016/S0092-](https://doi.org/10.1016/S0092-6566(03)00046-1)

[6566\(03\)00046-1](https://doi.org/10.1016/S0092-6566(03)00046-1)



- Grijalva, E., & Zhang, L. (2016). Narcissism and Self-Insight: A Review and Meta-Analysis of Narcissists' Self-Enhancement Tendencies. *Personality and Social Psychology Bulletin*, 42(1), 3–24.
<https://doi.org/10.1177/0146167215611636>
- Gurdjian, P., Halbeisen, T., & Lane, K. (2014). Why leadership-development programs fail. *McKinsey Quarterly*. http://www.mobiusleadership.com/wp-content/uploads/2014/04/McKinsey-Quarterly-January-2014-Why_leadership-development_programs_fail.pdf
- Halama, P. (2010). Hope as a mediator between personality traits and life satisfaction. *Studia Psychologica*, 52(4), 309–314.
- Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (Second edition). Guilford Press.
- Hayes, A. F. (2020). *PROCESS for R* (3.5.3 beta0.6) [Computer software].
- Hogan, R. (1983). A socioanalytic theory of personality. In M. M. Page (Ed.), *1982 Nebraska symposium on motivation* (pp. 55–89). University of Nebraska Press.
- Hogan, R. (1996). A socioanalytic perspective on the five-factor model. In J. S. Wiggins (Ed.), *The five-factor model of personality: Theoretical perspectives* (pp. 163–179). Guilford Press.
- House, R. J., & Javidan, M. (2004). Overview of GLOBE. In R. J. House, P. J. Hanges, M. Javidan, P. W. Dorfman, & V. Gupta (Eds.), *Culture, Leadership, and Organizations: The GLOBE Study of 62 Societies* (pp. 9–28). SAGE Publications.
- Hurtz, G. M., & Donovan, J. J. (2000). Personality and job performance: The Big Five revisited. *Journal of Applied Psychology*, 85(6), 869–879. <https://doi.org/10.1037/0021-9010.85.6.869>
- Ickes, W., Snyder, M., & Garcia, S. (1997). Personality Influences on the Choice of Situations. In *Handbook of Personality Psychology* (pp. 165–195). Elsevier. <https://doi.org/10.1016/B978-012134645-4/50008-1>



Jafri, Md. H. (2013). A Study of the Relationship of Psychological Capital and Students' Performance.

Business Perspectives and Research, 1(2), 9–16. <https://doi.org/10.1177/2278533720130202>

Judge, T. A., Bono, J. E., Ilies, R., & Gerhardt, M. W. (2002). Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology*, 87(4), 765–780.

Judge, T. A., Jackson, C. L., Shaw, J. C., Scott, B. A., & Rich, B. L. (2007). Self-efficacy and work-related performance: The integral role of individual differences. *Journal of Applied Psychology*, 92(1), 107–127. <https://doi.org/10.1037/0021-9010.92.1.107>

Judge, T. A., Piccolo, R. F., & Kosalka, T. (2009). The bright and dark sides of leader traits: A review and theoretical extension of the leader trait paradigm. *The Leadership Quarterly*, 20(6), 855–875. <https://doi.org/10.1016/j.leaqua.2009.09.004>

Kanfer, R. (1990). Motivation Theory and Industrial and Organizational Psychology. In M. D. Dunnette & L. Hough (Eds.), *Handbook of industrial and organizational psychology* (Vol. 1, pp. 75–130). Consulting Psychologists Press.

Karwowski, M., Lebuda, I., Wisniewska, E., & Gralewski, J. (2013). Big Five Personality Traits as the Predictors of Creative Self-Efficacy and Creative Personal Identity: Does Gender Matter? *The Journal of Creative Behavior*, 47(3), 215–232. <https://doi.org/10.1002/jocb.32>

Komives, S. R. (Ed.). (2011). *The handbook for student leadership development* (2nd ed). Jossey-Bass.

Lounsbury, J. W., Sundstrom, E. D., Gibson, L. W., Loveland, J. M., & Drost, A. W. (2016). Core personality traits of managers. *Journal of Managerial Psychology*, 31(2), 434–450. <https://doi.org/10.1108/JMP-03-2014-0092>

Love, J. (n.d.). *Rj—Editor to run R code inside jamovi* (1.1.0) [Computer software].

Love, J., Dropmann, D., & Selker, R. (2020). *jmv—Analyses bundled with jamovi* (1.0.0) [Computer software].



- Luthans, Brett C., Luthans, K. W., & Avey, J. B. (2014). Building the Leaders of Tomorrow: The Development of Academic Psychological Capital. *Journal of Leadership & Organizational Studies*, 21(2), 191–199. <https://doi.org/10.1177/1548051813517003>
- Luthans, Brett Carl, Luthans, K. W., & Jensen, S. M. (2012). The Impact of Business School Students' Psychological Capital on Academic Performance. *Journal of Education for Business*, 87(5), 253–259. <https://doi.org/10.1080/08832323.2011.609844>
- Luthans, F., Avey, J. B., Avolio, B. J., Norman, S. M., & Combs, G. M. (2006). Psychological capital development: Toward a micro-intervention. *Journal of Organizational Behavior*, 27(3), 387–393. <https://doi.org/10.1002/job.373>
- Luthans, F., Avey, J. B., Avolio, B. J., & Peterson, S. J. (2010). The development and resulting performance impact of positive psychological capital. *Human Resource Development Quarterly*, 21(1), 41–67.
- Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive Psychological Capital: Measurement and Relationship with Performance and Satisfaction. *Personnel Psychology*, 60(3), 541–572. <https://doi.org/10.1111/j.1744-6570.2007.00083.x>
- Luthans, F., Youssef, C. M., & Avolio, B. J. (2007). *Psychological capital: Developing the human competitive edge*. Oxford University Press.
- Lyons, S. T., Schweitzer, L., & Ng, E. S. W. (2015). Resilience in the modern career. *Career Development International*, 20(4), 363–383. <https://doi.org/10.1108/CDI-02-2015-0024>
- Maxwell, S. E., & Cole, D. A. (2007). Bias in cross-sectional analyses of longitudinal mediation. *Psychological Methods*, 12(1), 23–44. <https://doi.org/10.1037/1082-989X.12.1.23>
- Maxwell, S. E., Cole, D. A., & Mitchell, M. A. (2011). Bias in Cross-Sectional Analyses of Longitudinal Mediation: Partial and Complete Mediation Under an Autoregressive Model. *Multivariate Behavioral Research*, 46(5), 816–841. <https://doi.org/10.1080/00273171.2011.606716>



- Ng, K.-Y., Ang, S., & Chan, K.-Y. (2008). Personality and leader effectiveness: A moderated mediation model of leadership self-efficacy, job demands, and job autonomy. *Journal of Applied Psychology, 93*(4), 733–743. <https://doi.org/10.1037/0021-9010.93.4.733>
- Northouse, P. G. (2015). *Leadership: Theory and practice* (Seventh Edition). SAGE Publications, Inc.
- Paglis, L. L. (2010). Leadership self-efficacy: Research findings and practical applications. *Journal of Management Development, 29*(9), 771–782. <https://doi.org/10.1108/02621711011072487>
- Parker, S. K. (1998). Enhancing role breadth self-efficacy: The roles of job enrichment and other organizational interventions. *Journal of Applied Psychology, 83*(6), 835–852. <https://doi.org/10.1037/0021-9010.83.6.835>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of Method Bias in Social Science Research and Recommendations on How to Control It. *Annual Review of Psychology, 63*(1), 539–569. <https://doi.org/10.1146/annurev-psych-120710-100452>
- Reyes, D. L., Dinh, J., Lacerenza, C. N., Marlow, S. L., Joseph, D. L., & Salas, E. (2019). The state of higher education leadership development program evaluation: A meta-analysis, critical review, and recommendations. *The Leadership Quarterly, 30*(5), 101311. <https://doi.org/10.1016/j.leaqua.2019.101311>
- Riulli, L., Savicki, V., & Richards, J. (2012). Psychological Capital as a Buffer to Student Stress. *Psychology, 03*(12), 1202–1207. <https://doi.org/10.4236/psych.2012.312A178>
- Robbins, S. P., & Judge, T. (2013). *Organizational behavior* (15th ed). Pearson.



Roberts, B. W., & Bogg, T. (2004). A Longitudinal Study of the Relationships Between Conscientiousness and the Social- Environmental Factors and Substance-Use Behaviors That Influence Health.

Journal of Personality, 72(2), 325–353.

Roberts, B. W., Lejuez, C., Krueger, R. F., Richards, J. M., & Hill, P. L. (2014). What is conscientiousness and how can it be assessed? *Developmental Psychology*, 50(5), 1315–1330.

<https://doi.org/10.1037/a0031109>

Seemiller, C. (2016). Leadership Competency Development: A Higher Education Responsibility: Leadership Competency Development. *New Directions for Higher Education*, 2016(174), 93–104.

<https://doi.org/10.1002/he.20192>

Sharpe, J. P., Martin, N. R., & Roth, K. A. (2011). Optimism and the Big Five factors of personality: Beyond Neuroticism and Extraversion. *Personality and Individual Differences*, 51(8), 946–951.

<https://doi.org/10.1016/j.paid.2011.07.033>

Smart, J. C., Ethington, C. A., Riggs, R. O., & Thompson, M. D. (2002). Influences of institutional expenditure patterns on the development of students' leadership competencies. *Research in Higher Education*, 43(1), 115–132.

The jamovi project. (2020). *Jamovi* (Version 1.2 [Computer Software]) [Computer software].

<https://www.jamovi.org>

Thompson, M. D. (2006). Student Leadership Process Development: An Assessment of Contributing College Resources. *Journal of College Student Development*, 47(3), 343–350.

<https://doi.org/10.1353/csd.2006.0035>

Waldman, D. A., Galvin, B. M., & Walumbwa, F. O. (2013). The Development of Motivation to Lead and Leader Role Identity. *Journal of Leadership & Organizational Studies*, 20(2), 156–168.

<https://doi.org/10.1177/1548051812457416>



- Wang, J.-H., Chang, C.-C., Yao, S.-N., & Liang, C. (2016). The contribution of self-efficacy to the relationship between personality traits and entrepreneurial intention. *Higher Education, 72*(2), 209–224. <https://doi.org/10.1007/s10734-015-9946-y>
- Wei, W., & Taormina, R. J. (2014). A new multidimensional measure of personal resilience and its use: Chinese nurse resilience, organizational socialization and career success. *Nursing Inquiry, 21*(4), 346–357. <https://doi.org/10.1111/nin.12067>
- Wiggins, J. S. (1991). Agency and communion as conceptual coordinates for the understanding and measurement of interpersonal behavior. In D. Cicchetti & W. M. Grove (Eds.), *Thinking clearly about psychology: Essays in honor of Paul E. Meehl* (pp. 89–113). University of Minnesota Press.
- Wu, W.-Y., & Nguyen, K.-V. H. (2019). The antecedents and consequences of psychological capital: A meta-analytic approach. *Leadership & Organization Development Journal, 40*(4), 435–456. <https://doi.org/10.1108/LODJ-06-2018-0233>
- Yan, Q., Bligh, M. C., & Kohles, J. C. (2014). Absence Makes the Errors Go Longer: How Leaders Inhibit Learning From Errors. *Zeitschrift Für Psychologie, 222*(4), 233–245. <https://doi.org/10.1027/2151-2604/a000190>
- Yang, B., Kim, Y., & McFarland, R. G. (2011). Individual Differences and Sales Performance: A Distal-Proximal Mediation Model of Self-Efficacy, Conscientiousness, and Extraversion. *Journal of Personal Selling & Sales Management, 31*(4), 371–381. <https://doi.org/10.2753/PSS0885-3134310401>
- Yildiz, E. (2018). A Case Study on Relationships Between Psychological Capital, Personality and Organizational Commitment. *International Journal of Business Administration, 9*(2), 99. <https://doi.org/10.5430/ijba.v9n2p99>



You, J. W. (2016). The relationship among college students' psychological capital, learning empowerment, and engagement. *Learning and Individual Differences, 49*, 17–24.

<https://doi.org/10.1016/j.lindif.2016.05.001>

Yukl, G. A. (2013). *Leadership in organizations* (8th ed). Pearson.



Appendix A

Sample Description

Table A1

Descriptive Statistics for Sample Age, Gender, and Nationality

	age	gender	nationality
N	256	257	258
Missing	2	1	0
Mean	24.8		
Median	24.0		
Minimum	18	0	
Maximum	57	1	

Table A2

Frequencies of Age

Levels	Counts	% of Total	Cumulative %
18	1	0.4 %	0.4 %
19	6	2.3 %	2.7 %
20	10	3.9 %	6.6 %
21	32	12.5 %	19.1 %
22	23	9.0 %	28.1 %
23	25	9.8 %	37.9 %

(continued)



Levels	Counts	% of Total	Cumulative %
24	44	17.2 %	55.1 %
25	35	13.7 %	68.8 %
26	29	11.3 %	80.1 %
27	9	3.5 %	83.6 %
28	13	5.1 %	88.7 %
29	6	2.3 %	91.0 %
30	4	1.6 %	92.6 %
31	3	1.2 %	93.8 %
32	2	0.8 %	94.5 %
33	3	1.2 %	95.7 %
34	2	0.8 %	96.5 %
35	3	1.2 %	97.7 %
37	1	0.4 %	98.0 %
38	1	0.4 %	98.4 %
40	1	0.4 %	98.8 %
42	1	0.4 %	99.2 %
47	1	0.4 %	99.6 %
57	1	0.4 %	100.0 %



Table A3

Frequencies of Gender

Levels	Counts	% of Total	Cumulative %
0	85	33.1	33.1
1	172	66.9	100.0

Note. 0 = male, 1 = female.

Table A4

Frequencies of Nationality

Levels	Counts	% of Total	Cumulative %
German	87	33.7 %	33.7 %
Croatian	5	1.9 %	35.7 %
Greek	4	1.6 %	37.2 %
Tunisian	1	0.4 %	37.6 %
Italian	11	4.3 %	41.9 %
Chinese	9	3.5 %	45.3 %
Austrian	9	3.5 %	48.8 %
Danish	6	2.3 %	51.2 %
Swedish	6	2.3 %	53.5 %
Polish	5	1.9 %	55.4 %
Indian	5	1.9 %	57.4 %
Portuguese	4	1.6 %	58.9 %

(continued)



Levels	Counts	% of Total	Cumulative %
Cypriot	1	0.4 %	59.3 %
British	28	10.9 %	70.2 %
Hungarian	4	1.6 %	71.7 %
Lithuanian	3	1.2 %	72.9 %
French	3	1.2 %	74.0 %
Swiss	1	0.4 %	74.4 %
Pakistani	4	1.6 %	76.0 %
Dutch	5	1.9 %	77.9 %
Scottish	2	0.8 %	78.7 %
Cape Verdean	1	0.4 %	79.1 %
Moroccan	3	1.2 %	80.2 %
Belgian	2	0.8 %	81.0 %
Filipino	1	0.4 %	81.4 %
Mexican	1	0.4 %	81.8 %
American	9	3.5 %	85.3 %
Czech	4	1.6 %	86.8 %
South African	1	0.4 %	87.2 %
Bangladeshi	1	0.4 %	87.6 %
Taiwanese	3	1.2 %	88.8 %
Russian	2	0.8 %	89.5 %
Irish	1	0.4 %	89.9 %
Slovak	2	0.8 %	90.7 %

(continued)



Levels	Counts	% of Total	Cumulative %
Persian	1	0.4 %	91.1 %
Malaysian	3	1.2 %	92.2 %
Spanish	1	0.4 %	92.6 %
Nigerian	1	0.4 %	93.0 %
Canadian	1	0.4 %	93.4 %
Maltese	2	0.8 %	94.2 %
Latvian	2	0.8 %	95.0 %
Romanian	1	0.4 %	95.3 %
Vietnamese	1	0.4 %	95.7 %
Bulgarian	2	0.8 %	96.5 %
Bolivian	1	0.4 %	96.9 %
Saudi Arabian	1	0.4 %	97.3 %
Uzbek	1	0.4 %	97.7 %
Israeli	1	0.4 %	98.1 %
Turkish	1	0.4 %	98.4 %
Albanian	1	0.4 %	98.8 %
Iranian	1	0.4 %	99.2 %
NA	2	0.8 %	100.0 %



Appendix B

Correlation Matrix for Main Study Variables

Table B

Correlation Matrix

	E	A	C	N	O	PsyCap	AFF-MTL	NC-MTL	SN-MTL
E	-								
A	-0.09	-							
C	0.13*	0.09	-						
N	-0.12	-0.11	-0.19**	-					
O	0.28***	0.17**	0.11	-0.13*	-				
PsyCap	0.36***	0.03	0.40***	-0.41***	0.34***	-			
AFF-MTL	0.50***	-0.29***	0.13*	-0.06	0.19**	0.36***	-		
NC-MTL	-0.06	0.01	-0.22***	0.05	-0.15*	-0.23***	-0.17**	-	
SN-MTL	0.22***	-0.11	0.17**	-0.10	0.17**	0.45***	0.36***	-0.11	-

Note. E = Extraversion, A = Agreeableness, C = Conscientiousness, N = Neuroticism, O = Openness to Experience, PsyCap = Psychological Capital, AFF-MTL = Affective-Identity Motivation to Lead, NC-MTL = Noncalculative Motivation to Lead, SN-MTL = Socio-Normative Motivation to Lead.

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