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On the role of
power and affiliation motives
for leadership and selfishness
in men and women

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of the Technische Universität Darmstadt

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Abstract

It is not fully understood which motives are desirable in leaders. Early studies proposed that leaders ought to strive for influence and control (*power motive*) and should have a low desire for positive relationships (*affiliation motive*). However, the evidence that has accumulated since then is somewhat inconsistent and contradictory. This dissertation revisits the role of power and affiliation motives for leadership with two important differences to previous studies. First, it distinguishes between desirable (*functional*) and undesirable (*dysfunctional*) variants of both power and affiliation motives based on existing conceptualizations of these variants. Second, it distinguishes between two different classes of indicators of effective leadership. We refer to the first group as *prototypical* indicators of effective leadership because they contain a substantial amount of subjective judgments which are influenced by leadership prototypes. We refer to the other group as *prosocial* indicators of effective leadership.

Method: In a first step (Chapter 1) we provide an overview of previous research on the role of subconscious (*implicit*) power and affiliation motives for leadership ($k = 24$, $N = 2,113$) and derive our goal to develop scales measuring functional and dysfunctional variants of conscious (*explicit*) power and affiliation motives. Chapter 2 introduces and validates these scales using data from a field survey ($N = 961$) and a longitudinal survey ($N = 35$). Chapter 3 examines the relationships between motives and four *prototypical* indicators of effective leadership (peer- and self-rated leadership competence, motivation to lead, and leadership role occupancy) using the field sample. Chapter 4 focuses on the relationships between motives and three *prosocial* indicators of effective leadership. It uses data from a laboratory study ($N = 201$) in which groups of 3 to 4 persons play a game of *Settlers of Catan: Oil Springs*. We assess participants' verbal endorsement of cooperation (vs. selfishness) and the number of oil spills that they caused. Chapter 4 also draws on data from the field survey in which participants (including $N = 257$ actual leaders) responded to scenarios providing opportunities for unethical business decisions. Chapter 5 compares men and women in the functional and dysfunctional variants of power and affiliation motives.

Results: Model comparisons indicate that functional and dysfunctional variants of power and affiliation motives can be distinguished from each other. Further analyses reveal that prototypical indicators of leadership relate positively to a functional power motive and negatively to a dysfunctional affiliation motive. Prosocial indicators of leadership relate positively to a functional affiliation mo-

tive and negatively to a dysfunctional power motive. Women report, on average, a stronger functional affiliation motive whereas men report a stronger dysfunctional power motive. Women score higher on prosocial indicators of leadership which can be partially attributed to gender differences in motives (*mediation*). Many of the results were robust across subsamples with different occupational statuses and after controlling for personality, reasoning, or implicit motives.

Discussion: The present dissertation contributes to the literature on the role of motives for leadership by showing that power and affiliation motives can *both* be beneficial in leaders but for different classes of outcomes. It is important to distinguish between functional and dysfunctional variants of each motive because dysfunctional variants may impede some classes of leadership criteria. It is noteworthy that men and women do, on average, systematically differ in some motive variants in the direction of a female leadership advantage (women report higher levels in a desirable variant and lower levels in an undesirable one). When organizations use this information for recruiting, selecting, and developing leaders, this may attract more women into leadership positions. However, Chapter 6 points to potential hurdles when pursuing this endeavor. More specifically, raters tend to evaluate selfish behavior as effective leadership behavior (which is in line with male leadership stereotypes and favors men according to our data). Mere awareness of gender-based discrimination does not prevent these stereotypical patterns of evaluation. We call for interventions that increase the appreciation of cooperative leaders instead of increasing a power motive in women.

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Part I

General introduction

1

On the role of power and affiliation motives for leadership

This dissertation focuses on the role of motives for leadership. There are several reasons why more research on this topic may advance the literature and could eventually benefit the general public. First, even though a striving for influence (the *power motive*) has been assumed to be *desirable* in leaders (McClelland & Burnham, 1976), this may not be the case for all aspects of leadership or for all possible variants of the power motive. Second, even though a striving for positive relationships (the *affiliation motive*) has been assumed to be *undesirable* in leaders (McClelland & Burnham, 1976), this may again neither be the case for all aspects of leadership nor for all conceivable forms of the affiliation motive. Third, given that men and women do, on average, differ on some measures of power and affiliation motives (e.g., Drescher & Schultheiss, 2016; Schuh et al., 2014), these motives may also be relevant in the discussion of gender differences in leadership. Recent research has indeed suggested that programs should be developed or implemented aimed at fostering a power motive

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Table 1.1

Research questions concerning the role of motives for leadership

#	Research questions
1	Power motive <ul style="list-style-type: none"> • Are all variants of the power motive desirable in leaders? • Does the power motive benefit all aspects of leadership?
2	Affiliation motive <ul style="list-style-type: none"> • Are all variants of the affiliation motive undesirable in leaders? • Does the affiliation motive impede all aspects of leadership?
3	Gender differences in motives and leadership <ul style="list-style-type: none"> • Should interventions be recommended to women that aim to increase their power motive?

among women (Schuh et al., 2014; Elprana, 2014). Even though we embrace all measures that help in reducing the existing inequalities in the participation in leadership, we are not sure if fostering women's power motive can be generally recommended. While the power motive is likely to promote leaders' career success (Schuh et al., 2014), it may still have unintended side effects such as unethical or abusive behavior (Williamson, 2008; Hu & Liu, 2017). Factors that benefit leaders' career success sometimes do not equally benefit organizational effectiveness (Kaiser et al., 2008).

These issues have sparked our interest in revisiting the role of motives for leadership. In Chapter 3, we will examine the roles of power and affiliation motives for frequently used indicators of effective leadership (Kaiser et al., 2008). More specifically, we assess peer- and self-rated leadership competence, motivation to lead, and leadership role occupancy. All of these indicators depend to some degree on subjective evaluations. Subjective evaluations of leadership are influenced by people's prototypes about leadership (Nye & Forsyth, 1991). Hence, we refer to this group of outcomes as *prototypical* indicators of effective leadership.

In Chapter 4, we will examine the roles of power and affiliation motives for cooperation. On the one hand, cooperative behavior is an important determinant of organizational effectiveness (Harrell & Simpson, 2016; Peterson et al., 2012). On the other hand, cooperative behavior does not fit masculine stereotypes of leadership (Koenig et al., 2011). According to masculine leadership stereotypes, leaders are sometimes characterized as selfish (Epitropaki & Martin, 2004) or dominant (Ensari et al., 2011). Therefore, we consider cooperation as not being redundant with prototypical indicators of effective leadership but instead as being part of another group of indicators that we call *prosocial* indicators of effective leadership. By considering these two types of indicators of effective leadership (prototypical vs. prosocial) next to each other in Chapters 3 and 4, we

Table 1.2
Focus of the empirical chapters of this dissertation

Chapter	Focus
2	Development and validation of self-report scales that are able to distinguish between functional and dysfunctional variants of power and affiliation motives
3	Relationship between power and affiliation motives and prototypical indicators of effective leadership (e.g., peer-rated leadership competence)
4	Relationship between power and affiliation motives and prosocial indicators of effective leadership (e.g., cooperation)
5	Mediating role of variants of power and affiliation motives for gender differences in leadership

strive to gain a more complex understanding of the importance of power and affiliation motives for different aspects of leadership.

We are not aware of any existing measure allowing us to examine all of these issues. Therefore, we developed new self-report scales. We will examine their psychometric properties in Chapter 2. Previous research (McClelland & Burnham, 1976; Spangler et al., 2014) has conceptualized different variants of power and affiliation motives that are either *desirable* in leaders (henceforth referred to as *functional*) or *undesirable* (henceforth referred to as *dysfunctional*). For the power motive, measures of its functional (usually labelled *socialized*) and dysfunctional (usually labelled *personalized*) variants exist but there seems to be little agreement which of these measures should be used (e.g., Winter, 1973; McClelland & Boyatzis, 1982; Winter, 1991; Magee & Langner, 2008; Steinmann et al., 2015; cf. columns “analytical approach” and “label and formula” in Table 1.5). For the affiliation motive, we know of no measure that is able to distinguish between functional and dysfunctional variants of this motive. Instead, researchers seem to disagree about the conceptualization of the affiliation motive (cf. Baker, 1979; Weinberger et al., 2010).

We also examine gender differences in power and affiliation motives. Previous research has typically focused on gender differences in power and affiliation motives *in general* rather than in the functional and dysfunctional variants of them (e.g., Drescher & Schultheiss, 2016; Schuh et al., 2014). By focusing on gender differences in *particular variants* of these motives, Chapter 5 aims to contribute new details to our understanding of gender differences in power and affiliation motives. Given the importance of some motives for leadership, gender differences in these motives may have implications for understanding gender differences in leadership (Schuh et al., 2014). More specifically, motives may partially account for (i.e., *mediate*) gender differences in leadership. Previous research has recommended to foster a general power motive among women (Schuh et al., 2014; Elprana, 2014). Considering the findings of Chapters 3, 4,

and 5 altogether may help in determining if this recommendation receives further empirical support or if it may need adjustment.

This dissertation may have several implications. First, it may contribute towards clarifying the roles of power and affiliation motives for leadership. Previous research on motives and leadership has rarely compared different indicators of effective leadership (here: prototypical vs. prosocial) and typically did not distinguish between functional and dysfunctional variants of both power and affiliation motives. Doing so in Chapters 3 and 4 may improve our understanding of the boundary conditions (Busse et al., 2017) of McClelland's theoretical assumptions about motives and leadership (McClelland & Burnham, 1976; McClelland & Boyatzis, 1982). Boundary conditions refer to the who, where, and when aspects of a theory (Busse et al., 2017). The boundary conditions of McClelland's theoretical assumptions tell us whether his assumptions equally apply to different aspects of leadership and/or to all possible variants of power and affiliation motives. Motives received only little attention in recent reviews on individual differences in leaders and were not included in any recent meta-analyses (Zaccaro et al., 2018). Improving our understanding of the importance of motives for leadership seems a valuable addition to the literature on individual differences in leaders. This information can be used to guide selection and development of leaders.

Second, we believe that this dissertation contributes to the literature on gender differences in leadership. Previous research has suggested that interventions be developed which aim at fostering women's power motive (Schuh et al., 2014) or their motivation to lead (Elprana, 2014). This research has not distinguished between functional and dysfunctional variants of these motives. By doing so in this dissertation, we may come to a different conclusion. It may be the case that men and women do not differ in the functional variant of the power motive but only differ in the dysfunctional variant of it (Kivikangas et al., 2014; Locke & Heller, 2017). For example, if we find that men report a higher dysfunctional power motive, this would rather suggest that interventions be developed that aim at reducing men's dysfunctional power motive alongside with interventions that both reduce gender-based discrimination (Koenig et al., 2011; Rudman et al., 2012; Williams & Tiedens, 2016) and remove other factors that deter women from taking leadership positions (Kennedy & Kray, 2014; Gino et al., 2015; Schneider et al., 2016). A similar reasoning applies to the affiliation motive. Women have, on average, a higher affiliation motive (Drescher & Schultheiss, 2016). However, it may again be the case that men and women differ only in one variant of the affiliation motive. For example, if we find that women do, on average, report a higher functional affiliation motive than men and that the functional affiliation motive is actually desirable in leaders, this would support the idea of an overall female *advantage* in leadership (Eagly et al., 2003) as opposed to the *disadvantage* that has often been associated with people who have a

Table 1.3
Implicit power and affiliation motives in leadership research

Motive	The conceptualization of particular motive variants is clear	A measure exists that fits this conceptualization	Different studies use the same approach to measurement and/or analysis	Findings are consistent across studies
Power	✓	✓	?	?
Affiliation	?	?	?	?

strong affiliation motive (e.g., McClelland & Burnham, 1976; Spangler & House, 1991; Antonakis, 2011).

Third, the present research may also contribute to the literature on cooperation in social dilemmas. Social dilemmas are situations where self-interest conflicts with collective interests (Van Lange et al., 2013). Not only are these situations relevant to leadership (de Cremer & van Dijk, 2005; Harrell & Simpson, 2016) but they are also a topic of great significance in themselves (e.g., Hardin, 1968; Ostrom et al., 2002). Previous studies on the role of motives for cooperation in social dilemmas used an *indirect* approach to measuring motives. They presented participants with a series of allocation decisions and categorized participants based on their choices as prosocial, individualistic, competitive, or unclassifiable (referred to as *social value orientation*; Murphy et al., 2011; Murphy & Ackermann, 2014). The present research uses a more direct approach to measuring motives (by using self-report scales) and considers multiple motives simultaneously (i.e., functional and dysfunctional variants of power and affiliation motives). To the best of our knowledge, few studies have examined the relative importance of multiple motives for cooperation in social dilemmas (for exceptions, see Sagiv et al., 2011; Chierchia et al., 2017). Thus, the present studies may reveal new details about the specific nature of the motives assumed to underlie cooperation in social dilemmas.

Measurement of power and affiliation motives

This dissertation introduces a self-report measure of functional and dysfunctional variants of power and affiliation motives. To the best of our knowledge, the literature does not yet provide an easy way to measure functional and dysfunctional variants of power and affiliation motives. Instead, there seem to be some issues with regard to conceptualization and measurement of both power and affiliation motives. We will now briefly summarize our reasons for developing a new measure.

Table 1.4

Criteria that guide our decision to focus on explicit motives

	Implicit motives	Explicit motives
1)	Availability of studies that test McClelland and Burnham's (1976) theoretical assumptions about the role of power and affiliation motives for leadership	
	<ul style="list-style-type: none"> • Several studies are available (cf. Table 1.5) 	<ul style="list-style-type: none"> • Few studies seem to be available
2)	Costs related to measurement and analysis	
	<ul style="list-style-type: none"> • 3 pictures take ~ 10 min./participant • Responses need to be coded by experts (~ 5 min./participant) 	<ul style="list-style-type: none"> • 16 items take ~ 3 min./participant • Responses can be analyzed automatically
3)	Independent measurement of different motive variants	
	<ul style="list-style-type: none"> • Not possible if measures are based on motive configurations, difference values, or interaction effects (e.g., power motive × activity inhibition) • In these cases, each participant <i>either</i> has a personalized power motive or a socialized power motive (it is impossible that participants have both) 	<ul style="list-style-type: none"> • Possible through measuring each motive variant separately • Each participant may have high levels on <i>both</i> a functional power motive and a dysfunctional power motive <i>at the same time</i>
4)	Validity in the prediction of external criteria	
	<ul style="list-style-type: none"> • Good (Spangler et al., 1992; Collins et al., 2004) 	<ul style="list-style-type: none"> • Good (Collins et al., 2004; Greenwald et al., 2009; Sagiv et al., 2017)

We needed to make an important decision with regard to the motivational system that we wanted to focus on. Previous research has identified two motivational systems that seem to operate relatively independent of each other (McClelland et al., 1989; Hagemeyer et al., 2016; Hofer & Hagemeyer, 2018; Brunstein, 2018). On the one hand, there are *implicit* motives which are assumed to be inaccessible via introspection. Scholars have argued that implicit motives represent a more primitive motivational system which affects spontaneous behavior (McClelland et al., 1989). On the other hand, there are *explicit* motives which are consciously accessible. This allows respondents to state their motives in self-report measures. Scholars have argued that explicit motives affect behavior in structured situations in which social incentives are present (McClelland et al., 1989). Both systems are seen as important (Hofer & Hagemeyer, 2018).

We choose to focus on *explicit* motives but still include *implicit* motives as control variables in one of our samples. Table 1.3 summarizes our conclusions from the literature on the role of implicit motives for leadership. To the best of our knowledge, there are no measures of functional and dysfunctional variants of implicit power and affiliation motives that are being used consistently across

studies and that yield consistent results. For the implicit affiliation motive, we do not know of any established measure of the two sides of the affiliation motive at all (Weinberger et al., 2010; but see Langens, 2010). In Chapter 2, we will describe this situation in more detail.

Several criteria are relevant in our decision to focus on *explicit* motives. Table 1.4 compares implicit and explicit motives on these criteria. In short, we believe that explicit motives can be measured economically and can be valid predictors of criterion variables. Thus far, only few studies seem to have tested McClelland and Burnham's (1976) propositions with regard to the explicit motivational system (e.g., Howard, 2013). More research seems to be necessary to improve our understanding of the importance of explicit motives for leadership.

After choosing to focus on explicit (rather than implicit) motives, the question arises if any measures of explicit power and affiliation motives are available that are able to distinguish between functional and dysfunctional variants of these motives (as suggested by theorists; McClelland, 1970; Weinberger et al., 2010; Spangler et al., 2014). We cannot not find any in a review on existing measures of motives (Schönbrodt & Gerstenberg, 2012). For the power motive, a recent study has distinguished between three variants (Suessenbach et al., 2019). However, all of these variants appear to cover either a general power motive or a dysfunctional variant of it. Finally, there are scales distinguishing socialized and personalized power orientation created by Wang and Sun (2016) that come close to our requirements with regard to the power motive. However, these scales measure a general orientation instead of a motive. This includes hypothetical behavior and general beliefs. In summary, our search for scales measuring functional and dysfunctional variants of power and affiliation motives does not yield viable results. For all of these reasons, it seems both worthwhile and necessary to develop and validate self-report scales of functional and dysfunctional power and affiliation motives. We will introduce these scales in Chapter 2 and use them in Chapters 3, 4, and 5.

The role of power and affiliation motives for leadership

Previous research does not seem to present a clear picture of the role of implicit power and affiliation motives for leadership. We arrive at this conclusion after conducting a review of all studies on the role of implicit power and/or affiliation motives for leadership that we were able to retrieve. Table 1.5 provides an overview of these studies and their results. This review identified 24 samples of which 7 included more than 100 participants (total $N = 2,113$) of which 18 used unique datasets (total $N = 1,618$ after accounting for reanalyses on the same

Table 1.5
Previous studies on the relationship of implicit power and affiliation motives, their combinations, and/or their variants with leadership outcomes

Study	Year	Overlapping samples	N	Sector/context	Sample	Motive measure	Dependent variable(s)	Zero-order correlation		Motive combination/variants	
								Power motive	Affiliation motive	Analytical approach	Label and formula
McClelland & Boyatzis, Sample 1	1982	No	92	Telecommunication	Male managers with engineering responsibilities	Picture Story Exercise (6 pictures)	Objective data Leader career success (after 8 and 16 y)		Configuration	Leadership motive pattern: $nPow \geq 45$, $nPow \geq nAff$, $AI > median$, $AI_{low} \geq 2$	Leadership motive pattern not related to career success
McClelland & Boyatzis, Sample 2	1982	No	144		Male managers without engineering responsibilities	Picture Story Exercise (6 pictures)	Objective data Leader career success (after 8 and 16 y)		Configuration	Leadership motive pattern: $nPow \geq 45$, $nPow \geq nAff$, $AI > median$, $AI_{low} \geq 2$	Leadership motive pattern positive for career success
Cornelius & Lane, Sample 1	1984	No	18	Education	Curriculum directors	Picture Story Exercise (6 pictures)	Objective data Administrative efficiency Center size		Difference values	Leadership motive pattern: $nPow - nAff$	-42* .59**
Cornelius & Lane, Sample 2	1984	No	21		Center managers	Picture Story Exercise (6 pictures)	Objective data Administrative efficiency Center size		Difference values	Leadership motive pattern: $nPow - nAff$	-09 .23
Sorrentino & Field	1986	No	48	Laboratory (5 sessions, 1.5 to 2 h/ session, groups of 4)	Male psychology students	Descriptive sentences were used to elicit stories (4 sentences)	Ratings by subordinates Task leadership Socioemotional leadership Leadership emergence Leadership emergence 1st & 2nd c.		Interactions via dichotomized variables	Two-way interaction between $nAff$ and $nAch$	Interaction between $nAff$ and $nAch$ positive for 2 of 5 outcomes
											$p = .015$ $p = .042$ $p = .04$ $p = .0005$ (all effects positive)
											.04 -.26 -.21

Author	Year	Sample	Context	Variables	Objective data/coded variables	Analysis	Findings	Interpretation																																						
Winter	1987	14-31	Government/politics	US presidents	Speech (first inaugural address)	<ul style="list-style-type: none"> Vote percentage Margin of victory Reelected Reelected (all instances) % vote for party's House candidates Court/cabinet rejections Percentage vetoes overridden Adjusted midterm House loss War entry War avoidance Arms limitation Consensus of greatness Great decisions cited 	<ul style="list-style-type: none"> -.04 -.07 .06 .27 .13 -.19 .01 -.23 .52** .34† -.05 .40* .51** 	<ul style="list-style-type: none"> nPow - nAff 	<ul style="list-style-type: none"> .10 .05 -.05 .16 .20 -.20 -.04 .03 .36† .16 -.55* .35 .27 																																					
										Spangler & House	1991	29-39	Government/politics	US presidents	Speech (first inaugural address)	<ul style="list-style-type: none"> Objective data/coded variables War entry War avoidance Consensus of greatness Great decisions Mean greatness Social performance Economic performance International relations performance 	<ul style="list-style-type: none"> .52** .33 .40* .51** .26 .17 .00 .27 	<ul style="list-style-type: none"> Syndrome: nPow ≥ 45, nAff, AI ≥ median; two-way interaction between nPow and AI 	<ul style="list-style-type: none"> Syndrome and interaction positive for 0 of 5 outcomes 																											
																				House et al.	1991	31	Government/politics	US presidents	Speech (first inaugural address)	<ul style="list-style-type: none"> Objective data/coded variables Charisma Direct action Subjective performance International relations performance Economic performance Social performance 	<ul style="list-style-type: none"> Simultaneous main effects of nPow, nAff, nAch, AI, charisma, crises, and age 	<ul style="list-style-type: none"> Power positive for 5 of 6 outcomes 																		
																													Winter	1991	141	Telecommunication	Male managers without engineering responsibilities	Picture Story Exercise (6 pictures)	<ul style="list-style-type: none"> Objective data Leader career success (after 16 y) 	<ul style="list-style-type: none"> Responsible power: nPow ≥ 50, responsibility ≥ 45; responsible power motivation pattern: nPow > 45, nAff ≥ 45, nAff, responsibility ≥ 45 	<ul style="list-style-type: none"> Responsible power and responsible power motivation pattern positive for career success 									
																																						Winter	1993	58	Government/politics	British government	Sovereign's speech/ speech from the throne	<ul style="list-style-type: none"> Objective data/coded variables War entry (1 year prior) War entry (2 years prior) War entry (3 years prior) 	<ul style="list-style-type: none"> nPow - nAff 	<ul style="list-style-type: none"> .30* .21 -.05

Jacobs & McClelland, Sample 1	1994	No	229	Telecommunication	Entry-level managers who stayed in the company	Picture Story Exercise (2 pictures)	Objective data Leader career success (after 12 y)	ns	ns	Direct coding of power themes; configural approach	Standard leadership motive pattern: $nPow \geq 45$, $nPow \geq nAff$, $AI \geq$ median; modified leadership motive pattern: $nPow \geq 45$, $nPow \geq nAff$; power themes: resourceful vs. reactive vs. helpless power	No significant relationships for motive patterns or variants
Jacobs & McClelland, Sample 2	1994	No	56	Telecommunication	Entry-level managers who left the company	Picture Story Exercise (5 pictures)	Objective data Leader career success (after 12 y)	.34**	-.30*	Direct coding of power themes; configural approach	Standard leadership motive pattern: $nPow \geq 45$, $nPow \geq nAff$, $AI \geq$ median; modified leadership motive pattern: $nPow \geq 45$, $nPow \geq nAff$; power themes: resourceful vs. reactive vs. helpless power	Modified leadership motive pattern positive for career success; successful male managers used reactive power themes while successful female managers used resourceful power themes
Kirkpatrick et al., Sample 1	2002	No	269	Architectural woodworking	Entrepreneurs in the role of the CEO	Vision statements	Objective data Venture growth (sales, employment, and profit over a period of 2 y, controlling for previous growth)	.11*	.07			
Kirkpatrick et al., Sample 2	2002	No	82	Federal engineering services	Supervisory managers	Vision statements	Ratings by subordinates Manager performance Ratings by manager Unit performance	-.06	.19*			
Schultheiss & Brunstein	2002	No	68	Mixed	Students and employees	Picture Story Exercise (6 pictures)	Ratings by observers Persuasiveness	-.01	-.16†	Interactions in multiple regression analysis	Inhibited power motive: two-way interaction between $nPow$ and AI	Inhibited power motive positive for persuasiveness

De Hoogh et al.	2005	No	73	Wide range of for-profit and non-profit organizations	CEOs	Semistructured interviews about the CEOs' role and their functioning as a manager (45 to 60 min)	Ratings by subordinates Charismatic leadership Organizational commitment	.28* -.10	-.18 -.10	Interactions in hierarchical regression analysis	Two-way interaction between nPow and responsibility and three-way interaction between nPow, responsibility, and organization type	Irresponsible power positive for charismatic leadership in for-profit organizations
Magee & Langner, Sample 1	2008	No	90	Laboratory experiment (political conflict)	Students and university employees	Participants' drafts of a letter to Premier N. S. Krushchev on behalf of US President J. F. Kennedy	Self-reported decisions Advised escalation of conflict	.00		Direct coding of motive variants (Winter, 1973/1992)	Personalized power: hope for power; socialized power: fear of power (Winter, 1973/1992)	Personalized power positive for escalation of conflict
Magee & Langner, Sample 2	2008	No	69	Laboratory experiment (healthcare)	Students and university employees	Fifteen written personal strivings in participants' everyday lives	Self-reported decisions Recommendation for approving a beneficial (but risky) drug	.04		Direct coding of motive variants (Winter, 1973/1992)	Personalized power: hope for power; socialized power: fear of power (Winter, 1973/1992)	Socialized power positive for drug approval
Delbecq et al.	2013	No	28	Technology (Silicon Valley)	CEOs	Semistructured interviews about concerns, beliefs, values, opinions, and management philosophies (45 to 60 min)	Ratings by subordinates Participative leadership Instrumental leadership Charismatic leadership Follower motivation Exceptional performance Teamwork	.08 -.25 -.17 -.24 -.16 -.04	.13 .22 .28 .27 .12 .12			
Howard, Sample 1	2013	Yes (McClelland & Boyatzis, 1982)	101	Telecommunication	Male managers with engineering responsibilities	Picture Story Exercise (4 to 6 pictures)	Objective data Leader career success (after 25 y) Leader career success (after 25 y), predictors measured at year 8	.08 -.04	-.09 .06	Configuration	Leadership motive pattern: nPow \geq 45, nPow \geq nAf, AI \geq median; leader motive without AI: nPow \geq 45, nPow \geq nAf	Both leadership motive patterns not related to career success at year 25

Howard, Sample 2	2013	Yes (McClelland & Boyatzis, 1982)	174	Telecommunication	Male managers without engineering responsibilities	Picture Story Exercise (4 to 6 pictures)	Objective data Leader career success (after 25 y) Leader career success (after 25 y), predictors measured at year 8	.03 .01	-.25** .03	Configuration	Leadership motive pattern: nPow ≥ 45, nPow ≥ nAff, AI ≥ median; leader motive without AI: nPow ≥ 45, nPow ≥ nAff	Both leadership motive patterns not related to career success at year 25
Howard, Sample 3	2013	Yes (Jacobs & McClelland, 1994)	111	Telecommunication	Managers who left the organization	Picture Story Exercise (4 to 6 pictures)	Ratings by manager Leader career success (after 25 y) Salary (after 25 y)	.00 -.01	.04 -.03	Configuration	Leadership motive pattern: nPow ≥ 45, nPow ≥ nAff, AI ≥ median; leader motive without AI: nPow ≥ 45, nPow ≥ nAff	Both leadership motive patterns not related to career success and salary at year 25
Steinmann et al.	2015	No	70	Mixed	Managers	Picture Story Exercise (6 pictures, 5 min/ picture)	Ratings by manager Goal attainment of the team Developments in income	-.11 .06	.09 -.11	Interactions in hierarchical regression analysis	Compassionate leadership profile: two-way interactions between nPow, nAff, and AI and three-way interaction between nPow, nAff, and AI	Three-way interaction between nPow, nAff, and AI positive for 2 of 2 outcomes
Steinmann et al.	2016	No	70	Mixed	Managers	Picture Story Exercise (6 pictures, 4 min/ picture)	Ratings by subordinates Transformational leadership Passive leadership Concern for followers' needs Job satisfaction Satisfaction with the leader In-role performance Organizational citizenship behavior	.09 .03 .11 .01 .09 -.03 -.18	.14 -.04 .25* .14 .06 .12 .15	Interactions in hierarchical regression analysis	Two-way interactions between nPow, nAff, nAch, and AI and three-way interaction between nPow, nAff, and nAch	Three-way interaction between nPow, nAff, and nAch positive for 4 of 6 outcomes

Note. We excluded studies that (a) did not provide enough information (McClelland & Burnham, 1976; Lukić, 2015; Winter, 2018), (b) were not specific for leadership (Jenkins, 1994; Winter et al., 1998), (c) or were unavailable to us (Winter, 1979), CEO = chief executive officer, nPow = need for power/power motive, nAff = need for affiliation/affiliation motive, nAch = need for achievement/achievement motive, and AI = activity inhibition. † p < .10, * p < .05, ** p < .01. This review includes only information about the achievement motive if it was central to the study. The lists of dependent variables are not exhaustive.

samples). We hesitate to draw any definite conclusions from this literature because of the large variability in study designs, motive measures, statistical analyses, outcome variables, and results (see Table 1.5). Within those 24 samples, it seems hard to identify any one approach that yields consistent results across studies.

This dissertation attempts to contribute to the literature on the role of power and affiliation motives for leadership primarily by doing two things. First, we consider two different groups of criterion variables for which we expect different relationships with power and affiliation motives. On the one hand, we assess *prototypical* indicators of effective leadership which should reflect those aspects of leadership that are part of people's general leadership prototypes (cf. Epitropaki & Martin, 2004; Koenig et al., 2011). These aspects may center around influencing others (Ensari et al., 2011) and are reflected in different kinds of evaluations such as ratings of leader effectiveness or promotion decisions (Nye & Forsyth, 1991). On the other hand, we include *prosocial* indicators of effective leadership. These measures should reflect those aspects of leadership that center around relationships between leaders and followers. Prosocial indicators of effective leadership may contradict the leadership anti-prototype in which some people believe (i.e., some people think that effective leaders need to be selfish; Gartzia & Baniandrés, 2016; Epitropaki & Martin, 2004; Koenig et al., 2011). In contrary to what people believe who hold leadership anti-prototypes (Epitropaki & Martin, 2004), prosocial aspects of leadership have been found to be vital for leadership effectiveness in terms of relationship quality, follower satisfaction, and organizational performance (e.g., Peterson et al., 2012; Harrell & Simpson, 2016; Gottfredson & Aguinis, 2017; Ou et al., 2018). Prosocial aspects of leadership may center around trustful relationships and are reflected in behavior such as cooperation. Previous studies in research on motives and leadership have rarely grouped leadership outcomes along these two dimensions (or along any other categories; cf. Table 1.5). We believe that this categorization may help to break up the complexity inherent in leadership outcomes.

Second, this dissertation attempts to contribute to the literature on the role of power and affiliation motives by distinguishing between functional and dysfunctional variants of explicit power and affiliation motives. This approach may yield several benefits in contrast to a focus on implicit motives (cf. Table 1.4) including consistency in measurement (cf. Table 1.3). Consistent measurement may be easier to achieve by focusing on explicit instead of implicit motives. In contrast to *explicit* motives, there are many alternatives how variants of *implicit* motives can and have been measured and/or combined (Table 1.5) which resulted in considerable heterogeneity between studies (Table 1.5). Consistent measurement is important for integrating results across studies. Moreover, by distinguishing between functional and dysfunctional variants of both power and affiliation motives, the present research follows recent propositions concerning the duality of motives (i.e., that each motive has bright and dark sides; Spangler

Table 1.6

Characteristics of the included samples and their use throughout this manuscript

Sample	N (% female)	Characteristics	Design features	Sample used in Chapter			
				2	3	4	5
Field survey	961 (53)	27% leaders 46% employees 27% students	<ul style="list-style-type: none"> • Online, ~20 min • 739 peer ratings available for 486 respondents 	X	X	X	X
Laboratory study	201 (51)	89% students	<ul style="list-style-type: none"> • Online, ~60 min (T1) • Laboratory interaction in groups of 3 to 4, ~180 min (T2) 			X	X
Longitudinal survey	35 (80)	91% students	<ul style="list-style-type: none"> • Online, ~7 min • 4 measurements in 3 months (12% missing) 	X			

Note. Leaders currently hold a leadership position or, if not working anymore, held one in the past. Employees are respondents with work experience but without a leadership position. Students are either students or homemakers. Data from these samples are also being used in Wolff and Keith (2019). Reliabilities, descriptive statistics, and intercorrelations of most variables used in the field survey and in the laboratory study are available at <https://osf.io/yt4qh/>.

et al., 2014). The duality of variables attracts high interest in research on leadership (Judge et al., 2009) and in research on social interactions more generally (Back et al., 2013).

Here we propose that the power motive is more beneficial for prototypical indicators of leadership than the affiliation motive and that the affiliation motive is more beneficial for prosocial indicators of leadership than the power motive. We assume that the power motive benefits prototypical indicators of leadership such as ratings from others (e.g., peer-rated leadership competence), interest in leadership (e.g., motivation to lead), and promotion decisions (e.g., leadership role occupancy). Individuals with a strong power motive may be determined to pursue organizational goals through influencing others which is in line with leadership prototypes (Epitropaki & Martin, 2004; Koenig et al., 2011) and thus affects others' judgments (Nye & Forsyth, 1991). However, this should mostly be the case for the functional variant of the power motive which focuses on other-oriented goals (McClelland, 1970; Williamson, 2008). The dysfunctional variant of the power motive, in contrast, centers around self-serving uses of power which are only regarded by some people as common in leaders (Epitropaki & Martin, 2004).

Moreover, we assume that the affiliation motive benefits prosocial indicators of leadership such as cooperative behavior. Individuals with a strong affiliation motive may be inclined to take others' perspectives (Zaki, 2014) and care about their interests (Chierchia et al., 2017). Again, this should mostly apply to the functional variant of the affiliation motive which focuses on considerate behavior in social interactions. The dysfunctional variant of the affiliation motive, in con-

Table 1.7
Focal variables in the empirical chapters of this dissertation

Chapter	Sample	Focal variable(s)
2	Field survey	Functional and dysfunctional power and affiliation motives (item level) Achievement motive, need for closure, Big Five, fairness, Machiavellianism, psychopathy, narcissistic admiration, narcissistic rivalry
	Longitudinal survey	Functional and dysfunctional power and affiliation motives (scale level)
3	Field survey	Peer-rated leadership competence, self-rated leadership competence, motivation to lead, leadership role occupancy
4	Laboratory study	Verbal statements endorsing selfishness, number of oil spills caused
	Field survey	Selfish business decisions
5	Laboratory study	Gender
	Field survey	Gender

Note. Data from these samples are also being used in Wolff and Keith (2019).

trast, emphasizes on *outcomes* of social interactions (e.g., harmonious relationships) regardless of how these outcomes are achieved (McClelland & Burnham, 1976) which sometimes may achieved by means other than caring for others interests (e.g., through ingratiation or silence). Finally, the dysfunctional variants of both motives should relate negatively to the “opposing” criterion measures, i.e., the dysfunctional power motive should relate negatively to prosocial leadership whereas the dysfunctional affiliation motive should relate negatively to prototypical leadership. We make this assumption because caring for others conflicts with the self-serving purpose of the dysfunctional power motive whereas influencing others conflicts with the conflict-avoiding focus of the dysfunctional affiliation motive.

In summary, we aim to acknowledge the complexity that seems to be inherent in research on the role of motives for leadership by distinguishing (a) between two classes of outcomes (prototypical vs. prosocial) and (b) between two variants of each motive (functional vs. dysfunctional). We then attempt to map all motive variants on all outcomes in a systematic way.

Overview of the present research

This dissertation examines the role of power and affiliation motives for leadership including potential implications for gender differences in leadership. In order to test the research questions listed in Table 1.1, we collected three samples which are described in Table 1.6. Data from two of these samples—a field survey with 961 participants (including leaders) and a laboratory study of groups of 3 to 4 people—will be used across several chapters of this dissertation (see Table 1.6). Each of these chapters has a different focus (cf. Table 1.2) and, consequently, focuses on different variables (cf. Table 1.7).

The field survey is an online questionnaire which includes self-report measures of *functional and dysfunctional variants of power and affiliation motives*. Chapter 2 focuses on these measures and tests their basic psychometric properties. One of these tests examines if the distinction between functional and dysfunctional variants of each motive improves the fit of each motive's measurement model. The field survey also includes measures that we classify as prototypical indicators of effective leadership. Among these measures are the *occupancy of a leadership role* and *peer ratings of respondents' leadership competence*. Chapter 3 uses these measures in order to test the relationships between motives and prototypical indicators of effective leadership. Finally, the field survey includes a scenario-based measure of *selfish business decisions* (Ashton & Lee, 2008). This measure presents respondents with descriptions of fictitious dilemmas in which they are in the role of a leader and have to make a decision for or against personal profits at the expense of society and/or the environment. Chapter 4 uses this measure in order to test the relationship between motives and prosocial indicators of effective leadership in a large sample including actual leaders.

The laboratory study examines social interactions in a context requiring cooperation. More specifically, participants played a game of *Settlers of Catan* in which players are usually able to grow their population most quickly if they cooperate with others who often have the resources that one needs. We choose a specific iteration of this game called *Oil Springs* which simulates the current state of the real world in which countries use oil in an attempt to grow their economies faster but do so at the cost of the environment which is likely to harm everyone in the future (Stern, 2007). This aspect of reality is modeled in the *Oil Springs* iteration of *Settlers of Catan* (Griswold, 2013). Situations with these characteristics are called *social dilemmas* (Van Lange et al., 2013). Adding oil to the game allows players to use oil to grow their populations faster but using oil leads to oil spills which harm the whole group. Filming participants while they were playing the game allows us to analyze their communication behavior (coded into an index of *verbal statements endorsing selfishness*) and their actual behavior in the game (counted number of *oil spills* caused by each player). The laboratory study provides a setting that allows a close inspection of peoples' actual

behavior. Scholars regularly advise psychologists to include more measures of actual behavior in their studies (Baumeister et al., 2007; Furr, 2009; Back & Vazire, 2015). By using this approach, we strive to gain detailed insights into the behavioral manifestations of motives. Being able to cooperate is crucial for leaders to maximize collective returns (Harrell & Simpson, 2016; Peterson et al., 2012; Hildreth & Anderson, 2016; Pais & dos Santos, 2014; Nauta et al., 2002). Chapter 4 uses these variables from the laboratory study to investigate the relationship between motives and prosocial indicators of effective leadership in a setting that allows a close inspection of peoples' behavior. Chapter 5 uses variables from both the laboratory study and the field survey to examine a potential link between gender differences in motives on the one hand and gender differences in prosocial indicators of effective leadership on the other.

The third sample is a longitudinal survey with four measurements over a period of three months. In comparison to the field survey and to the laboratory study, the longitudinal survey only plays a minor role in the research presented in this dissertation (cf. Tables 1.6 and 1.7). Only Chapter 2 uses data from this sample. It uses this data to obtain an estimate of the temporal stability of the functional and dysfunctional variants of power and affiliation motives. Given that we think of motives as being stable preferences for particular classes of states or activities, we expect to observe a considerable degree of stability over a period of several months.

In summary, this dissertation pursues the primary goal to improve our understanding of the role of motives for leadership. In addition to our main goal, we strive to contribute to the literature on gender differences in leadership by examining which particular motive variants mediate gender differences in prosocial indicators of effective leadership. Finally, we aim to contribute to the literature on the role of motives for cooperation in social dilemmas by using a different approach to measuring motives which may reveal new informations about the nature of the motives that underlie cooperation in social dilemmas. To achieve these goals, we conduct four empirical studies which use data from three different samples. Each empirical study is presented in a separate chapter. Each chapter is meant to be intelligible by itself without having to read any other part of this dissertation.

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Part II

Empirical studies

2

Validation of short scales measuring functional and dysfunctional variants of power and affiliation motives

Abstract

Previous research has distinguished between different variants of the need for influence (*power motive*) and the desire for positive relationships (*affiliation motive*) with different consequences for social interactions. However, we know of no scales that would allow a separate measurement of each variant. This study introduces and validates short scales measuring different variants of power and affiliation motives assumed to have positive (*functional* variants) or negative (*dysfunctional* variants) consequences for social interactions. Analyses of data from a field survey ($N = 961$) and a longitudinal survey ($N = 35$) indicate that all motive variants are unidimensional and temporally stable. Comparisons between one- and two-dimensional measu-

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rement models using exploratory structural equation modeling provide support for the distinction between functional and dysfunctional variants of each motive. For both motives, a two-dimensional model (distinguishing between functional and dysfunctional variants) fits the data substantially better than a model without this distinction. Furthermore, the four motive variants show meaningful relationships with other motives (achievement motive, need for closure) and personality characteristics (Big Five, fairness, dark triad). These scales are short (4 items per scale) which is associated with suboptimal reliabilities. We recommend using these scales only for research purposes. These scales enable testing assumptions from research on leadership and social psychology.

Motivation plays an important role in work-related contexts (Kanfer et al., 2017) because it determines in what direction people invest their efforts and whether they experience fulfillment. Motivation depends on basic psychological needs which we refer to as *motives*. We define motives as being stable preferences for particular classes of states or activities. Motives affect, for example, which goals individuals set (Dweck, 2017). Goals, in turn, influence everyday behavior (McCabe & Fleeson, 2016).

Two particular motives are in the focus of research on leadership (McClelland & Burnham, 1976, 2003, 2008). These are the *power motive* on the one hand (i.e., a desire to achieve or maintain the ability to influence or control other people; Winter, 1973; McClelland, 1975) and the *affiliation motive* on the other hand (i.e., a desire to establish or maintain warm and friendly relationships with other people; Atkinson et al., 1954; French & Chadwick, 1956). Winter (1991) refers to power and affiliation as the two major dimensions of human social behavior.

Leadership scholars originally assumed that good leaders ought to have a *high* power motive and a *low* affiliation motive (McClelland & Burnham, 1976). However, new forms of organizations have emerged over time (Spangler et al., 2014) which place new demands on leaders. Theorists propose that leadership roles in modern organizations comprise more interpersonal aspects which require a high affiliation motive in leaders (Spangler et al., 2014). As a consequence, theoretical assumptions and empirical findings of different research groups contradict each other. Older studies argue that leaders should have a *low* affiliation motive (McClelland & Burnham 1976; McClelland & Boyatzis, 1982) whereas more recent studies propose that leaders should have a *high* affiliation motive (Spangler et al., 2014; Steinmann et al., 2015, 2016).

It would be interesting to test these competing propositions against each other. However, it is not easily possible to measure power and affiliation motives exactly how they are conceptualized in the respective studies (McClelland & Burnham 1976; McClelland & Boyatzis, 1982; Spangler et al., 2014; Steinmann et al., 2015; cf. Chapter 1).

For this reason, the present study introduces and validates self-report scales measuring power and affiliation motives as close to their conceptualization in the literature as possible. Before these scales can be used in Chapters 3 to 5, we will examine some of their basic characteristics in this Chapter. This includes an examination of their psychometric properties and their nomological network.

Drawbacks of previous measurements of variants of power and affiliation motives

To understand the reason for the present study, it is important to know that research on leadership has rarely considered power and affiliation motives to be unidimensional constructs. Instead, researchers proposed that motives may occur in different variants (Winter, 1967; McClelland, 1970). However, leadership scholars rarely measured these different variants directly. Instead, they measured motive variants (e.g., a personalized power motive) using the combination of a general motive (usually the power motive) with another variable (most often activity inhibition; McClelland & Boyatzis, 1982). They combined multiple variables through different forms of dichotomization (McClelland & Boyatzis, 1982; Winter & Barenbaum, 1985; Winter, 1991; Jacobs & McClelland, 1994), difference values (Cornelius & Lane, 1984), statistical interaction terms (Spangler & House, 1991) or did not describe their approach (McClelland & Burnham, 1976). This approach started with the power motive and was later adapted to the affiliation motive (cf. Langens, 2010) by using a three-way interaction between the affiliation motive, activity inhibition, and the power motive (Steinmann et al., 2015).

We believe that this approach to measuring motive variants has some drawbacks. First, researchers have used different moderator variables (compare McClelland, 1970, vs. Winter & Barenbaum, 1985, vs. Burnham, 1997) which has been criticized from a theoretical perspective (Winter, 1991). Doing so may have prevented a clear conceptualization of the theoretically proposed motive variants (Locke, 2012). Second, researchers combined multiple variables using different techniques which can result in different results (Howard, 2013). This complicates the integration of findings across studies (compare McClelland & Burnham, 1976, vs. McClelland & Boyatzis, 1982, vs. Cornelius & Lane, 1984, vs. Spangler & House, 1991, vs. Jacobs & McClelland, 1994, vs. Steinmann et al.,

2015; also see Table 1.5 in Chapter 1). Third, interaction terms often yield only small effect sizes (Aguinis et al., 2005). This sets high demands on sample sizes (particularly in field studies; McClelland & Judd, 1993) and may result in false rejections of moderation hypotheses (Dawson & Richter, 2006). Finally, it may be challenging to interpret complex interactions and their combination in multiple regression analysis (e.g., Steinmann et al., 2016) as compared to simple main effects.

Direct measurement of variants of power and affiliation motives

We believe that many of these drawbacks can be avoided by using *direct* measures of the conceptualized motive variants (McClelland, 1970) rather than using combinations of several variables. For the power motive, researchers have done so at least once (Magee & Langner, 2008; also see Jacobs & McClelland, 1994). Magee and Langner measured two different variants of the power motive which will be discussed below in more detail. More specifically, they measured variants of the *implicit* power motive. Implicit motives cannot be assessed through self-report measures because people are thought to be unaware of their implicit motives (McClelland et al., 1989; Brunstein, 2018).

Measurement of implicit motives has a long tradition and provides important information (McClelland, 1987; Smith et al., 1992; Brunstein & Schultheiss, 2010). Modern coding systems enable objective analyses of the fantasy stories that are typically used when measuring implicit motives (e.g., Winter, 1994; for more information, cf. Column 7 in Table 1.5 in Chapter 1). The resulting measures are reliable (Schultheiss, 2008) and predict some aspects of organizational behavior to a similar extent as *explicit* motives do (Collins et al., 2004) which are measured using questionnaires. Theorists propose that implicit and explicit motives belong to different motivational systems operating relatively independent of each other (McClelland et al., 1989; Köllner & Schultheiss, 2014; Hagemeyer et al., 2016; Hofer & Hagemeyer, 2018; Brunstein, 2018). None of both systems is considered to be superior to the other (Hofer & Hagemeyer, 2018).

The present study focuses on providing a direct measure of the theoretically proposed variants of the power motive (McClelland, 1970) and the affiliation motive (Spangler et al., 2014). One way to achieve this goal would be the development of a coding system distinguishing between two variants of the *implicit* affiliation motive. Another way is the development of self-report scales that are able to distinguish between different variants of *explicit* power and affiliation motives. We choose the second approach for the present study. Self-report scales require only a short amount of time for completion and can be analyzed automa-

tically without the need for expert coders. Self-report measures have also been shown to be useful for predicting future behavior (Greenwald et al., 2009). The existing propositions on the role of motives for leadership (McClelland, 1970; McClelland & Burnham, 1976; Spangler et al., 2014; Steinmann et al., 2015) were not limited to *implicit* motives. To the best of our knowledge, their assumptions have only been tested with regard to *implicit* motives. This may be due to a lack of measures that are able to distinguish between variants of *explicit* motives. By introducing and validating such measures in the present study, we strive to enable future research to test the existing propositions with regard to the *explicit* motivational system.

The duality of the power motive

Distinguishing between a socialized and a personalized power motive

The possession of power always goes along with some discretion in its execution. Each individual has to decide for which purposes they wield their power. Even Plato had already distinguished between two main purposes for which power can be used (Williamson, 2008). On the one hand, power can (and should) be used to promote changes that benefit the general public. On the other hand, power carries the risk to be abused to satisfy a personal appetite for wealth and honor (Williamson, 2008).

Psychologists have later come back to Plato's differentiation within the power motive (McClelland, 1970). They introduced the distinction between a *socialized* and a *personalized* power motive which were assumed to mutually exclude each other to some degree (Winter, 1967). The socialized power motive refers to the desire to wield influence on behalf of others (McClelland, 1970). It is characterized by an ambivalent attitude towards power, by self-doubt, and by being considerate of other people. Individuals with a strong socialized power motive are assumed to strive for strengthening others. They wish to inspire others' confidence in the achievement of shared goals by providing them with a compelling vision (McClelland, 1970).

The personalized power motive, in contrast, refers to the desire to wield power in order to reach or demonstrate superiority over others. Interpersonal situations are assumed to be understood as zero-sum games in which one person's win reflects another person's loss (McClelland, 1970). A strong personalized power motive is associated with the belief that people have to be strong in order to persist in the perceived competition which is interpreted as a permanent threat. Individuals with a strong personalized power motive compensate for

the resulting feeling of weakness by using flawed strategies such as alcohol abuse, the accumulation of status symbols, or aggression. Other people are perceived to be less valuable than oneself (McClelland, 1970).

Positive and negative consequences of power

It is not only researchers on motivation who are interested in power but also scholars from organizational behavior more generally. They propose that the possession and/or experience of power can have both positive and negative consequences (Williams, 2014; Sturm & Antonakis, 2015; Winter, 2016). Power can be beneficial for the powerholder by resulting in enthusiasm and feelings of energy which helps in obtaining one's goals (Keltner et al., 2003; Magee & Smith, 2013; Guinote, 2017). Power promotes abstract information processing and may thereby improve the recognition of higher-order goals (Smith & Trope, 2006) even if they are hard to accomplish (Trope & Liberman, 2010).

Power can also have negative consequences for the powerholder and their environment. Power increases automatic information processing (Keltner et al., 2003) which is associated with internal attribution of success (Kipnis et al., 1976) and devaluation of other people (Georgeson & Harris, 1998), their views (Galinsky et al., 2006; See et al., 2011), and their interests (Fiske, 1993; Locke & Anderson, 2015; Maner & Mead, 2010).

The negative consequences of power are particularly pronounced in people with a tendency to deviate from social norms such those with low activity inhibition (Brown & Trevino, 2006; Busch, 2018), low relationship orientation (Chen et al., 2001), or low moral identity (DeCelles et al., 2012). In these circumstances, the possession or experience of power leads to self-serving behavior (Williams, 2014) resembling the conceptualization of the personalized power motive.

Self-report measures of the power motive

The existing measures of the power motive do not focus on the distinction between two variants of the power motive. A recent study has aggregated several existing measures and added some new items (Schönbrodt & Gerstenberg, 2012). An example item measuring the power motive reads "I like to have the final say." Another study has distinguished between different facets of the power motive (Suessenbach et al., 2019) of which some seem to be neutral with regard to the duality of the power motive ("I relish opportunities in which I can lead others") whereas others seem to measure a personalized variant of the power motive (e.g., "I enjoy bending others to my will" or "I feel sad if nobody recognizes my unique talents and abilities").

To the best of our knowledge, there is one study using self-report measures to distinguish between socialized and personalized variants of power (Wang &

Sun, 2016). However, that scale is not supposed to capture a *motive*. Instead, it measures a *general orientation* with regard to the use of power. Some items refer to hypothetical behavior (“I would get others listen to what I say if I had power”) or general beliefs (“The meaning of power is to make more people’s life better”).

Against this backdrop, it seems useful to develop scales that are able to distinguish between socialized and personalized variants of the power motive. We will henceforth use the terms *functional* power motive instead of *socialized* power motive as well as *dysfunctional* power motive instead of *personalized* power motive in order to achieve a consistent labeling across both power and affiliation motives. The terms “functional” and “dysfunctional” refer to the theoretically proposed consequences of each motive variant for social interactions (e.g., McClelland, 1970; McClelland & Burnham, 1976; Weinberger et al., 2010; Spangler et al., 2014).

The formal definition of the functional and dysfunctional variants of the power motive is closely aligned to McClelland’s (1970) ideas. The *functional* power motive is a striving for desirable forms of influence that are associated with taking responsibility and executing power in appropriate ways. The *dysfunctional* power motive describes a striving for control over other people in order to reach personal goals or because the person with a strong dysfunctional power motive thinks badly about others. This may be accompanied by a desire to display one’s own resources (such as expensive possessions) in order to appear strong. We expect that both variants of the power motive differ so markedly from one another that statistical techniques (factor analysis and model comparisons) will detect these differences.

Hypothesis 1: Within the power motive, a functional variant and a dysfunctional variant can be distinguished from each other.

The duality of the affiliation motive

The term “affiliation motive” is used for different constructs because researchers seem to disagree about the conceptual core of the affiliation motive (Baker, 1979; Weinberger et al., 2010). Recent research suggests that individuals with a strong affiliation motive are particularly likely to derive pleasure from friendly social interactions (Dufner et al., 2015). Some scholars use the term “affiliation motive” in a general way which includes both the need to belong as well as the pleasure derived from warm and supportive relationships (Schultheiss et al., 2009; Winter, 1994; Engeser & Langens, 2010). Others use the term “affiliation motive” in a more restricted sense focusing on a need to belong and a fear of rejection (McClelland & Burnham, 1976; Chierchia et al., 2018; Hofer & Hage-

meyer, 2018). In the latter cases, the desire for warm, affectionate, supportive, and considerate social interactions is not attributed to the *affiliation* motive but are partially assigned to other motives such as a *care* motive (Chierchia et al., 2017, 2018) or an *intimacy* motive (Hofer & Hagemeyer, 2018; Pöhlmann et al., 2010; Schönbrodt & Gerstenberg, 2012; Weinberger et al., 2010). A further distinction was made between *approach* and *avoidance* components of the affiliation motive (Felfe et al., 2012) with none of these two components focusing on interactions that are considerate or supportive.

These different conceptions of the affiliation motive interfere with answering basic questions on the role of the affiliation motive for leadership (McClelland & Burnham, 1976) which are still up to date (Spangler et al., 2014; Steinmann et al., 2015, 2016). In order to facilitate future research on the role of the affiliation motive for leadership, the present study introduces and validates self-report measures capturing the affiliation motive as it was described in McClelland and Burnham's (1976) account of motives and leadership.

McClelland and Burnham (1976) described the affiliation motive in a negative light which serves as the conceptual core of the *dysfunctional* affiliation motive in the present dissertation. A main characteristic of this conceptualization is a fear of rejection (McClelland & Burnham, 1976). In this variant of the affiliation motive, the desire for harmony is so strong that people are motivated to use various strategies aimed at avoiding rejection. These may include avoiding conflicts and telling others what they want to hear.

Here we introduce a *functional* affiliation motive as a counterpart to the *dysfunctional* affiliation motive. We define the functional variant of the affiliation motive as comprising the positive aspects mentioned above that can be related to the affiliation motive. These include a desire for warm, affectionate, supportive, and considerate social interactions. Individuals who have this desire are likely to value constructive forms of collaboration and prioritize understanding others. The present study introduces and validates separate self-report scales measuring each of these variants of the affiliation motive. We expect that both variants of the affiliation motive differ so markedly from one another that statistical techniques are able to detect these differences.

Hypothesis 2: Within the affiliation motive, a functional variant and a dysfunctional variant can be distinguished from each other.

Approach of the present study

Psychometric characteristics of the introduced scales

It is the overall goal of the current study to validate self-report scales measuring functional and dysfunctional variants of power and affiliation motives. More specifically, we will first examine whether these scales fulfill four basic psychometric properties which are *unidimensionality* (homogeneity), *convergence* (relatedness of all items composing a scale), *discriminant validity*, and *stability* (retest-reliability).

First, it is desirable that each motive variant by itself is *unidimensional* (internally consistent/homogenous). This means that a scale does not contain further subfacets. Having this characteristic facilitates the interpretation of mean values on that scale which are typically calculated across all items. Unidimensionality can be interpreted as a sign that the observed indicators reflect the underlying construct in a balanced way and that they allow a generalization from the level of the measured items to the level of the unmeasured construct (John & Benet-Martínez, 2000).

Second, the average correlation between all items of a scale (*convergence*) is another important characteristic of a scale. High values point to redundancy between indicators whereas low values are a sign of a high proportion of idiosyncratic error variance which can result in less precise measurements (John & Benet-Martínez, 2000). Ideal values for this kind of item-level convergence depend on the breadth of a construct (Cronbach & Gleser, 1965). The functional and dysfunctional variants of power and affiliation motives conceptualized in this study may be rather broad constructs (that are relevant across a large range of situations) which suggests that values of the correlatedness of all items composing a scale fall toward the lower end of the recommended range from .15 to .50 (Clark & Watson, 1995).

Third, scales that measure different constructs should be easy to distinguish from each other (*discriminant validity*; Campbell & Fiske, 1959). This means that the items within one motive variant (e.g., the functional power motive) should correlate higher with each other than with the items of another motive variant (e.g., the dysfunctional power motive or the functional affiliation motive; Henseler et al., 2015). High discriminant validity indicates that a scale captures those characteristics that are *specific* for that particular construct (rather than redundant). Pairwise heterotrait-monotrait ratios (HTMT ratios) allow a direct assessment of this characteristic. These HTMT ratios are estimated by computing the ratio of the average correlations of the items *between two scales* in relation to the average correlations of the items *within each scale*. This ratio should fall substantially below 1, for instance, at $< .90$ or $< .85$ (cf. Henseler et al., 2015).

Comparisons of measurement models provide another way to examine discriminant validity (Campbell & Fiske, 1959). In our case, we will compare a uni-dimensional measurement model (in which all items of the power motive load on a common factor) to a two-dimensional measurement model (in which the items of the functional power motive load on another factor than the items of the dysfunctional power motive). We will use this approach to test our hypotheses regarding the distinction between functional and dysfunctional variants within both power and affiliation motives.

To investigate discriminant validity, we will use a recently introduced class of measurement models called exploratory structural equation modeling (ESEM; Asparouhov & Muthén, 2009). These models are a mixture between exploratory and confirmatory factor analyses. On the one hand, ESEM allows a test of structural hypotheses (such as Hypotheses 1 and 2) by comparing measurement models. ESEMs are able to model a hypothesized pattern of loadings and use orthogonal factor rotation. On the other hand, ESEMs relax the strict assumptions of confirmatory factor analysis regarding conditional independence of all residuals of all items which are often unrealistic (Marsh et al., 2010; McLarnon & Tarraf, 2017).

Fourth and finally, all measurements of basic human motives should be *stable* over time (retest-reliability). For instance, individuals with above-average levels on the power motive should maintain high levels on the power motive over the period of a few months. Even if major changes happened in their lives during that period of time, these changes typically should not result in a complete change in motives but rather in gradual changes (Gouveia et al., 2015; Denzinger & Brandstätter, 2018).

Research question 1: Do the introduced scales satisfy basic psychometric properties?

Nomological network of the introduced scales

Beyond meeting basic psychometric quality standards, it is another important characteristic of new scales how they related to other scales that are already known. This so called *nomological network* of a construct describes the observable relationships of the focal construct with other constructs (Cronbach & Meehl, 1955). In order to investigate the nomological net, researchers typically include both constructs that are similar to the focal construct as well as those that are not similar. It is an indication for a good scale if the relationships between observable measures reflect the relationships one would theoretically assume at the level of constructs.

On a theoretical level, we expect some of the introduced scales to relate to some other motives and personality characteristics. For instance, the dysfunctional power motive should relate positively with the dark triad personality factors

(Machivellianism, psychopathy, and narcissism) whereas the functional power motive should not. Instead, the functional power motive should relate positively to openness or conscientiousness. As another example, the functional affiliation motive should relate positively with fairness whereas the dysfunctional affiliation motive should relate positively with need for closure or neuroticism.

Research question 2: How do functional and dysfunctional power and affiliation motives relate to other motives?

Research question 3: How do functional and dysfunctional power and affiliation motives relate to personality characteristics?

Method

Samples

Field survey. Participants are 961 individuals (513 female) with a mean age of 31 years ($SD = 12$; cf. Chapter 1, Tables 1.6 and 1.7 for an overview of the use of samples throughout this dissertation). Most of them have work experience (73%) of, on average, 9 years ($SD = 12$). Some of the participants hold or held (if not working anymore) a professional leadership positions (27%). We recruited half of the participants through an online platform for micro jobs and the other half through local advertisements and social networks. Participants were compensated with €2.50 or course credit for an approximate duration of 15 to 25 min. The final sample size was not based on interim analysis but depended on our budget (€2,000 for the final wave of recruiting).

Longitudinal survey. Participants are 35 individuals (28 female) with a mean age of 26 years ($SD = 7$). Most of them (91%) are students and received course credit. The final sample size was not based on interim analysis but depended on the psychology students' willingness to participate.

Measures of functional and dysfunctional variants of power and affiliation motives

Functional power motive. We define the functional power motive as the desire to wield power in a responsible way and/or to possess power in order contribute to society. An example item reads "I enjoy to contribute something through my channels of influence that is aligned with the greater good."

Dysfunctional power motive. The dysfunctional power motive describes a need to achieve or wield power in order to gain superiority over others. A characteristic item is "It pleases me to have a lot of power and influence, because

Table 2.1

Factor loadings of items measuring functional and dysfunctional variants of power and affiliation motives

Item	Power		Affiliation	
	F	D	F	D
<i>Functional power motive</i>				
1 It satisfies me to influence others in their actions and attitudes so that they discover unexpected capabilities and accomplish challenging tasks.	.42	.00	.13	-.25
2 It pleases me to take responsibility for a greater cause, even if that might involve experiencing setbacks and admitting mistakes.	.48	.07	.03	-.20
3 I like advancing controversial views, but only if it happens in an appropriate way.	.49	.12	.58	-.42
4 I enjoy to contribute something through my channels of influence that is aligned with the greater good.	.66	.21	.39	.02
<i>Dysfunctional power motive</i>				
1 I enjoy it if others have to obtain my advice or instructions before they act.	.17	.64	.02	.12
2 It pleases me to have a lot of power and influence, because there are many people that you need to keep under control.	.17	.80	.09	.10
3 It is so important for me to reach my personal goals that I would use other people for it.	.06	.60	-.11	.06
4 It is a nice feeling to demonstrate my social status.	.12	.63	-.21	.32
<i>Functional affiliation motive</i>				
1 I wish that people like me for being sympathetic and cooperative.	.38	.29	.64	.19
2 When I have to make decisions against the will of others, I pay close attention not to put myself in the position of an outsider.	.14	-.04	.36	.23
3 I enjoy to constructively pursue a common goal with other people.	.15	-.41	.39	-.14
4 Especially when making unpopular decisions, I find it particularly important to be appreciative of those who are affected by these decisions.	.26	.00	.39	-.02
<i>Dysfunctional affiliation motive</i>				
1 I avoid at all costs to engage in conflicts that jeopardize harmonious togetherness within the group.	-.20	.03	.21	.54
2 I often worry that others like me less for saying something wrong. In these moments I rather fall silent than risk to offend with my opinion.	-.31	.10	.41	.70
3 It is more important to me to approach conflicts constructively rather than sweeping them under the rug only to maintain harmony. (reverse coded)	-.19	.20	-.17	.42
4 It is very important to me to be accepted by others. Therefore I sometimes say things of which I am not convinced that they are right, but that make me look good.	-.17	.25	-.06	.67

Note. F = functional, D = dysfunctional. Coefficients are standardized factor loadings from a four dimensional exploratory structural equation model ($N = 961$). The hypothesized primary loadings are printed in bold. All $t > 7.90, p < .001$.

there are many people that you need to keep under control.”

Functional affiliation motive. We define the functional affiliation motive as a desire for positive social interactions and for showing sincerity and consideration. One of the items reads “I enjoy to constructively pursue a common goal with other people.”

Dysfunctional affiliation motive. The dysfunctional affiliation motive is defined as an exaggerated need to belong associated with fear of rejection. A representative item reads “It is very important to me to be accepted by others. Therefore I sometimes say things of which I am not convinced that they are right, but that make me look good.”

Item development. During item development, we wanted to achieve high content validity by keeping the phrasing of all items close to the descriptions of the respective motive variants in the literature. When developing items for the power motive, we used the descriptions by McClelland (1970), Winter (1973), McClelland and Burnham (1976), as well as Magee and Langner (2008). When developing items for the affiliation motive, McClelland and Burnham (1976) were our main reference. Georg (2014) contributed significantly to item development. The initial item pool consisted of 35 items of which 9 measured the functional power motive, 13 measured the dysfunctional power motive, 6 measured the functional affiliation motive, and 7 measured the dysfunctional affiliation motive. These differences in the number of items per scale reflect differences in the available literature about these variants. We tolerated a complex phrasing of the items as long as it seemed necessary to distinguish between functional and dysfunctional variants of a motive.

Item selection. We reduced the number of items from 35 to 16 (4 items per scale) in order to retain only those items that contribute most to an unambiguous measurement of each motive variant. We used the responses of the first 201 participants from the field survey and of 111 participants from the laboratory study. Of the resulting sample ($N = 312$), 53% are female with a mean age of 26 years ($SD = 14$). The remaining participants from the field survey and from the longitudinal survey only completed the 16 items that were selected.

During item selection, we strived to optimize our decisions with regard to several criteria. These were (a) a high correlation between an item and its scale, (b) a relatively low correlation between an item and the other scales—particularly those who measure another variant of same motive or the same functionality of another motive, as well as (c) a broad representation of each respective construct in accordance with the description in the literature.

For example, the application of criterion (b) has resulted in the deletion of the item “If someone is well disposed to me, I like to reward that with little somethings or favors” which was supposed to measure a dysfunctional affiliation motive according to the description by McClelland and Burnham (1976). This item had a substantial cross-loading on the dysfunctional power motive. Another example is the item “as a member of a group, I like representing it at public

events” which we created as an indicator of the functional affiliation motive. Criteria (b) and (c) made us drop this item because it did not fit well enough with a narrow definition of the functional affiliation motive. The items that were finally selected are presented in Table 2.1. These were translated to English and back translated to German. Any discrepancies were resolved through discussion. Appendix A presents the original German items.

Measures of other motives

Achievement motive. We measured the achievement motive using 4 items from the business focused inventory of personality; Hossiep et al., 2003). We chose those items with the highest factor loadings and a general phrasing, e.g., “even after a very good performance, I still seek improvement.”

Need for closure. We assessed the need for cognitive closure by presenting participants with those 4 items from the short version of the need for closure scale (Roets & van Hiel, 2011) that had the strongest loading on the scale’s primary factor. An example item is “I enjoy having a clear and structured mode of life.” We translated these items into German language.

Measures of personality

Big Five. We measured the Big Five personality traits using the German version of the Big Five inventory (BFI-10; Rammstedt et al., 2013) which covers each dimension with 2 items, e.g., “I get nervous easily” (neuroticism), “I am outgoing, sociable” (extraversion), “I have an active imagination” (openness), “I am generally trusting” (agreeableness), and “I do a thorough job” (conscientiousness).

Fairness. We measured fairness using the 3-item fairness subscale from the Honesty/Humility dimension of the HEXACO-60 (Ashton & Lee, 2009). Hexaco.org provides a German version of the items. An example item reads “I would never accept a bribe, even if it were very large.”

Dark triad. Machiavellianism and psychopathy were each measured with 3 items from the German version of the naughty nine (Küfner et al., 2015), e.g., “I tend to manipulate others to get my way” and “I tend to lack remorse”, respectively. Narcissism was measured using the German language short version of the narcissistic admiration and rivalry questionnaire (Back et al., 2013) which distinguishes with between two facets of narcissism with 3 items each. These are admiration (“I deserve to be seen as a great personality”) and rivalry (“I want my rivals to fail”).

Table 2.2

Heterotrait-monotrait ratios in pairwise comparisons of functional and dysfunctional variants of power and affiliation motives

Motive variant	Heterotrait-monotrait ratios of inter-item correlations			
	1	2	3	4
1 Functional power motive	—			
2 Dysfunctional power motive	.28	—		
3 Functional affiliation motive	.68	-.01	—	
4 Dysfunctional affiliation motive	-.47	.36	.10	—

Note. Heterotrait-monotrait ratios compare the inter-item correlations *between* two motive variants to the inter-item correlations *within* each motive variant. $N = 960-961$.

Procedure

Both surveys were conducted online. We informed all participants about the purpose of each survey. All participants provided informed consent. The institutional review board of the Technische Universität Darmstadt has approved both surveys. In both surveys, we measured more variables than we report in this chapter of which some will be used in the remaining chapters. If not indicated otherwise, all items were answered on 6-point Likert scales ranging from 1 (*does not apply at all*) to 6 (*fully applies*). We asked the participants to answer the items measuring functional and dysfunctional power and affiliation motives with regard to the context of work.

Field survey. We presented all scales in randomized order.

Longitudinal survey. Participants completed the scales measuring functional and dysfunctional variants of power and affiliation motives four times at intervals of 30 to 32 days. Twelve percent of all values are missing (123 of 140 data points are available).

Results

All analyses are based on data from the field survey ($N = 960$ to 961) except for the analyses of temporal stability which are based on data from the longitudinal survey.

Table 2.3

Fit indices and comparisons between different exploratory structural equation models

Dimensions	Factors/interpretation	χ^2	df	RMSEA	CFI	$\Delta\chi^2$	Δdf
<i>Power motive</i>							
1	1. Power motive	984.84	20	.224	.60	—	—
2	1. Functional power motive 2. Dysfunctional power motive	55.39	13	.058	.98	627.86	7
<i>Affiliation motive</i>							
1	1. Affiliation motive	914.19	20	.216	.58	—	—
2	1. Functional affiliation motive 2. Dysfunctional affiliation motive	53.26	13	.057	.98	593.08	7
<i>Both motives</i>							
1	1. Functionality	3708.35	104	.190	.36	—	—
2	1. Functionality 2. Power motive	1530.07	89	.130	.74	1313.58	15
3	1. Functionality 2. Power motive 3. Affiliation motive	254.46	75	.050	.97	687.99	14
4	1. Functional power motive 2. Dysfunctional power motive 3. Functional affiliation motive 4. Dysfunctional affiliation motive	166.09	62	.042	.98	84.58	13

Note. *df* = degrees of freedom, RMSEA = root-mean-square error of approximation, CFI = comparative fit index, $\Delta\chi^2$ = difference test using the function DIFFTEST implemented in *Mplus*. $p < .001$ for all χ^2 and $\Delta\chi^2$ -tests. $N = 961$.

Psychometric characteristics of the introduced scales

Unidimensionality. For each motive variant, we examined unidimensionality using minimum rank factor analysis (Ten Berge & Kiers, 1991) with the program FAKTOR 10 (Lorenzo-Seva & Ferrando, 2013). We calculated the ratio of common variance explained by the first factor compared to all other factors (ECV; Ten Berge & Sočan, 2004) which can be interpreted as the closeness of a scale to unidimensionality (Sijtsma, 2009). The ECVs are 96% (functional power motive), 90% (dysfunctional power motive), 78% (functional affiliation motive), and 89% (dysfunctional affiliation motive). Parallel analyses point to a unidimensional solution in all cases (Timmerman & Lorenzo-Seva, 2011). These findings indicate that each of the four motive variants can be considered as unidimensional.

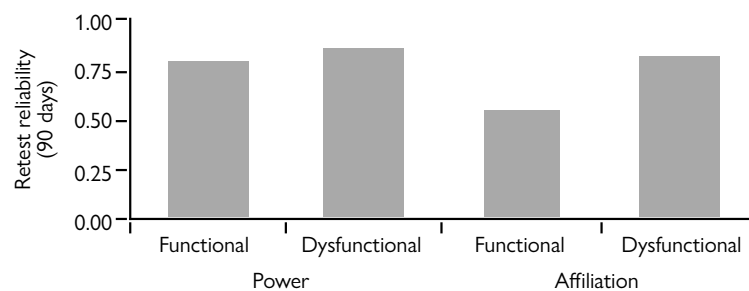


Figure 2.1 *Temporal stability of scale means of functional and dysfunctional power and affiliation motives*. Displayed are intraclass correlation coefficients from monthly measurements over a period of three months. $N = 35$, 123 of 140 individual data points, 12% missing.

Average inter-item correlations. We computed the average correlations between all items of each motive variant (item-level convergence) which should be between .15 and .50 (Clark & Watson, 1995). Cronbach's alpha results from the combination of test length (4 items per scale) and average inter-item correlations which are $r_{\text{mean}} = .33$, $\alpha = .66$ (functional power motive), $r_{\text{mean}} = .41$, $\alpha = .74$ (dysfunctional power motive), $r_{\text{mean}} = .23$, $\alpha = .53$ (functional affiliation motive), and $r_{\text{mean}} = .34$, $\alpha = .67$ (dysfunctional affiliation motive). These results do not contradict the assumption that all items measure their respective scales with an appropriate ratio of independence and redundancy (Cronbach & Gleser, 1965; Clark & Watson, 1995).

Discriminant validity. We tested the independence of each of the four motive variants in relation to the remaining three motive variants. The ratio of the correlations of the items of one scale with the items of another scale in comparison to the average correlation within each scale represents the heterotrait-motrait ratio of correlations (HTMT ratio; Henseler et al., 2015). We find that the HTMT ratios for all four motive variants are below the cutoff of .85 (Henseler et al., 2015). Please refer to Table 2.2 for all HTMT ratios. The highest overlap is between the functional power motive and the functional affiliation motive (.68). The remaining pairwise comparisons yield lower HTMT ratios (|.01| to |.47|). These findings suggest that the four motive variants can be distinguished from each other.

In order to test Hypotheses 1 and 2, we compared a unidimensional measurement model for each of the motives (in which the items measuring functional and dysfunctional variants load on a common factor) to a two-dimensional measurement model (in which the items measuring functional and dysfunctional variants load on separate factors). If the two-dimensional model fits the data better than the unidimensional model, then both variants can be interpreted as being distinguishable from each other. We used *Mplus* 7.3 to estimate these models. The WLSMV estimator accounts for the categorical nature of the items. We collapsed across extreme response categories until each response category con-

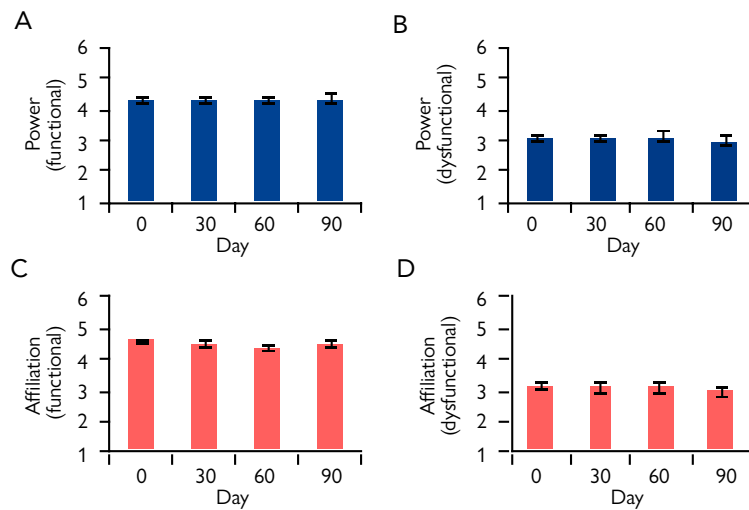


Figure 2.2 Mean values of functional and dysfunctional variants of the power motive (A, B) and the affiliation motive (C, D) of all participants over three months $N = 35$, 123 of 140 individual data points, 12% missing. Error bars represent standard errors.

tained at least 5% of the responses in order to increase the stability of estimation (Brown & Benedetti, 1977).

The results show that a two-dimensional model fits the data substantially better both for the power motive ($\Delta\chi^2 = 627.86$, $\Delta df = 7$, $p < .001$) as well as for the affiliation motive ($\Delta\chi^2 = 593.08$, $\Delta df = 7$, $p < .001$) as compared to a unidimensional solution (cf. Table 2.3 for more information on model fit). These findings are in line with our hypotheses. Functional and dysfunctional variants can be distinguished from each other within both the power motive (Hypothesis 1) and the affiliation motive (Hypothesis 2).

Furthermore, we computed a four-dimensional model with the items of all four motive variants. This model fits the data acceptably well, $\chi^2(62) = 166.1$, $p < .001$, root-mean-square error of approximation (RMSEA) = .042, comparative fit index (CFI) = .98. This model fits better than a three-dimensional solution of models with fewer factors (cf. model comparisons in Table 2.3). Table 2.1 presents factor loadings from the four-dimensional model. Taken together, these measurement models indicate that functional and dysfunctional variants of power and affiliation can be distinguished from each other.

Temporal stability. We conducted a multilevel analysis for each of the four motive variants in which the scale means at each measurement occasion (Level 1) are nested within participants (Level 2). The intraclass correlation coefficient (ICC) of the null model reflects the proportion of variance for each motive variants that can be attributed to the level of the participants (i.e., that is stable over time). This coefficient is well above 0 (see Figure 2.1). It is .79 for the functional power motive, .86 for the dysfunctional power motive, .55 for the functional affi-

Table 2.4

Relationship between functional and dysfunctional power and affiliation motives and other motives

Predictor	Achievement motive	Need for cognitive closure
Functional power motive	.28***	-.20*
Dysfunctional power motive	.25***	-.06
Functional affiliation motive	.15*	.12
Dysfunctional affiliation motive	-.07	.23**
Total model		
<i>R</i>	.47***	.37***
Incremental variance explained by distinguishing within motives		
ΔR^2	.03*	.02

Note. *R* = multiple correlation, ΔR^2 = incremental variance explained by distinguishing between four motive variance as compared to two motives (operationalized via scale means). * $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed t-tests). $N = 201$.

liation motive, and .81 for the dysfunctional affiliation motive. This finding indicates that all four motive variants are relatively stable of the period of three months and do not fluctuate to a very large extent. Mean values are displayed in Figure 2.2. Taken together, our

Nomological network of the introduced scales

Other motives. In order to examine how functional and dysfunctional variants of power and affiliation motives relate to other motives (Research question 1) we conducted multiple regression analyses. Furthermore, we compared the amount of variance explained beyond a model that does not distinguish between functional and dysfunctional variants of each motive (i.e., that used scale means aggregating both functional and dysfunctional items for each motive). Table 2.4 displays our results. We find the dysfunctional affiliation motive to be the strongest predictor for the need for cognitive closure ($\beta = .23$). The bottom row of Table 2.4 indicates that distinguishing between functional and dysfunctional variants of each motive (as compared to mean values aggregating both variants for each motive) only marginally improves the prediction of other motives ($\Delta R^2 = .02$ to $.03$). Taken together, these results suggest a considerable degree of discriminant validity towards the achievement motive and the need for cognitive closure.

Personality characteristics. With regard to personality (i.e., Big Five, fairness, and the dark triad; cf. Tables 2.5 and 2.5), the functional power motive ap-

Table 2.5

Relationships between functional and dysfunctional power and affiliation motives and personality characteristics

Predictor	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness	Fairness
Functional power motive	-.20***	.18***	.13***	.03	.12**	.05
Dysfunctional power motive	-.04	.10**	-.09*	-.30***	-.13***	-.27***
Functional affiliation motive	.11***	.06	.05	.20***	.13***	.18***
Dysfunctional affiliation motive	.29***	-.26***	-.07*	.23***	-.13***	-.05
Total model						
R	.40***	.38***	.20***	.39***	.30***	.35***
Incremental variance explained by distinguishing within motives						
ΔR^2	.03***	.06***	.04***	.04***	.09***	.09***

Note. R = multiple correlation, ΔR^2 = incremental variance explained by distinguishing between four motive variants as compared to two motives (operationalized via scale means). * $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed t -test). $N = 961$.

pears to be related to scales that can be summarized as “positive energy.” These are low neuroticism, high extraversion, high openness, and high narcissistic admiration. The dysfunctional power motive is related to scales that might be summarized as a “dark style in social interactions.” These are low agreeableness, low fairness, and high values on the dark triad. In contrast to the dysfunctional power motive, the functional affiliation motive shows an almost opposite pattern of relationship. The dysfunctional affiliation motive is related to variables that could be labelled as “low activity.” These are high neuroticism and low extraversion. It is related to agreeableness ($\beta = .23$) but not with fairness or the dark triad. Conscientiousness is positively related to functional variants of both motives and negatively related to dysfunctional variants. The bottom rows of Tables 2.5 and 2.6 indicate that the distinction between functional and dysfunctional variants of each motive (compared to an aggregate value across both variants of each motive) significantly improves the prediction of all personality characteristics ($\Delta R^2 = .03$ to $.18$).

Discussion

The results of the present study suggest that functional and dysfunctional variants of both power and affiliation motives can be distinguished from each other (Hypotheses 1 and 2). Researchers can measure these motive variants with newly introduced scales. These scale satisfy the psychometric characteristics of uni-

Table 2.6

Relationships between functional and dysfunctional power and affiliation motives and the dark triad

Predictor	Machia- velliianism	Psychopathy	Narcissistic admiration	Narcissistic rivalry
Functional power motive	-.03	-.10	.16*	-.00
Dysfunctional power motive	.53***	.45***	.56***	.56***
Functional affiliation motive	-.18**	-.22**	.04	-.18**
Dysfunctional affiliation motive	.03	-.05	-.07	.11
Total model				
R	.56***	.50***	.61***	.61***
Incremental variance explained by distinguishing within motives				
ΔR^2	.15***	.15***	.03*	.18***

Note. R = multiple correlation, ΔR^2 = incremental variance explained by distinguishing between four motive variants as compared to two motives (operationalized via scale means). * $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed t -tests). $N = 201$.

dimensionality, item-level convergence, discriminant validity, and retest-reliability (Research question 1). Moreover, they correlate with other motives and personality characteristics in a meaningful way (Research questions 2 and 3).

It is our hope that introducing these scales will promote a differentiated view of motives as researchers have proposed for decades (e.g., McClelland, 1970; McClelland & Burnham, 1976). This may have several benefits. First, distinguishing between bright and dark sides of a trait may help understand why a variable can have both positive and negative consequences at the same time (e.g., Judge et al., 2009; Spangler et al., 2014). Differentiating between functional and dysfunctional motive variants might reveal that different variants are responsible for positive vs. negative consequences of a motive. Both variants *may* occur simultaneously but do not have to. We hope that these distinctions contributes to a more detailed understanding of the factors influencing both desirable and undesirable behavior. It seems interesting (Davis, 1971) to use these scales in order to better understand conflicting evidence about the role of motives for leadership (e.g., McClelland & Burnham, 1976, vs. Steinmann et al., 2015).

The introduced scales provide an opportunity to distinguish between variants of motives that belong to the *explicit* motivational system. To the best of our knowledge, research on the role of motives for leadership (e.g., McClelland, 1970; McClelland & Burnham, 1976) has not yet made any propositions about the differences between implicit and explicit power and affiliation motives for leadership (see Howard, 2013, for a comparison of the role of both motivational systems for leadership without distinguishing between functional and dysfunctional variants of explicit power and affiliation motives). Therefore, it seems beneficial to be able to use the introduced scales in order to examine whether

McClelland and Burnham's (1976) propositions apply to the *explicit* motivational system.

Strengths and limitations

We believe that it is a strength of the present study that it does not attempt or claim to develop *new* constructs. Instead, we followed propositions from previous research as closely as possible when we developed the scales measuring functional and dysfunctional variants of power and affiliation motives. This approach is based on our goal to *simplify* research on power and affiliation motives rather than—by adding new constructs—*complicating* it. We hope that the introduced scales make it easier to aggregate findings using meta-analytic techniques as compared to previous operationalizations of variants of power and affiliation motives (cf. Chapter 1, Table 1.5).

It is a weakness of the present study that the developed scales do not have excellent psychometric characteristics (such as a clean pattern of factor loadings or higher Cronbach's alphas). Cronbach's alpha is a direct function of test length and 4 items seem to be not enough to measure functional and dysfunctional variants of power and affiliation motives with great precision. In order to develop better scales that contain 10 to 20 items per motive variant (Clark & Watson, 1995), the initial pool of items has to be much larger than 35 items. It is still very possible to use these scales for research purposes until longer scales are available. Whether Cronbach's alphas of .53 to .74 and retest-reliabilities of .55 to .86 are "good enough" depends on the individual needs of the particular users of a scale (John & Benet-Martinez, 2000). For example, a retest-reliability of .55 sets the upper limit to validity at .74 ($\sqrt{.55}$) which can still be high enough.

Another weakness of this study is that it does not provide a complete validation of the introduced scales. For instance, it seems interesting to examine whether functional and dysfunctional variants of power and affiliation motive show convergent or discriminant validity with regard to general measures of power and affiliation motives (e.g., using the unified motives scale; Schönbrodt & Gerstenberg, 2012) or with regard to *approach* and *avoidance* components of power and affiliation motives (e.g., using the Hamburg motivation to lead inventory; Felfe et al., 2012).

Future research

Future research may use the introduced scales to further our understanding of the role of power and affiliation motives for leadership. It is still an open question whether a dysfunctional power motive is merely *less beneficial* for leadership than a functional power motive (as proposed by McClelland & Burnham, 1976) or even *detrimental* for leadership success. Another important question involves the affiliation motive. So far, researchers have disagreed about the role of the

affiliation motive for leadership (McClelland & Burnham, 1976; Cornelius & Lane, 1984; Winter, 1991; Howard, 2013; Spangler et al., 2014; Steinmann et al., 2015, 2016).

It is an open question to what degree the proposed functionality of motive variants generalizes from leadership contexts to social interactions more generally. Should functional variants of power and affiliation motives *generally* be preferred over dysfunctional variants regardless if someone is a leader, a team member, or unemployed? This would imply that motive variants affect social interactions beyond the context of work, for instance, in romantic relationships or friendships. We also do not know whether functional and dysfunctional variants of power and affiliation motives affect areas of life *other than* social interactions, such as career paths, consumer behavior, family planning, leisure activities, political orientation, mental disorders, or lawful behavior. We believe that it is possible that McClelland and Burnham's (1976) propositions do not generalize to all persons and/or to all areas of life. For example, some occupational relationships may benefit from a dysfunctional affiliation motive at least in the short term given that it promotes adaptation to problematic relationships. Based on the findings from future research, the use of the terms *functional* and *dysfunctional* might have to be restricted to certain groups of people and/or to particular areas of life. Alternatively, these terms can be replaced by more neutral terms such as *socialized* vs. *personalized* (in case of the power motive) or *process-oriented* vs. *outcome-oriented* (in case of the affiliation motive).

Finally, our results suggest that future research should improve the scales measuring functional and dysfunctional variants of power and affiliation motives by increasing their length. Doing so will likely require a more nuanced understanding of the internal (facet-level) structure within each motive variant. For each facet of each motive variant, a sufficient number of items needs to be developed. This will allow representing each facet in the final scale to an extent that matches the importance of that facet. The developed items should not overlap too much with (a) other items of the same facet, (b) other items of the same motive variant, and especially not with (c) other items of different motive variants. Including further outcome variables (e.g., identity, beliefs, and social networks) would allow a more general validation of the introduced scales.

Conclusion

The present study shows that power and affiliation motives can both be separated into functional and dysfunctional variants which exhibit unique patterns of relationships with other motives and personality characteristics. This study introduced self-report scales that allow for an economic measurement of functional and dysfunctional variants of power and affiliation motives and that possess

satisfactory degrees of unidimensionality, convergent validity, discriminant validity, and retest-reliability. Future research can use these scales in order to resolve inconsistent findings concerning the role of power and affiliation motives for effective leadership.

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3

A differentiated view on the roles of power and affiliation motives for leadership

Abstract

In research on leadership, it is not very clear which motives benefit effective leadership. Some have argued that good leaders ought to have a strong drive for influence (power motive) and a weaker desire for positive relationships (affiliation motive). However, the evidence for these propositions is mixed. Furthermore, previous research has focused primarily on *implicit* (i.e., subconsciously activated) motives. The current study aims to advance this literature by gathering more evidence about the role of power and affiliation motives for leadership in general and, more specifically, by examining whether previous theoretical assumptions apply to *explicit* (i.e., consciously accessible) power and affiliation motives. This study distinguishes between functional and dysfunctional variants of power and affiliation motives to allow for a comprehensive test of previous theoretical

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assumptions. We measured these motives in a field survey ($N = 961$). As leadership criteria, we assessed (a) peer-rated leadership competence, (b) self-rated leadership competence, (c) affective motivation to lead, and (d) leadership role occupancy. Our findings show that a functional power motive is positively related to all of these criterion variables, whereas a dysfunctional affiliation motive is negatively related to them (even though its link to peer-rated leadership competence was only marginally significant). Six of eight relationships remained significant after controlling for personality traits. This study supports the original theory and extends it onto the realm of explicit motives. However, all leadership criteria included in this study involved some degree of subjective judgment in contrast to being entirely objective criteria of effective leadership such as team performance. We suggest that leadership scholars include functional and dysfunctional variants of power and affiliation motives into models of the role of person characteristics for leadership. Practitioners can benefit from considering the explanatory value of motives when selecting and/or developing leaders.

Why do leaders select and pursue actions that either help or hurt their organization? Given that motives influence behavior (McCabe & Fleenon, 2016; Chierchia et al., 2017; Dweck, 2017), they may provide an answer. Knowledge about the importance of motives for leadership may be of interest to practitioners who can use it for recruitment, job design, and training interventions (Watts et al., 2017). However, surprisingly little is known as to what particular motives relate to good or bad leadership. A devastating consequence of this lack of knowledge is that motives are excluded from important reviews (e.g., Judge et al., 2009; DeRue et al., 2011) on the role of person characteristics for leadership (known as the *trait approach* in leadership research; cf. Zaccaro et al., 2018).

Theorizing on the role of motives for leadership began with the assumption that a power motive benefits leadership whereas an affiliation motive impedes it (McClelland, 1970; McClelland & Burnham, 1976; McClelland & Boyatzis, 1982). However, since then, a large body of research accumulated that partially or even entirely contradicts this assumption (e.g., Fodor & Smith, 1982; Cornelius & Lane, 1984; Winter, 1993; Kirkpatrick et al., 2002; De Hoogh et al., 2005; Steinmann et al., 2015). These studies all focused on *implicit* motives, which are activated subconsciously and often operate independently from *explicit* (consciously accessible) motives (McClelland et al., 1989; Brunstein, 2018). As outlined in Chapters 1 and 2 (cf. Table 1.5), research on the role of implicit motives for leadership has used inconsistent approaches in order to assess variants of

power and affiliation motives. Such heterogeneity complicates comparison and aggregation of previous findings. To overcome this hurdle, we consider *explicit* motives in this study which allow for a direct measurement of variants of power and affiliation motives. By focusing on explicit motives, we also examine whether assumptions that were originally formulated in research on implicit motives generalize to explicit motives.

In summary, the current study aims at clarifying the role of motives for leadership. By doing so, this study contributes to the formulation of models of the role of person characteristics for leadership. This *trait approach* might benefit greatly from including motives such as power and affiliation motives.

Leadership and the power motive

The power motive is defined as a desire to obtain and exercise influence and control over other people (Winter, 1973; McClelland, 1975). Even Plato has already argued that leaders can use power for different purposes. Leaders can use power either to increase the public good or to pursue private interests (Williamson, 2008). Such a distinction between *good* (labeled as institutional, socialized, responsible, or functional) and *bad* (labeled as personalized or dysfunctional) variants of a power motive has also been made early on in research on the role of the power motive for leadership (McClelland, 1970; McClelland & Burnham, 1976; see also Chapter 2). For the present study, we follow recommendations of previous research (McClelland & Burnham, 1976) and focus on the *functional* variant of the power motive. We define the functional power motive as a striving for a form of influence that aims at achieving greater goals and benefiting other people. Such influence is associated with taking responsibility and is implemented in a considerate way (Chapter 2).

Researchers assumed that good leaders should have a *high* functional power motive (McClelland, 1970; McClelland & Burnham, 1976; McClelland & Boyatzis, 1982). However, since then, contradicting evidence accumulated. For instance, Spangler and House (1991) found that high levels of a functional power motive among presidents related to the entrance into war which was corroborated by further research (Winter, 1993). Several other studies also found that a functional power motive hardly increased leadership outcomes (Cornelius & Lane, 1984; Kirkpatrick et al., 2002; De Hoogh et al., 2005) leaving open the question whether a functional power motive is actually beneficial in leaders or not.

In the current study, we agree with the original assumption that a functional power motive benefits leadership. One reason for our position is a recent study that identified changes in leader role requirements over time (Spangler et al., 2014). More specifically, in modern types of organizations, leader roles involve

many more power incentives as compared to classic types of organizations. From these changes in role requirements, the authors derived the proposition that a functional power motive is even more important today than it used to be (Spangler et al., 2014).

First, we hypothesize that individuals with a high functional power motive receive positive ratings of leadership competence from others. Social psychological research has shown that experiencing power promotes instrumental behavior towards one's goals (Keltner et al., 2003; Overbeck & Park, 2006; Magee & Smith, 2013; Guinote, 2017). Power makes individuals pay more attention to rewards, which improves detection of opportunities to advance their cause. People who experience power tend to process information on an abstract level which enables them to recognize a bigger picture (Smith & Trope, 2006) and increases desirability of goals that are hard to accomplish (Trope & Liberman, 2010). Through their persistent focus on task-related challenges, individuals with a high functional power motive should earn the role of a dedicated expert which should increase positive perceptions by others, such as respect (Cheng et al., 2013; Clarke, 2011) and perceived competence (Anderson & Kilduff, 2009; Thomas et al., 2001). Furthermore, high levels of the functional power motive are likely to be associated with positive affect and enthusiasm (Keltner et al., 2003). Such enthusiasm attracts, inspires, and transfers to followers who are then motivated to concur with their leader's vision (Bass, 1990). For these reasons, we expect that individuals with a high functional power motive fulfill other's expectations of prototypical leaders with regard to being dedicated, dynamic, and dominant (Nye & Forsyth, 1991; Forsyth et al., 1985; Koenig et al., 2011; Ensari et al., 2011; Judge et al., 2004; Epitropaki & Martin, 2004; Stein & Heller, 1979; Rudman et al., 2012).

Hypothesis 1: A functional power motive is positively related to peer-rated leadership competence.

Second and third, we expect that individuals with a high functional power motive should see themselves as competent leaders and therefore be interested in assuming leadership roles. As a consequence of positive evaluations from their environment, individuals with a strong functional power motive should realize at some point that their approach towards leadership is appreciated by their surroundings. Through their tight focus on influencing other people, they should encounter less resistance from others, increasing the likelihood that they obtain their goals (McClelland & Burnham, 1976). These experiences should maintain or even increase their interest in leadership. A strong functional power motive should generally drive individuals to accumulate more and deeper experiences with leadership which provide them with additional opportunities to improve their leadership skills (Chan & Drasgow, 2001). Feeling capable to be a good leader should in turn increase their motivation to lead. When given the choice, individuals with a strong functional power motive should be attracted to lea-

dership roles because leadership roles provide more opportunities to wield power than other roles.

Hypothesis 2: A functional power motive is positively related to self-rated leadership competence.

Hypothesis 3: A functional power motive is positively related to affective motivation to lead.

Fourth, we hypothesize that a functional power motive should increase the likelihood of assuming an actual leadership position. When given the choice, individuals with a strong functional power motive should be attracted to leadership positions because leadership positions provide more opportunities to wield power than other positions (Gino et al., 2015; Son Hing et al., 2007). Individuals with a strong functional power motive should have more choices to obtain a leadership position given that others are expected to perceive them as competent enough to be a leader (as outlined in Hypothesis 1). Furthermore, it should happen less often that individuals with a strong functional power motive step away from leadership positions due to a lack self-perceived capabilities (as outlined in Hypothesis 2). Their increased motivation to lead (as outlined in Hypothesis 3) should also drive them to be more persistent in pursuing a leadership role and therefore more likely to succeed.

Hypothesis 4: A functional power motive is positively related to the occupancy of a professional leadership position.

The fourth hypothesis seems to be best supported by previous theory and research (e.g., McClelland & Boyatzis, 1982; Schuh et al., 2014). However, whereas previous work has focused either on implicit motives (McClelland & Boyatzis, 1982) or on a general power motive (Schuh et al., 2014), the current study is the first to focus on the functional variant of an explicit power motive. Examining a specific variant of the power motive helps narrow down which are the most important characteristics for leadership.

Leadership and the affiliation motive

The affiliation motive is defined as a desire to establish and maintain warm and friendly relationships with other people (Atkinson et al., 1954; French & Chadwick, 1956). As outlined in Chapter 2, there is no unanimous conceptualization of the affiliation motive. In the present study, we focus on the *dysfunctional* variant of the affiliation motive because this is the conceptualization that was used in the original theory of McClelland and Burnham (1976) of the role of motives

for leadership. We define the dysfunctional affiliation motive as a striving to avoid rejection. It is associated with a need for relatedness that is so high that the individual develops and applies strategies such as avoiding conflicts or telling others what they want to hear (see also Chapter 2).

Researchers assumed that leaders should have a *low* dysfunctional affiliation motive (McClelland & Burnham, 1976; McClelland & Boyatzis, 1982). However, since this proposition was made, contradicting evidence has accumulated. For instance, Cornelius and Lane (1984) found the affiliation motive to be *positively* related to administrative job performance and subordinate morale. Another study extracted the affiliation motive from vision statements of engineering services organizations and found a positive relationship to unit performance (Kirkpatrick et al., 2002). A recent review concluded that requirements for leader roles have changed and nowadays include more affiliation-related incentives (Spangler et al., 2014). Further studies found that leaders with a high affiliation motive reported higher team performance (Steinmann et al., 2015), higher salary (Steinmann et al., 2015), and had followers who were more satisfied (Steinmann et al., 2016).

However, some of the studies that had found a *positive* relationship between the affiliation motive and good leadership did not measure a dysfunctional variant of the affiliation motive but rather a general affiliation motive (Cornelius & Lane, 1984; Kirkpatrick et al., 2002; Steinmann et al., 2016). Two studies indirectly measured a dysfunctional variant of the affiliation motive (i.e., by considering the statistical interaction between the affiliation motive and activity inhibition) and found mixed evidence. In one study, the dysfunctional affiliation motive (high affiliation, low inhibition) was negatively related with leadership (Steinmann et al., 2015) whereas in the other study, it was not related to most leadership criteria and even positively related with career success (Steinmann et al., 2016). Furthermore, the rise in affiliation-related requirements for leader roles that has been found (Spangler et al., 2014) appears to apply in large parts (e.g., see role requirements 14-16 in Spangler et al., 2014) to a *functional* variant of the affiliation motive (Chapter 2) but not so much to a *dysfunctional* affiliation motive (but see role requirements 12 and 13 in Spangler et al., 2014). We therefore conclude that the currently available body of evidence on the relationship between the general affiliation motive and leadership cannot be directly applied to a *dysfunctional* affiliation motive. This means that there is hardly any consistent evidence (that we know of) either in favor or against the original proposition (McClelland & Burnham, 1976) that a *dysfunctional* affiliation motive impedes affective leadership.

In the current study, we agree with the original assumption (McClelland & Burnham, 1976) that a dysfunctional affiliation motive impedes good leadership. We theorize that a person with high levels of the dysfunctional affiliation motive primarily strives to please a select few who are important to that person (McClelland & Burnham, 1976). We assume that the individual's self-evaluation

depends on confirmation from those and also on those others' social status. People with a strong dysfunctional affiliation motive might perceive that they need validation to be able to feel strong or protected. Fear of rejection might direct their attention to cues that are ambivalent and can be interpreted negatively which might then in turn evoke distrust.

Furthermore, we expect that these individuals adapt their behavior to secure or gain acceptance from important others. Potential manifestations include self-censorship, ingratiation, or favoritism towards close peers. Available research concurs with some of these ideas. The general affiliation motive has been linked to jealousy, distancing, and aggression toward members of an outgroup (Winter, 2016). Toward members of the in-group, affiliation related orientations tended to promote unethical behavior (Thau et al., 2015) such as excessive lenience or nepotism (Bolino & Grant, 2016). Furthermore, collaboration within teams can be compromised by overly agreeable individuals who withhold constructive contributions during conversations (LePine & Van Dyne, 2001). Such behavior decreases depth of information processing which interferes with innovation and creativity (Van Knippenberg et al., 2004).

Based on this reasoning, we first expect that individuals with a high dysfunctional affiliation motive contradict broadly accepted expectations to leaders concerning assertiveness and impartiality (Nye & Forsyth, 1991; Rudman et al., 2012).

Hypothesis 5: A dysfunctional affiliation motive is negatively related to peer-rated leadership competence.

Second and third, we assume that individuals with a high dysfunctional affiliation motive should see themselves as incompetent leaders and therefore be less interested in assuming leadership roles. As a consequence of negative evaluations from their environment, individuals with a strong dysfunctional affiliation motive should realize at some point that their approach towards leadership is not appreciated by their surroundings. Even though avoiding conflicts helps them to maintain harmony in the short term, it will eventually provoke criticism in the long term from those who would like to improve things that cannot be changed without having some kind of discussion about it. Individuals with a high dysfunctional affiliation motive might realize at this point that their approach towards leadership is not working completely. These situations might demonstrate individuals with a high dysfunctional affiliation motive that leader roles sometimes do not satisfy their need for relatedness at all which should in turn lower their motivation to lead.

Hypothesis 6: A dysfunctional affiliation motive is negatively related to self-rated leadership competence.

Hypothesis 7: A dysfunctional affiliation motive is negatively related to affective motivation to lead.

Fourth, as a consequence of negative evaluations from others (Hypothesis 5) and oneself (Hypothesis 6) and due to low motivation to lead (Hypothesis 7), individuals with a strong dysfunctional affiliation motive should be less likely to assume a professional leadership position.

Hypothesis 8: A dysfunctional affiliation motive is negatively related to the occupancy of a professional leadership position.

Method

Samples

Respondent sample. We used data from the field survey (cf. Chapter 1, Tables 1.6 and 1.7 for an overview of the use of samples throughout this dissertation). Respondents were 961 individuals (513 women) who were on average $M = 31$ years old ($SD = 12$). The majority had work experience (73%) of 9 years on average ($SD = 12$). Some presently or formerly (in case that they were not working anymore) held a leadership position (27%). Half of them were recruited via the online labour market ClickWorker, the other half was recruited through local bulletin boards and social networks. Respondents received a compensation of approx. €2.50 for 15-25 minutes. Sample size was determined by budget (€2,000 for the final wave of recruitment).

Peer sample. Respondents recruited 739 peers (439 women) who were either friends/acquaintances (43%) and family/partners (43%) of the respondents, or work together with respondents (14%). In total, we obtained one or more peer ratings for 486 of the respondents. Peers were not compensated.

Measures

Leadership criteria. *Peer-rated leadership competence.* Peers rated respondents on 3 items measuring their leadership competence in general, e.g., “the person that I am rating is/would make a good leader.” We asked respondents to nominate peers who know them very well. Peers indicated that they know respondents well, $M = 5.5$ ($SD = 0.9$) on a scale of 1 to 6. Family members (29%) gave the highest ratings ($r = .15$, $p < .001$) whereas friends (38%, $r = -.09$, $p = .043$) and acquaintances (6%, $r = -.13$, $p = .002$) gave the lowest ratings. We collapsed ratings across these different types of peers because we wanted to include all respondents regardless of external circumstances that might have influenced peer nomination (e.g., occupational status, availability of friends and family members, or partnership status).

Self-rated leadership competence. Respondents rated their own leadership competence on 1 item which was either “I am/would be a good leader” ($N = 758$) or “I see myself as a good leader” (Item 10 in Ackermann et al., 2011; translated to “Ich betrachte mich als gute Führungspersönlichkeit” by Schütz et al., 2004; $N = 203$). Mean values on both items did not substantially differ from each other, $M = 3.84$ ($SD = 1.03$) vs. $M = 3.98$ ($SD = 1.09$), $t(959) = 1.65$, $p = .099$.

Motivation to lead. We measured affective motivation to lead with 9 items (Felfe et al., 2012). We used 6-point scales for the first $N = 203$ participants in the field survey (to keep response scales consistent across measures) but changed to the original 5-point format for the next 758 participants in the field survey (to be able to provide unpaid respondents with norm-based feedback on their motivation to lead as an incentive for participation). As sample item reads “I tend to assume the leadership of most groups and teams I work in.”

Leadership role occupancy. We asked respondents “Do you hold a leadership position at the moment?” If respondents were not working anymore (e.g., because they retired) we asked them if they held a leadership position at some point during their career.

Motives. As described in Chapter 2, we used short scales with 4 items each to assess functional and dysfunctional variants of power and affiliation motives.

Functional power motive. We define the functional power motive as a desire for using responsible and benevolent channels of influence. A sample item is “I enjoy to contribute something through my channels of influence that is aligned with the greater good.”

Dysfunctional power motive. We define the dysfunctional power motive as a drive for possessing and using authority in order to serve one’s personal interests. A sample item is “it pleases me to have a lot of power and influence, because there are many people that you need to keep under control.”

Functional affiliation motive. We define the functional affiliation motive as a desire for social interactions that are sincere and considerate, fostering deep and honest relationships with others. A sample item is “I wish that people like me for being sympathetic and cooperative.”

Dysfunctional affiliation motive. We define the dysfunctional affiliation motive as a striving for harmonious relationships with others that is characterized by confirmation seeking and self-effacement. A sample item is “it is very important to me to be accepted by others. Therefore I sometimes say things of which I am not convinced that they are right, but that make me look good.”

Control variables. We assessed personality using a short version of the Big Five Inventory with a total of 10 items (Rammstedt et al., 2013) as well as the 3-item fairness facet of the Honesty-Humility factor (Ashton & Lee, 2009).

Table 3.2

Relationships between functional and dysfunctional power and affiliation motives and leadership criteria

Predictor	Peer-rated	Self-rated		Objective (self-reported)
	Leadership competence	Leadership competence	Motivation to lead	Leadership role occupancy
Functional power motive	.25***	.35***	.39***	.21***
Dysfunctional power motive	.03	.25***	.35***	-.03
Functional affiliation motive	.03	-.04	-.01	-.06†
Dysfunctional affiliation motive	-.09†	-.23***	-.21***	-.08*
R	.30***	.53***	.62***	.24***

Note. R = multiple correlation coefficient. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$ (two-sided t tests). $N = 486$ for peer-rated leadership competence, $N = 961$ for the remaining outcomes.

Procedure

The survey was conducted online. All scales were presented in randomized order. We used 6-point scales if not otherwise indicated. All participants provided informed consent. All procedures were approved by the Technische Universität Darmstadt institutional review board.

Results

We conducted multiple regression analyses to test our hypotheses that a functional power motive is positively related to leadership criteria (Hypotheses 1-4) and that a dysfunctional affiliation motive is negatively related to leadership criteria (Hypotheses 5-8). We included the other two motive variants (dysfunctional power motive, functional affiliation motive) as control variables in all models. Table 3.1 displays descriptive statistics, reliabilities, and correlations of all variables included in this study.

As presented in Table 3.2, our findings indicate that a functional power motive was positively related to (a) peer-rated leadership competence (Hypothesis 1, $\beta = .25$), (b) self-rated leadership competence (Hypothesis 2, $\beta = .35$), (c) motivation to lead (Hypothesis 3, $\beta = .39$), and (d) leadership role occupancy (Hypothesis 4, $\beta = .21$; all p s $< .001$). Moreover, we found a marginally significant negative relationship between the dysfunctional affiliation motive and (a) peer-rated leadership competence (Hypothesis 5, $\beta = -.09$, $p = .072$) as well as significant negative relationships to (b) self-rated leadership competence (Hypothesis 6, $\beta = -.23$, $p < .001$), (c) motivation to lead (Hypothesis 7, $\beta = -.21$, $p < .001$), and (d) leadership role occupancy (Hypothesis 9, $\beta = -.08$, $p = .036$).

Table 3.3

Relationship between functional and dysfunctional power and affiliation motives and peer-rated leadership competence

Predictor	Peer-rated leadership competence			
	Without motives		With motives	
	β	SE	β	SE
<i>Step 1: control variables</i>				
Neuroticism	-.04	(.05)	.03	(.05)
Extraversion	.16***	(.05)	.10*	(.05)
Openness	-.04	(.05)	-.07	(.05)
Agreeableness	-.05	(.05)	-.01	(.05)
Conscientiousness	.17***	(.05)	.15**	(.05)
Fairness	.06	(.05)	.06	(.05)
<i>Step 2: motives</i>				
Functional power motive			.22***	(.05)
Dysfunctional power motive			.06	(.05)
Functional affiliation motive			.01	(.05)
Dysfunctional affiliation motive			-.06	(.05)
<i>Model summary</i>				
ΔR (ΔR^2)			.08***	(.05)
R (R^2)	.28***	(.07)	.36***	(.11)

Note. $N = 486$. R = multiple correlation coefficient. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$ (two-sided t tests).

These results support 7 of 8 hypotheses and highlight the positive role of a functional power motive as well as the negative role of a dysfunctional affiliation motive for leadership.

We also found substantial positive relationships between a dysfunctional power motive and self-rated leadership criteria at $\beta = .25$ for self-rated leadership competence and $\beta = .35$ for motivation to lead, both $ps < .001$. However, there were no relationships between a dysfunctional power motive and peer-rated/objective criteria ($\beta s = .03$ and $-.03$, respectively, both $ps > .40$).

Next, we analyzed whether the explanatory value of motives (Hypotheses 1-8) exceeded the explanatory value of the Big Five personality traits which are known to relate positively to leadership (DeRue et al., 2011). Furthermore, we also controlled for the fairness facet of the honesty/humility personality factor because fairness has been shown to play an important role for employee outcomes (Robbins et al., 2012). In the first step, we regressed all leadership criteria on personality (see Columns 2 and 3 of Tables 3.3 to 3.6). Personality explained large shares in leadership with multiple correlations between $R = .24$ to $R = .50$,

Table 3.4

Relationship between functional and dysfunctional power and affiliation motives and self-rated leadership competence

Predictor	Self-rated leadership competence			
	Without motives		With motives	
	β	SE	β	SE
<i>Step 1: control variables</i>				
Neuroticism	-.28***	(.03)	-.20***	(.03)
Extraversion	.27***	(.03)	.17***	(.03)
Openness	.07*	(.03)	.05†	(.03)
Agreeableness	-.14***	(.03)	-.05	(.03)
Conscientiousness	.13***	(.03)	.11***	(.03)
Fairness	.02	(.03)	.06†	(.03)
<i>Step 2: motives</i>				
Functional power motive			.26***	(.03)
Dysfunctional power motive			.25***	(.03)
Functional affiliation motive			-.05	(.03)
Dysfunctional affiliation motive			-.10**	(.03)
<i>Model summary</i>				
ΔR (ΔR^2)			.11***	(.13)
R (R^2)	.50***	(.24)	.61***	(.37)

Note. $N = 961$. R = multiple correlation coefficient. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$ (two-sided t tests).

all $ps < .001$. In the second step, we included motives into the regression models (see Columns 4 and 5 of Tables 3.3 to 3.6). We found that motives explained variance in leadership above and beyond what was already accounted for by personality with incremental multiple correlations between $\Delta R = .05$ to $\Delta R = .20$, (all $ps < .001$) on top off what was already explained by personality. More specifically, the functional power motive remained a substantial predictor of all criterion variables ($\beta s = .17$ to $.33$, all $ps < .001$) corroborating the robustness of our findings with respect to Hypotheses 1 to 4. The dysfunctional affiliation motive remained a significant predictor of self-rated leadership criteria at $\beta = .10$ for both self-rated leadership competence and motivation to lead ($ps < .004$), lending further support to Hypotheses 6 and 7. However, for peer-rated/objective criteria, the dysfunctional affiliation motive was not a significant predictor anymore ($\beta s = -.06$ and $-.04$, respectively, both $ps > .21$).

Table 3.5

Relationship between functional and dysfunctional power and affiliation motives and motivation to lead

Predictor	Motivation to lead			
	Without motives		With motives	
	β	SE	β	SE
<i>Step 1: control variables</i>				
Neuroticism	-.23***	(.03)	-.14***	(.03)
Extraversion	.29***	(.03)	.16***	(.03)
Openness	.04	(.03)	.01	(.02)
Agreeableness	-.18***	(.03)	-.08**	(.03)
Conscientiousness	.08**	(.03)	.06*	(.03)
Fairness	-.02	(.03)	.02	(.03)
<i>Step 2: motives</i>				
Functional power motive			.33***	(.03)
Dysfunctional power motive			.32***	(.03)
Functional affiliation motive			.00	(.03)
Dysfunctional affiliation motive			-.10***	(.03)
<i>Model summary</i>				
ΔR (ΔR^2)			.20***	(.22)
R (R^2)	.47***	(.21)	.66***	(.43)

Note. $N = 961$. R = multiple correlation coefficient. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$ (two-sided t tests).

Discussion

The present work aimed to clarify the roles of power and affiliation motives for leadership. In line with previous theory, a functional power motive was positively related to leadership criteria whereas a dysfunctional affiliation motive was negatively related to them.

Theoretical contributions

This study advances the literature in several ways. First, it supports original assumptions about the roles of power and affiliation motives for leadership (McClelland, 1970; McClelland & Burnham, 1976; McClelland & Boyatzis, 1982) against a large body of inconsistent findings (e.g., Fodor & Smith, 1982; Cornelius & Lane, 1984; Spangler & House, 1991; Winter, 1993; Kirkpatrick et al., 2002; De Hoogh et al., 2005; Steinmann et al., 2015; 2016). We are confident in

Table 3.6

Relationship between functional and dysfunctional power and affiliation motives and leadership role occupancy

Predictor	Leadership role occupancy			
	Without motives		With motives	
	β	SE	β	SE
<i>Step 1: control variables</i>				
Neuroticism	-.13***	(.03)	-.08*	(.03)
Extraversion	.06†	(.03)	.02	(.03)
Openness	.06†	(.03)	.04	(.02)
Agreeableness	.02	(.03)	.06†	(.03)
Conscientiousness	.14***	(.03)	.13***	(.03)
Fairness	-.01	(.03)	-.01	(.03)
<i>Step 2: motives</i>				
Functional power motive			.17***	(.04)
Dysfunctional power motive			.00	(.04)
Functional affiliation motive			-.08*	(.04)
Dysfunctional affiliation motive			-.04	(.04)
<i>Model summary</i>				
ΔR (ΔR^2)			.05***	(.02)
R (R^2)	.24***	(.05)	.29***	(.07)

Note. $N = 961$. R = multiple correlation coefficient. Leadership role occupancy was coded "no" = 0 and "yes" = 1. Logistic regression analysis yielded virtually identical p -values. Displayed coefficients are from multiple regression analysis to facilitate interpretation. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$ (two-sided t tests).

the robustness of our results because we used a large sample, included multiple criterion variables, and also controlled for personality characteristics.

Second, this study extends research on motives and leadership onto explicit motives. Even though there are many previous studies of the role of explicit motives for leadership (e.g., Chan & Drasgow, 2001; Schuh et al., 2014), none of these studies had assessed power and affiliation motives in a form that distinguished between functional and dysfunctional variants of these motives as had been suggested by McClelland (1970) and others (see Chapter 2). This means that the present study may be the first to investigate the roles of functional and dysfunctional variants of explicit power and affiliation motives for leadership. By doing so, we are able to demonstrate empirically that original assumptions (which were not introduced specifically as being limited to implicit motives; McClelland, 1970; McClelland & Burnham, 1976) are indeed not confined to implicit motives but apply to explicit motives as well.

Third, by showing that motives have incremental validity above and beyond personality, this study highlights the utility of including motives into the trait

approach in leadership research. Motives have so far been excluded from several important reviews on the role of person characteristics for leadership (e.g., Judge et al., 2009; DeRue et al., 2011; for an overview, see Zaccaro et al., 2018). According to the present study, motives provide substantial explanatory value beyond personality so that their inclusion into the trait approach seems to be worthwhile.

Implications for practice

By identifying particular variants of power and affiliation motives that are beneficial or detrimental to effective leadership, the present study emphasizes more specific targets for leadership development interventions than has been done in previous research (Schuh et al., 2014). Whereas previous research has recommended to foster a general power motive (Schuh et al., 2014), the present study confines this recommendation to only a functional variant of a power motive. Being specific about the motives that are targeted in interventions may reduce the risk for adverse side effects. An adverse side effect of fostering a general power motive might be to increase a dysfunctional power motive which may have unintended consequences such as selfish behavior as described in Chapter 4 and may result in overly dominant behavior that impedes open exchange of information (Fodor & Smith, 1982; Detel & Elprana, 2016).

More specifically, practitioners could screen (potential) leaders on the functional power motive to identify individuals with relatively low levels of this motive. In a next step, practitioners could present these individuals with a list of situations in which a high functional power motive is normally beneficial and ask them to describe what they would do. Whenever participants report that they would normally behave in a way that is inconsistent with a high functional power motive, practitioners can discuss participants' reasons and stimulate self-reflection about the accuracy of their underlying beliefs. For example, if an individual disagrees with statements such as "it pleases me to take responsibility for a greater cause, even if that might involve experiencing setbacks and admitting mistakes," this could trigger a discussion of beliefs about setbacks and errors. A person might hold the false belief that leaders need to be perfect and never make any mistakes whereas in reality, errors and experimentation are often a great catalyst for learning (Frese & Keith, 2015) and entrepreneurial success (Baum, 2009). As another example, consider an individual who disagrees with statements as "I like advancing controversial views, but only if it happens in an appropriate way" because that person has a high dysfunctional power motive (and therefore believes that ends justify means in a sense that it may be okay to advance controversial views in forceful and aggressive ways). On this person, it might have an impact to discuss previous experiences in more detail and start reflecting about the negative consequences of their own behavior on others. In a final step, participants may think of alternative reactions to these situations

which they can then try to apply in the future. In summary, differentiating functional and dysfunctional variants of power and affiliation motive allows a more detailed understanding of motives which can be utilized in interventions.

Limitations and future research

It is a limitation of this study that we did not include a broad spectrum of leadership criteria. The criteria that we included are relatively similar to each other and show substantial overlap (see Table 3.1). Most importantly, all of these criteria contain at least some degree of subjective judgment about a person's leadership ability/effectiveness. Subjective evaluations of leadership can be heavily skewed depending on attributions of followers (Keller Hansbrough, 2018) and stereotypes (Koenig et al., 2011) and do not necessarily reflect high performance of teams and organizations (Kaiser et al., 2008). Even seemingly objective measures such as leadership role occupancy depend on subjective decisions about who is offered a promotion into a leadership role (from an organizational perspective) and whether someone pursues and/or accepts such a promotion (from an individual perspective). For these reasons, results should mostly be generalized onto subjective leadership criteria. Even though this limitation is very common in leadership research, it is still a serious limitation (Kaiser et al., 2008). Other relevant outcomes that were not included in this study are, among others, cooperation (intra or interdepartmental), innovation performance, follower health, or societal impact. Future research should clarify which motive variants are relevant for which classes of outcomes. As a step in this direction, we conducted another study which will be described in Chapter 4. That study focused specifically on the role of motives for cooperation. Beyond that, it will be interesting to further explore for which classes of outcomes the functional power motive and the dysfunctional affiliation motive are not relevant so that we can narrow down their field of application.

Finally, open questions remain also with regard to the mediating mechanisms that explain why individuals with a high functional power motive get rated as competent leaders. It might be worthwhile to investigate more specifically where positive evaluations come from. For instance, individuals with a strong functional power motive might either show certain behavioral patterns that enable others to recognize their potential as leaders (e.g., influencing others towards the achievement of shared and valued goals in an elegant) or they may merely express their convictions in conversations with others from which others may infer that they are good leaders.

Conclusion

This study revisited the role of motives for leadership and extended the application of previous theoretical assumptions about the importance of motives for

leadership onto the realm of explicit motives. Across different leadership criteria that were all evaluative in nature, we found that a functional power motive benefited effective leadership above and beyond personality whereas a dysfunctional affiliation motive was rather undesirable. Our results contribute towards clarifying inconsistent findings of previous studies. Through distinguishing between functional and dysfunctional variants of power and affiliation motives, we believe that these findings are useful to inform the development of targeted interventions. We argue for paying more attention to motives in the trait approach in leadership research.

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4

Power and affiliation motives predict (un)selfish leader behavior in social dilemmas

Abstract

In this day and age, leaders are permanently required to collaborate with other leaders, organizations, or clients. Successful collaboration depends on each individual's tendency to forgo some of their personal interests in favor of cooperation. In this study, we hypothesize that an individual's proclivity for selfishness is evoked and inhibited by the desires for influence (*power motive*) and positive relationships (*affiliation motive*), respectively. We theorize (a) that a dysfunctional variant of the power motive evokes selfish behavior because it distorts processing of social information and (b) that a functional variant of the affiliation motive inhibits selfish behavior because it increases attention to others so that their interests are better understood. We test our hypotheses in a laboratory study ($N = 201$) in which we observe groups of 3 to 4 persons while playing a game of

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Settlers of Catan: Oil Springs. Our findings reveal that individuals with a high dysfunctional power motive and/or low functional affiliation motive behave more selfishly. More specifically, they make more verbal statements in a conversation during the game in which they endorse selfish behavior. They also cause more oil spills in the game which benefit themselves at the expense of the group. We replicate these results in a field survey ($N = 960$) in which respondents read descriptions of situations that provided the opportunity for selfish business decisions at the expense of society. Again we find the dysfunctional power motive to be positively related to selfish business decisions whereas the functional affiliation motive is negatively related to selfishness. These results are consistent for students, employees, and leaders. This work highlights the importance of motives for selfishness in social dilemmas. Our findings contradict previous assumptions about desirable motives in leaders which typically favored power over affiliation in leaders. We suggest that leadership scholars integrate these predictors of (low) selfishness into their models of the role of person characteristics for effective leadership.

This study investigates the relationship between motives and selfishness in leaders. Contrary to popular beliefs (e.g., Epitropaki & Martin, 2004; Koenig et al., 2011; Gartzia & Baniandrés, 2016), a substantial body of evidence suggests that selfishness in leaders is not just a minor misconduct but rather poses a serious threat to the flourishing of an organization and its members. Selfishness has been found to reduce essential outcomes such as productivity (Harrell & Simpson, 2016) and financial returns (Collins, 2001; Peterson et al., 2012; Ou et al., 2018). Despite its importance for leadership, (low) selfishness is almost never studied as an outcome variable in leadership research. For this reason, we know very little about the characteristics of leaders that predict selfish behavior.

The present research attempts to close this gap by investigating the role of motives for selfish behavior of leaders. More specifically, we test the hypotheses that a dysfunctional variant of the power motive is a significant motivator for selfish behavior whereas a functional variant of the affiliation motive prevents selfishness. These hypotheses deviate significantly from previous theorizing about motives and leadership which painted the dysfunctional power motive in a relatively positive light both on its own as well as in comparison to an affiliation motive (McClelland & Burnham, 1976).

We measure selfishness by observing leaders' actual behavior in social dilemmas, which are situations where a single individual benefits from behaving selfishly but does so at the expense of a superordinate unit such as an organizat-

ion or society. More specifically, we record participants' verbal statements as well as their actions during a game of *Settlers of Catan: Oil Springs* (Griswold, 2013). This game simulates a situation that leaders often encounter: Each player manages their own population (analogous to a business department or an entire organization) but, at the same time, has to be respectful of other players (analogous to other departments, collaborators, or clients) on whose success a part of the outcome depends (analogous to future revenues from sustained collaboration). By identifying motives as predictors of selfish behavior, this study contributes new information to existing models of the role of person characteristics for leadership (e.g., Judge et al., 2009; DeRue et al., 2011; Zaccaro et al., 2018) and also improves our understanding of human behavior in social dilemmas (Messick & McClintock, 1968; van Lange et al., 2013).

Selfish behavior in leaders

Even though the general public perceives selfishness to be a common phenomenon in leaders [with an average of 4 on a scale of 1 (*not at all characteristic*) to 9 (*extremely characteristic*); Epitropaki & Martin, 2004], many studies suggest that selfish behavior among leaders has devastating consequences for an organization and its members. Direct studies of leaders' selfishness find that leaders' selfishness leads to inefficient use of resource pools (Mannix, 1993) and drives group members to reduce their contributions so that team outcomes decline (Harrell & Simpson, 2016). Indirect evidence of the detrimental consequences of selfishness comes from studies which identified traits, leadership styles, and states that are mostly incompatible with selfishness such as humility (Collins, 2001; Ou et al., 2018), servant leadership (Peterson et al., 2012), ethical leadership (Treviño et al., 2014; Ng & Feldman, 2015), transformational leadership (Judge & Piccolo, 2004), trust (De Jong et al., 2016), fairness (Robbins et al., 2012), and absence of conflict (De Dreu & Weingart, 2003). In all of these studies and meta-analyses, low selfishness benefitted performance and well-being of organizations, teams, and employees.

In light of this evidence, we argue that good leaders should refrain from selfish behavior. Even though selfish behavior typically provides short-term benefits for selfish actors, these benefits are realized at the expense of long-term relationships (Hardy & van Vugt, 2006) and related outcomes (Mannix, 1993). Such tradeoffs between short-term self interest and longer-term group interest are labeled as *social dilemmas* and have been studied extensively in social sciences (e.g., Hardin, 1968; Pruitt & Kimmel, 1977; Dawes, 1980; Ostrom et al., 2002; van Lange et al., 2013). In these social dilemmas, leaders have a strong influence on the decisions that are made (Son Hing et al., 2007). Leaders often use this influence for their personal gain because they feel entitled to do so (de Cremer

and van Dijk, 2005). This results in inefficient use of resources (Mannix, 1993; Harrell & Simpson, 2016). Observers react negatively to this kind of selfish behavior (Nowak & Sigmund, 1998; Milinski et al., 2002; Hardy & van Vugt, 2006) which likely impairs processes that are essential for organizational success such as knowledge sharing (Pais & dos Santos, 2014) and problem-solving (Nauta et al., 2002). Based on this reasoning, we posit:

Theoretical proposition 1: Selfish behavior is undesirable in leaders

How can leaders overcome selfish behavior in social dilemmas? Resolving social dilemmas requires an unbiased understanding of the situation (Dawes, 1980; van Lange et al., 2013). Actors need to (a) recognize interdependencies in the distribution of everyone's outcomes and (b) anticipate what others will do (Pruitt & Kimmel, 1977). Empathy (being able to perceive others' mental states; de Waal, 2008) allows both—an appraisal of dilemma outcomes from the perspective of others (Zaki, 2014; Klimecki et al., 2016; Haruno & Frith, 2010; Batson & Ahmad, 2001) and, based on that, the drawing of inferences about others' intentions (Zaki, 2014). Empathy itself depends heavily on motivation (Zaki, 2014). Some motives have inhibitory or excitatory effects on it. In this way, motives can determine behavior in social dilemmas.

Selfish behavior and the power motive

Here we first hypothesize that a power motive stimulates selfishness. The power motive refers to the desire to influence or control people or processes. Experiencing power heightens sensitivity for rewards (Keltner et al., 2003), narrows focus of attention by suppressing constraining information (Whitson et al., 2013), makes people play down risks (Anderson & Galinsky, 2006), and increases overconfident decisions (Fast et al., 2012). In social dilemmas, this should direct individuals toward selfish choices, which typically provide the most salient rewards. Experiencing power particularly affects the processing of social information. That is, power can decrease taking others' perspectives (Galinsky et al., 2006) or their advice (See et al., 2012) and sometimes undermines coordination with others (Hildreth & Anderson, 2016). People who are motivated to pursue self-interest often reduce empathy (Zaki, 2014). In this way, a strong power motive may deter individuals from recognizing how cooperation benefits everyone in the long run and what is wrong with a selfish choice. This may cause biased understandings of social dilemmas, which in turn lead to selfish behavior.

However, we limit this hypothesis to a dysfunctional variant of the power motive. Prior research has shown that humans desire power for various purposes (McClelland & Burnham, 1976; Magee & Langner, 2008; Wang & Sun, 2016). As

described in Chapter 2, we theorize that those high in the dysfunctional variant of the power motive desire power as a means to perceived superiority in an authoritarian or materialistic sense. In contrast, if an individual desires power in order to pursue a greater good, we refer to that as a functional power motive and include it in this study only for comparison. We do not expect the functional power motive to increase selfishness because its other-related purpose should compensate negative effects of being motivated by power (Rus et al., 2012). We hypothesize:

Hypothesis 1: A dysfunctional power motive promotes selfish behavior

Selfish behavior and the affiliation motive

Second, we hypothesize that an affiliation motive inhibits selfishness. The affiliation motive refers to a desire to build and maintain positive relationships. Affiliation attracts people to situations in which they can connect with others (Zaki, 2014) and motivates them to attend to others' mental states (Zaki, 2014). In social dilemmas, attending to others enables an accurate understanding of the situation, which in turn fosters cooperation (Klimecki et al., 2016; Haruno & Frith, 2010; Batson & Ahmad, 2001; Chierchia et al., 2017; Edele et al., 2013).

However, we limit this hypothesis to a functional variant of the affiliation motive. As described in Chapter 2, we theorize that individuals high in this variant particularly enjoy being considerate and cooperative rather than being popular or be validated by others. This conceptualization deviates from prior research, which often cast affiliation in a negative light (McClelland & Burnham, 1976; Chierchia et al., 2018). Affiliation motivated individuals have often been seen as desperately wanting to be liked, fearing rejection, avoiding conflicts, and favoring their in-group at the expense of everyone else (McClelland & Burnham, 1976). In this study, we refer to this as the dysfunctional affiliation motive and include it only for comparison. We do not expect the dysfunctional affiliation motive to increase caring and trusting nor, in turn, to reduce selfishness. We hypothesize:

Hypothesis 2: A functional affiliation motive prevents selfish behavior

Context of this study

To test our propositions, we examined selfish behavior in two different contexts. The first situation was a group interaction in which individuals had the oppor-

tunity to behave selfishly for their immediate benefit but did so at the expense of longer-term group performance. The second class of situations were written scenarios in which individuals had to make a decision between personal gains and avoiding harm to society. In both contexts, participants were in the role of a leader. In the first situation, participants were managing their own population in a game where they had to build a community and balance their community's needs for space and resources with those of other communities (similar to being a president of a country). In the second context, participants were told to assume that they were business leaders who were in charge of making critical decisions for their businesses.

Method

Participants

Laboratory study. Participants are 201 individuals (103 women) aged $M = 24$ y ($SD = 6$; cf. Chapter 1, Tables 1.6 and 1.7 for an overview of the use of samples throughout this dissertation). For sample size, we set a target of “200” before we started collecting data. Most are students (89%) majoring in psychology (51%). Some presently hold or formerly (in their last employment) held a professional leadership position (17%). We recruited participants on campus and through local advertisements. All participants received a variable payment of $M = €6.94$, $SD = 1.89$, in addition to either a fixed amount of €20 (available to all participants except psychology students) or course credit (available to psychology students) for a total duration of approx. 4 h (with an additional €2 or course credit for every 15 min beyond 4 h 10 min). Fresh organic fruits, snacks, as well as hot and cold beverages were available to participants free of charge.

Field survey. Respondents were 960 individuals (512 women) aged $M = 31$ y ($SD = 12$). Most of them have work experience (73%) of, on average, 9 y ($SD = 12$). Some presently hold or formerly held (if not working anymore) a professional leadership position (27%). We recruited half of them via an online labor market and the other half through local advertisements and social networks. Respondents received approx. €2.50 for 15-25 min. Budget (€2,000 for the final wave of recruitment) determined sample size.

Procedure

Laboratory study. We distributed data collection over two occasions $M = 19$ days ($SD = 30$) apart from each other. At Time 1, we measured all independent variables in an online survey. At Time 2, participants came to the laboratory and interacted with other participants. We informed participants in the beginning of

both occasions that they were going to be videotaped at Time 2. All participants provided informed consent online (Time 1) and with their signature (Time 2). We explicitly notified participants before we started recording video. Both cameras and two video lights were clearly visible.

After completing the survey at Time 1, participants automatically received regular emails with personalized invitations for Time 2 through a custom-coded script, until they registered for a particular date. Personalizing invitations in this way allowed us to stratify group composition. We intended that all groups contain 2 male and 2 female individuals. If multiple group members were psychology students, they were not allowed to belong to the same cohort so that most group members would not know each other. This procedure resulted in $N = 45$ complete groups with 4 members each (2 male, 2 female) and $N = 7$ smaller groups with 3 members each in case that one person did not show up. We control for group size in all analyses. The average degree of familiarity between group members was $M = 1.2$ ($SD = 0.6$) on a scale of 1 to 6.

In the laboratory, at Time 2, we instructed participants for a second time (the first time was at the end of the online part of this study) about the rules of the Settlers of Catan game and, in particular, about the Oil Springs iteration of this game (Griswold, 2013). We handed over all different pieces of the game to each participant so that they could familiarize themselves with them by themselves at their workstation before sitting down with the others at a table in the center of the room with the game on it. The experimenter assured participants that they could ask about the rules of the game at any time. All questions were answered at all times as long as they were related to the understanding of the game.

In the Settlers of Catan game, all players manage their own population. The goal is to grow one's population on an island that all players share. Players earn so called *victory points* for constructing buildings, long roads, or for sequestering (instead of using) oil. To be able to build anything, players need resources which they obtain over time or by trading with other players. We chose the *Oil Springs* iteration of this game, which simulates the real-world issues associated with global consumption of fossil fuels (Griswold, 2013). The Oil Springs scenario allows players to drill for oil and utilize it to grow their populations faster. All use of oil is indicated on the board so that all players are aware of it. After each fifth oil that is being used by any one of the players, an oil spill happens. Such a disaster either destroys one of the perimeters of the island and its future capacity to produce resources (approx. 80% likelihood) or causes coastal flooding which destroys all settlements located directly on coasts (approx. 20% likelihood). This creates a social dilemma of the type of a public goods dilemma. While a single player benefits from using oil, the whole group suffers from deterioration of future productivity as a result of that player's oil use. The game was over after 10 rounds (40 moves in groups of 4 and 30 moves in groups of 3, $M = 76$ min, $SD = 26$). However, we concealed this fact from participants. Not knowing how long the game would last made it impossible for participants to anti-

cipate the extent of future losses of productivity due to oil spills. Participants received financial incentives based on the results of the game. We designed incentives to be ambiguous enough to perpetuate the nature of a social dilemma. Participants knew that after the game, a coin toss determined whether their payment would be based on individual performance or on the average performance of all group members. Performance is indicated by the number of victory points a player earns during the game. All victory points exceeding a cutoff of 5 were worth €1 per point ($M = €1.13$, $SD = 1.47$). Supplementary Information, Section 3 describes further modifications that we made to the original procedure of the game.

After the game, we asked participants whether they would recommend the study to others, to which 99% answered “yes”. We compensated participants and thanked them for their contribution. If they had any questions about the study, we tried to answer them as well as we could. We only requested that they would not share any strategies or ideas with their friends, if those friends might want to participate in the study. All procedures were in line with all relevant ethical regulations described in the Ethics Code of the American Psychological Association.

Field survey. The survey was conducted online. All scales were presented in randomized order. We used 6-point scales if not otherwise indicated. All participants provided informed consent. All procedures were approved by the Technische Universität Darmstadt institutional review board.

Measures

Verbal statements endorsing selfishness (laboratory study). We videotaped the whole conversation during the game. Communication about a dilemma often decreases selfishness¹³. We count all statements that favor either selfishness or cooperation. This count reflects (i) statements about selfish/cooperative strategies (e.g., “I think it is best if everyone does their own thing” vs. “we should share the resources that everyone needs”) and (ii) more general statements expressing a negative/positive attitude towards the group (e.g., “I don’t care what happens when I cause an oil spill” vs. “great, now everyone has more than 5 victory points”). We count all statements that (i) initiate a conversation about a topic related to selfishness, (ii) support such an initiative, or (iii) reject such an initiative (*reverse coded*, i.e., counting toward the other category). As support or rejection, we count only instances where a person makes an active statement. We do not count one word answers, nodding, or shaking one’s head. For both statements encouraging selfishness and statements encouraging cooperation, we log-transform count values to reduce the weight of statements that are repetitions of a player’s position relative to statements that reveal a player’s position for the first time. Agreement over two trained raters is $r = .78$, $p < .001$ for statements encouraging selfishness and $r = .79$, $p < .001$ for statements encouraging

cooperation. Next, we z-standardize statements encouraging selfishness ($M_{\text{raw}} = 1.6$, $SD = 2.6$) and statements encouraging cooperation ($M_{\text{raw}} = 4.8$, $SD = 5.9$) separately. Given that statements encouraging selfishness are more rare, we assume that they have a higher weight per statement in the conversation. By standardizing both types of statements separately before aggregating them, we assign an equal weight to both indices. When aggregating both indices, we assign a negative sign to statements encouraging cooperation. Inter-rater agreement is $r = .73$, $P < .001$. Finally, we aggregate the resulting aggregates from both raters. Without log transformation in the beginning, the final aggregates would have had higher kurtosis (9.34 vs. 0.95, $SE = 0.34$).

Oil spills caused (laboratory study). We measured how many oil spills a player has decided to cause as a consequence of his or her use of oil. Players could extract oil by building settlements nearby an oil spring and use this oil to achieve faster population growth. During the game of *Settlers of Catan*, the experimenter noted all moves on a custom-made form (available at <https://osf.io/yt4qh/>) including the number of oil spills caused. Any inconsistencies in the record (the occurrence of an oil spill was logged at two different places) were resolved by replaying the game on video.

Selfish business decisions (field survey). Respondents read six detailed descriptions of hypothetical business scenarios (Ashton & Lee, 2008). All scenarios involve social dilemmas. Each decision requires balancing personal benefits against expected harm to society, the environment, or legal liability. Respondents indicated on 6-point scales how likely it was that they would make a selfish decision.

Motives (both samples). As described in Chapters 2 and 3, we used short scales with 4 items each to assess functional and dysfunctional variants of power and affiliation motives.

Functional power motive. We define the functional power motive as a striving for using responsible and benevolent channels of influence. A sample item reads “I enjoy to contribute something through my channels of influence that is aligned with the greater good.”

Dysfunctional power motive. We define the dysfunctional power motive as a desire for possessing and using authority in order to serve one’s personal interests. A sample item reads “it pleases me to have a lot of power and influence, because there are many people that you need to keep under control.”

Functional affiliation motive. We define the functional affiliation motive as a striving for social interactions that are sincere and considerate, fostering deep and honest relationships with others. A sample item reads “I wish that people like me for being sympathetic and cooperative.”

Dysfunctional affiliation motive. We define the dysfunctional affiliation motive as a striving for harmonious relationships with others that is characterized by confirmation seeking and self-effacement. A representative item is “it is very

Table 4.1
Intercorrelations of all variables used in both samples

Variable	Selfish behavior							Motives							Control variables										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1 Statements endorsing selfishness																									
2 Oil spills caused	.29**																								
3 Selfish business decisions																									
4 Functional power motive	-.13	.01																							
5 Dysfunctional power motive	.16*	.27**																							
6 Functional affiliation motive	-.29**	-.27**																							
7 Dysfunctional affiliation motive	.03	-.02																							
8 Neuroticism	-.11	-.11																							
9 Extraversion	-.02	.09																							
10 Openness	-.13	-.13																							
11 Agreeableness	-.12	-.19**																							
12 Conscientiousness	-.11	-.29**																							
13 Fairness	-.26**	-.28**																							
14 Reasoning ability	-.02	-.00																							
15 Achievement motive	-.12	-.17*																							
16 Motivation to lead	.03	.11																							
17 Implicit power motive	.06	.19**																							
18 Implicit affiliation motive	.01	-.14*																							
19 Activity inhibition (AI)	-.09	.01																							
20 Power x affiliation	-.00	-.12																							
21 Power x AI	-.07	-.07																							
22 Affiliation x AI	.04	-.01																							
23 Power x affiliation x AI	.12	.00																							
24 Group size (3 vs. 4)	.01	.14*																							

Note. $N_s = 201$ (laboratory study) and 960 (field survey). Coefficients below the diagonal are from the laboratory study and coefficients above the diagonal are from the field survey. * $p < .05$, ** $p < .01$ (two-sided t tests).

Table 4.2

Relationships between functional and dysfunctional power and affiliation motives and selfish behavior

Predictor	Laboratory study (N = 201)		Field survey (N = 960)
	Verbal statements endorsing selfishness	Oil spills caused	Selfish business decisions
Functional power motive	-.09	.01	-.06
Dysfunctional power motive	.14†	.23**	.44***
Functional affiliation motive	-.25***	-.25***	-.20***
Dysfunctional affiliation motive	.00	-.01	.03
R	.33***	.39***	.50***

Note. R = multiple correlation coefficient. We controlled for group size in the laboratory study. † $p < .01$, * $p < .05$, ** $p < .01$, *** $p < .001$ (two-sided t tests).

important to me to be accepted by others. Therefore I sometimes say things of which I am not convinced that they are right, but that make me look good.”

Control variables (both samples). As described in Chapter 3, we measured personality with a short version of the Big Five Inventory with a total of 10 items (Rammstedt et al., 2013) and with the 3-item fairness facet of the Honesty-Humility factor (Ashton & Lee, 2009).

Additional control variables (laboratory study). *Reasoning ability.* We measured reasoning ability with the short version of the Hagen Matrices Test (Heydasch et al., 2017). This version consists of 6 3x3 matrices with 8 response options each. Each matrix needs to be completed within 2 min.

Achievement motive. We measured an *achievement motive* with 4 items from a German questionnaire (the business focused inventory of personality; Hossiep et al., 2003). We chose items 22, 85, 159, and 172, because these items had the highest factor loadings of all items that are phrased general enough for our purpose, e.g., “even after a very good performance, I still seek improvement.”

Motivation to lead. As described in Chapter 3, we measured affective motivation to lead with 9 items (Felfe et al., 2012). Again, we used 6-point scales for the first $N = 203$ participants in the field survey (to keep response scales consistent across measures) but changed to the original 5-point format for the next 758 participants in the field survey (to be able to provide unpaid respondents with norm-based feedback on their motivation to lead as an incentive for participation). As sample item is “I tend to assume the leadership of most groups and teams I work in.”

Implicit motives. We measured an implicit power motive as well as an implicit affiliation motive using the approach of the picture story exercise (Pang, 2010). We showed respondents a picture for 10 s and then asked them to come up with a story surrounding the depicted situation within 4 min per picture. We used 3 pictures—*women in laboratory* (Smith, 1992), *mad scientist* (Winter, 1973), and

Table 4.3

Relationship between functional and dysfunctional power and affiliation motives and verbal statements endorsing selfishness

Predictor	Verbal statements endorsing selfishness			
	Control variables only		All variables	
	β	SE	β	SE
<i>Step 1: control variables</i>				
Neuroticism	-.12	(.08)	-.11	(.08)
Extraversion	-.08	(.08)	-.08	(.08)
Openness	-.13 [†]	(.07)	-.10	(.07)
Agreeableness	-.02	(.08)	.06	(.08)
Conscientiousness	-.00	(.09)	.04	(.09)
Fairness	-.22**	(.07)	-.14 [†]	(.08)
Reasoning ability	-.03	(.07)	.04	(.07)
Achievement motive	-.10	(.09)	-.10	(.09)
Motivation to lead	.01	(.09)	.03	(.10)
Implicit power motive	.04	(.07)	.04	(.07)
Implicit affiliation motive	.06	(.08)	.08	(.07)
Activity inhibition	-.14 [†]	(.07)	-.13 [†]	(.07)
Power × affiliation	.06	(.08)	.08	(.08)
Power × activity inhibition	-.09	(.07)	-.09	(.07)
Affiliation × activity inhibition	.01	(.08)	.00	(.08)
Power × affiliation × activity inhibition	.15 [†]	(.09)	.16 [†]	(.08)
Group size (3 vs. 4)	-.01	(.07)	.02	(.07)
<i>Step 2: explicit power and affiliation motives</i>				
Functional power motive			-.10	(.09)
Dysfunctional power motive			.11	(.09)
Functional affiliation motive			-.23**	(.08)
Dysfunctional affiliation motive			.03	(.09)
<i>Model summary</i>				
ΔR (ΔR^2)			.07**	(.05)
R (R^2)	.38*	(.06)	.45**	(.11)

Note. $N = 201$. R = multiple correlation coefficient. [†] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$ (two-sided t tests).

nightclub scene (Winter, 1973). Respondents' stories were then coded for motive imagery by a trained coder using Winter's coding system for running text (Hering, 2016). For example, if a character in one of the stories attempts to influence another character, that particular sentence of that particular story is coded as power imagery. Activity inhibition is coded by counting how often the word

not is used (McClelland, 1975). We correct for word count using regression analysis.

Results

We conducted multiple regression analyses to test our hypotheses that a dysfunctional power motive promotes selfish behavior (Hypothesis 1) and that a functional affiliation motive prevents selfish behavior (Hypothesis 2). We included two other motive variants (functional power motive, dysfunctional affiliation motive) as control variables in all models. Table 4.1 displays correlations of all variables included in this study.

Selfish behavior in the laboratory study

In the laboratory study, we examined whether motives predict (a) verbal statements in the conversation during the game of Settlers of Catan in which participants endorsed selfishness (as opposed to cooperation) and (b) the number of oil spills that participants caused during the game. As shown in Table 4.2, a dysfunctional power motive promoted both kinds of selfish behavior. More specifically, the dysfunctional power motive positively predicted both verbal endorsement of selfishness ($\beta = .14, p = .054$) as well as the number of oil spills caused during the game ($\beta = .23, p = .001$). Given that the first relationship is only marginally significant, these results provide only tentative support for Hypothesis 1. With respect to Hypothesis 2, the data fully support our expectations. More specifically, the functional affiliation motive predicts both verbal endorsement of selfishness ($\beta = -.25, p < .001$) as well as the number of oil spills caused during the game ($\beta = -.25, p < .001$).

Selfish decisions in the field survey

In the field survey, we looked again at the relationship between motives and selfish business decisions. The right column of Table 4.2 shows that the dysfunctional power motive was positively related to selfish business decisions (Hypothesis 1, $\beta = .44, p < .001$) whereas the functional affiliation motive was negatively related to selfish business decisions (Hypothesis 2, $\beta = -.20, p < .001$). These results provide further support for our hypotheses.

Table 4.4

Relationship between functional and dysfunctional power and affiliation motives and oil spills caused

Predictor	Oil spills caused			
	Control variables only		All variables	
	β	SE	β	SE
<i>Step 1: control variables</i>				
Neuroticism	-.05	(.08)	-.02	(.08)
Extraversion	.13	(.08)	.11	(.08)
Openness	-.07	(.07)	-.05	(.07)
Agreeableness	-.07	(.07)	.00	(.08)
Conscientiousness	-.23**	(.08)	-.19*	(.08)
Fairness	-.18*	(.07)	-.13†	(.08)
Reasoning ability	-.01	(.07)	.03	(.07)
Achievement motive	-.03	(.08)	-.05	(.08)
Motivation to lead	.02	(.08)	-.03	(.10)
Implicit power motive	.11	(.07)	.11	(.07)
Implicit affiliation motive	-.04	(.07)	-.03	(.07)
Activity inhibition	-.01	(.07)	.00	(.07)
Power × affiliation	-.06	(.08)	-.04	(.08)
Power × activity inhibition	-.05	(.07)	-.04	(.07)
Affiliation × activity inhibition	.02	(.08)	.02	(.08)
Power × affiliation × activity inhibition	-.04	(.08)	-.04	(.08)
Group size (3 vs. 4)	.11	(.07)	.13†	(.07)
<i>Step 2: explicit power and affiliation motives</i>				
Functional power motive			.02	(.09)
Dysfunctional power motive			.13	(.09)
Functional affiliation motive			-.18*	(.08)
Dysfunctional affiliation motive			-.03	(.09)
<i>Model summary</i>				
ΔR (ΔR^2)			.03	(.02)
R (R^2)	.47***	(.14)	.50***	(.16)

Note. $N = 201$. R = multiple correlation coefficient. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$ (two-sided t tests).

Robustness after accounting for control variables

In order to test the robustness of our findings, we included a large array of relevant control variables. If motives are an essential driver for selfish behavior, then the above reported relationships between motives and selfishness should remain

even after we control for other factors such as personality. In both studies, we control for the Big Five personality factors (neuroticism, extraversion, openness, agreeableness, and conscientiousness) as well as for the fairness facet of the honesty/humility factor. In the laboratory study, we also control for reasoning ability, the achievement motive, motivation to lead, as well as implicit power and affiliation motives (and their interactions with each other and with activity inhibition). All of these variables have either been shown or theorized to be important predictors of leadership outcomes (e.g., Chan & Drasgow, 2001; Judge et al., 2002; Judge et al., 2004; Collins et al., 2004; Steinmann et al., 2015) or selfishness (Hilbig et al., 2014; for an overview, see Zaccaro et al., 2018).

Tables 4.3 to 4.5 show that the functional affiliation motive has incremental predictive validity above all control variables in both studies. More specifically, it negatively predicted verbal endorsement of selfishness ($\beta = -.23, p = .007$), caused oil spills ($\beta = -.18, p = .028$), as well as selfish business decisions ($\beta = -.11, p < .001$) even after a large number of relevant control variables had been accounted for. These findings provide strong support for Hypothesis 2 in which we proposed that the functional affiliation motive prevents selfish behavior. For the dysfunctional power motive, results were somewhat less consistent. After accounting for all of the control variables, the relationships in the laboratory study were weakened to non-significance. More specifically, the dysfunctional power motive non-significantly predicted verbal endorsement of selfishness ($\beta = .11, p = .24$) and caused oil spills ($\beta = .13, p = .16$). However, the relationship between the dysfunctional power motive and selfish business decisions in the field survey remained substantial and significant ($\beta = .32, p < .001$). Taken together, these analyses highlight the incremental validity of the functional affiliation motive for the prediction of selfish behavior above and beyond a large array of important control variables including reasoning, motives, and personality. Relationships between the dysfunctional power motive and selfish behavior were only partially robust when accounting for relevant control variables.

Generalizability across different occupational statuses

Finally, we examined whether the reported pattern of results was consistent across different occupational statuses. More specifically, we split the field survey into three subgroups which we labeled (a) students (including homemakers without work experience; $N = 258$), (b) workers (including all participants with some degree of work experience; $N = 445$), and (c) leaders (including retired ex-leaders; $N = 257$). By repeating our analyses for all three subgroups, we aimed to explore whether our findings can be generalized across different populations. Table 4.6 shows that we indeed found the same pattern of results across all subsamples. As hypothesized, the dysfunctional power motive was positively related to selfish business decisions in all three subgroups (all β s $> .34$, all p s $< .001$; Hypothesis 1) whereas the functional affiliation motive was negatively related to

Table 4.5

Relationship between functional and dysfunctional power and affiliation motives and selfish business decisions

Predictor	Selfish business decisions			
	Control variables only		All variables	
	β	SE	β	SE
<i>Step 1: control variables</i>				
Neuroticism	-.09**	(.03)	-.10**	(.03)
Extraversion	.01	(.03)	.00	(.03)
Openness	-.17***	(.03)	-.13***	(.03)
Agreeableness	-.13***	(.03)	-.06*	(.03)
Conscientiousness	-.05†	(.03)	-.01	(.03)
Fairness	-.40***	(.03)	-.31***	(.03)
<i>Step 2: explicit power and affiliation motives</i>				
Functional power motive			-.04	(.03)
Dysfunctional power motive			.32***	(.03)
Functional affiliation motive			-.11***	(.03)
Dysfunctional affiliation motive			.05	(.03)
<i>Model summary</i>				
ΔR (ΔR^2)			.09***	(.10)
R (R^2)	.51***	(.25)	.60***	(.35)

Note. $N = 201$. R = multiple correlation coefficient. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$ (two-sided t tests).

selfish business decisions in all subgroups (all β s $< -.17$, all p s $< .003$; Hypothesis 2).

Discussion

The present work examined the role of motives for selfish behavior and found that a dysfunctional power motive promotes selfish behavior, whereas a functional affiliation motive prevents it. These results generalized across different occupational groups including a sample of leaders and, in the case of the functional affiliation motive, were robust after accounting for a large set of relevant predictor variables.

Theoretical contributions

We believe that this study makes three contributions to the literature. First, it contributes to theory on the role of motives for leadership. While previous research had theorized and demonstrated that a (functional) power motive is more beneficial for evaluations of leaders than a (dysfunctional) affiliation motive (see Chapter 3), the present study identifies an almost contradictory pattern of results with respect to selfish behavior in leaders. Here, a (dysfunctional) power motive is less beneficial in leaders than a (functional) affiliation motive—at least if one agrees with our proposition that selfish behavior is undesirable in leaders. This finding might constitute a substantial addition to theory on the role of motives for leadership because it (a) highlights the necessity to investigate different classes of leadership outcomes (in this case, selfish behavior as opposed to subjective evaluations) and (b) reveals that the relationship between motives and leadership is more complex than had been assumed (cf. Chapter 3). Through identifying outcome variables for which a (functional) affiliation motive is more desirable than a (dysfunctional) power motive, some inconsistencies in the previous literature might be resolved. In particular, there have been many studies which found positive relationships between an affiliation motive and leadership (e.g., Cornelius & Lane, 1984; Kirkpatrick et al., 2002; Steinmann et al., 2015, 2016) and/or negative relationships between a power motive and leadership (e.g., Fodor & Smith, 1982; Winter, 1993). We make the point that some motives are important for common indicators of leadership success such as evaluations of leaders and leaders' career success (see Chapter 3) whereas other motives are important for other indicators of leadership success (such as low selfishness). By identifying different predictors for different indicators of effective leadership, we follow a call from Kaiser and colleagues (2008) who emphasized that leader career success and organizational performance hardly overlap. In summary, the present work helps to establish a more differentiated view of the role of motives for leadership.

Second, from a more general viewpoint, the present work contributes to models of the role of person characteristics for leadership (known as the *trait approach* in leadership research). These models have so far included a large number of variables that have all been shown to be relevant in leaders (Zaccaro et al., 2018) but motives have not been an important category of variables in these models. In fact, motives have even been excluded from important models (i.e., Judge et al., 2009; DeRue et al., 2011) which is most likely due to a lack of consistent findings (as described in Chapters 1 and 2) or even due to a lack of consistent measurement (as described in Chapter 2). The present study not only emphasizes the importance of motives for selfish behavior in leaders (relative to other classes of variables such as personality or reasoning), but also yields empirical evidence for a proposition made by Judge and colleagues (2009) who posited that leader characteristics can have both bright and dark sides depending on

Table 4.6

Relationships between functional and dysfunctional power and affiliation motives and selfish behavior across different occupational statuses

Predictor	Students (N = 258)	Workers (N = 445)	Leaders (N = 257)
Functional power motive	.09	-.07	-.10
Dysfunctional power motive	.35***	.38***	.60***
Functional affiliation motive	-.25***	-.19***	-.18**
Dysfunctional affiliation motive	.03	.10*	-.08
R	.43***	.47***	.62***

Note. R = multiple correlation coefficient. Students are either students or homemakers, workers report having work experience (but no leadership position), and leaders state that they currently hold a professional leadership position or, if they are not working anymore, held one in the past. † $p < .01$, * $p < .05$, ** $p < .01$, *** $p < .001$ (two-sided t tests).

the demands of a situation. In the present study, the situation required avoidance of selfish behavior and our result was that different motives were important as compared to general leadership evaluations which were investigated in Chapter 3. If motives were included in future models of leader characteristics, a more holistic picture of the psychological dynamics in leaders and underlying leaders' interactions with others might emerge. Including motives into the trait approach may even—at least from the basis of our results—yield incremental explanatory value above and beyond well-researched variables such as leaders' personality characteristics or their reasoning ability.

Third, this study advances social dilemma research. In research on social dilemmas, it has long been known that people actually differ from one another in their behavior in social dilemmas (Messick & McClintock, 1968; Bogaert et al., 2008), but scholars did not empirically test the reason *why* people behave differently in social dilemmas. Scholars merely assumed that people must differ in a disposition labelled *social value orientation* and inferred this assumption from observations of different choice patterns. This lack of specific knowledge about the predictors of selfishness might seem surprising given that many previous articles drew heavily on motives as explanations for human behavior in social dilemmas (Hein et al., 2016; Dawes et al., 2007; Singer et al., 2009; Declerck & Boone, 2018). Not long ago has research started to explore specific predictors of selfishness. A recent experiment pointed to low levels of an affiliation motive (Chierchia et al., 2017) but did not measure stable individual differences in it. Instead, participants watched a video of humans interacting with puppies and imagined an interaction with a puppy which induced a functional affiliation motive. That study also manipulated the experience of a dysfunctional power motive but found no relationship between power and selfishness. Instead, power increased punishment (Chierchia et al., 2017). Another study on social dilemmas measured individual differences in personality but has not focused on motives (Hilbig

et al., 2014). Therefore, we think that the present work contributes to a body of knowledge predicting selfishness from motives that are actually measured as stable individual traits.

Implications for practice

There are several groups of people who are potentially interested in knowledge about the relationships between motives and selfish behavior. First and foremost, most organizations are likely to have an interest in ensuring that their leaders do not behave too selfishly. In order to avoid recruiting selfish leaders, organizations can strive to fill open leadership positions with individuals who have a low dysfunctional power motive and a high functional affiliation motive. Organizations can also try to develop their current leaders' motives (i.e., decrease the dysfunctional power motive and/or increase the functional affiliation motive) and/or to shape leaders' environments (e.g., through organizational culture) in a way so that they contain less triggers for a dysfunctional power motive and more triggers for a functional affiliation motive. For example, a situational factor arousing the dysfunctional power motive could be an excessive focus on rewards for individuals. In contrast, the functional affiliation motive may be aroused by providing safe spaces for sharing perspectives and understanding each other better.

Second, leaders themselves might be interested in understanding what drives them to display or avoid selfish behavior. Even though a norm of self-interest prevails in Western cultures (Miller, 1999), a cumulative body of research shows that selfishness does not enrich peoples lives, neither if it is being manifested in materialism (Dittmar et al., 2014), greed (Scheerhorn, 2017), or social conflicts (Sarason et al., 2001). Instead, based on the competitive altruism hypothesis, selfless behavior appears to be preferable both for the individuals (Hardy & van Vugt, 2006; Curry et al., 2018) as well as for their direct environment (Mannix, 1993; Harrell & Simpson, 2016). Another reason why leaders themselves might want to behave less selfishly would be the anticipation that organizations either already do or will start at some point to penalize selfish leaders—for instance, by omitting them from promotions into higher leadership positions.

A third beneficiary might be developers of educational curricula. Previous research has shown that completing a Master of Business Administration (MBA) can be related to increases in self vs. others-oriented values (Krishnan, 2008). In light of our proposition that selfish behavior is undesirable in leaders, it seems unlikely that such an effect is intended by the developers of MBA curricula. In order to compensate or reverse such an effect of education on self-oriented values, curriculum developers might be interested in understanding which motives drive selfishness.

What is an efficient way how those different parties can capitalize from this study's results? Scholars believe (McClelland, 1970) and observed (Gouveia et al., 2015) that motives can change. Different ways have been suggested how mo-

tives might change (e.g., Maio, 2010; Bardi & Goodwin, 2011; Detel & Elprana, 2016; also see Chapter 3). Regardless of any particular approach, it seems important first to have a good understanding about the nature of the motives that affect selfishness. In a second step, such an understanding could be utilized to explore situations from everyday life in which motive-related cues capture a person's attention and subsequently elicit goal-directed behavior. Individuals can reflect upon those situations. Through engaging in this kind of reflection, individuals can strive to replace unwanted habitual responses with new alternatives. By presenting descriptions of relevant motives and by theorizing how those motives influence selfish behavior, this study may provide insights that can be used for changing motives.

Limitations and future research

This study has several limitations. First, our analyses do not reveal *why* motives are related to selfish behavior as we did not measure specific processes mediating the relationships between motives and selfishness. Future research could tackle this question by investigating the roles of different mediating variables such as state-level empathy, devaluation of other people, competitiveness, feelings of entitlement (de Cremer and van Dijk, 2005), as well as situation-specific mediators such as recognition of outcome interdependencies and anticipation of others' behavior.

Second, for the particular situations investigated in this study, we cannot provide exact information about how undesirable selfish behavior was. It is a defining characteristic of social dilemmas that selfish behavior has short-term benefits for the actor, whereas negative consequences for the group (and the actor) tend to unfold only over time. This means that causing oil spills in the laboratory should indeed have short-term benefits for the person causing them (i.e., allowing the individual to expand their population more quickly). In contrast to this expectation, there is even some data from this study pointing toward a short-term *loss* of team productivity due to selfishness (see Chapter 6). We have no long-term data for the individual players and the team because it was a one-shot game which always ended after 40 turns. A similar principle applies to the selfish business decisions measured in the field survey. In the short term, this kind of selfishness might probably even increase organizational success. However, by relying on shady business practices as part of an organization's business model, that organization might lose its competitive edge in the long term and might alienate some stakeholders that are important for long-term success. In summary, even though we believe that selfishness is clearly the wrong choice in the situations investigated in this study (even from a purely performance-oriented perspective), our designs did not allow for direct comparison of short vs. long-term consequences of selfishness. Future studies could attempt to clarify this issue by using designs that are able to detect negative consequences of sel-

fish behavior over time. For example, future research could investigate direction and size of the effect that a decrease in trust (caused by selfish behavior) has on outcomes in repeated interactions either within the same task or in an unexpected transfer task.

Third, the present study only investigated situations in which selfishness was an undesirable behavior. However, in reality, situations might occur in which selfishness is actually a desirable choice in leaders, for instance, when interacting with hostile competitors or in situations where the payout structure does not allow more than one party to benefit. Without future research dedicated to comparing different forms of selfishness, we cannot generalize our findings about the relationships between motives and selfish behavior beyond those social dilemmas where group gains exceed individual gains.

Fourth, the main reason why we focused on selfish behavior was to examine a class of outcomes that is both important for leadership and also different from subjective evaluations of leaders. However, there might be several other classes of outcomes that fulfill these criteria as well. One of them could be innovation performance. Similar to selfish behavior but for different reasons, innovation performance might show little overlap with subjective evaluations of leaders. Innovation performance requires leaders to be open for new ideas rather than defending their own position, prioritize long-term prospects above short-term gains, and favor risk and complexity above the sense of strength and comfort that comes with long-established structures. It seems highly likely that different motives are important for innovation performance (Collins et al., 2004) as compared to both selfishness (this chapter) or subjective evaluations of leaders (Chapter 3). Future research could attempt to disentangle the relationships between motives and different classes of leadership outcomes in greater detail.

Finally, even though the present study used a predictive design (motives were measured ahead of the behavioral measures that they predicted) and controlled for a large number of relevant third variables, this design by itself is not sufficient to make claims about causality (predictor and criterion variables might both be explained by an omitted third variable). Future research may approach questions of causality by examining whether interventions that change motives also affect selfish behavior.

Conclusion

The present work revealed that a dysfunctional power motive increases selfish behavior whereas a functional affiliation motive decreases it. These results were consistent across different measures of selfishness that included observations of actual behavior and were found in students, employees, and leaders. Our findings contribute to the trait approach in leadership research, open avenues for future research on mediating variables, and inform the development of interventions aimed at changing motives to the benefit of individuals and organizations.

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5

Motives explain why men behave more unethically than women

Abstract

This study examines what factors give rise to gender differences in unethical behavior. More specifically, we hypothesize that men, on average, behave more unethically than women because men have (a) a higher dysfunctional power motive (i.e., a striving for resources and perceived superiority) as well as (b) a lower functional affiliation motive (i.e., a desire for sincere and considerate interactions with others). We test our hypotheses in a laboratory study ($N = 201$) and in a field survey ($N = 960$). Both studies focus on resource dilemmas—a class of situations in which unethical acts deplete or spoil a shared and limited resource. In the laboratory, participants played a game of *Settlers of Catan: Oil Springs* in mixed-gender groups in which they could harm their group members through selfish behavior. In the field survey, respondents read descriptions of business scenarios which provided opportunities for personal benefits at the expense of society. Across both studies, we found that men, on average, behaved more unethically than women, with effect sizes ranging from $d =$

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0.40 to 0.67. Motives mediated this relationship. More specifically, men's tendency toward unethical behavior could be partially attributed to men's higher levels on the dysfunctional power motive as well as to men's lower levels on the functional affiliation motive (with 5 of 6 indirect effects being statistically significant). These findings have several implications. First, our results suggest that general constructs such as motives may be driving factors that underlie gender differences in less general phenomena such as unethical behavior. Second, when organizations are filling leadership positions, they can publicly disclose their appreciation of these motives so that women's interest in these positions might increase. Finally, when organizations use these motives for selecting ethical leaders, women's chances at obtaining such positions improve. Even though effect sizes were substantial, large amounts of variance remained unexplained either by motives or gender indicating that these variables should not be interpreted in isolation without considering other factors.

This study examines if there are particular motives that underlie gender differences in unethical behavior. We know from meta-analyses that women, on average, have higher moral sensitivity than men (You et al., 2011), exhibit stronger deontological inclinations (Friesdorf et al., 2015), and behave more ethically (Kish-Gephart et al., 2010). However, it remains poorly understood what factors underlie these gender differences in unethical behavior. This is unfortunate because gender differences in unethical behavior are not only important in themselves, but are also central to the understanding of leadership for at least two reasons. First, ethical individuals opt out of leadership positions if they believe that these positions require them to behave unethically (Kennedy & Kray, 2014). Second, ethical individuals make better leaders (Treviño et al., 2014). From this follows that understanding gender differences in unethical behavior in more detail could provide practitioners with a better angle to transform women's participation in leadership positions through both attracting ethical individuals to self-select into leadership positions as well as through considering ethical behavior as a criterion for selecting leaders.

Furthermore, a better understanding of gender differences in unethical behavior may contribute to the literature of gender differences and similarities in general. Data from over 12 million participants suggest that men and women do not substantially differ in most aspects of life (Hyde, 2005; Hyde, 2014; Zell et al., 2015). However, in those few areas in which men and women do differ substantially, causal explanations for these differences tend to be complex (Eagly & Wood, 2013; Hyde, 2014). One way to simplify this complexity might be to attribute gender differences in specific phenomena such as unethical behavior to

gender differences in more general constructs such as motives, thereby reducing the number of variables that require explanation. In theory, it might become easier to predict and explain when and why gender differences emerge after a small number of motives have been identified that underlie gender differences in a larger number of specific phenomena such as unethical behavior.

In this study, we test the idea that motives mediate gender differences in unethical behavior. Motives describe which classes of states or behaviors an individual enjoys or desires. Motives can be understood as stable dispositions that drive a person's behavior. In particular, we assume that men have a higher dysfunctional power motive which has been shown to promote unethical behavior and that women have a higher functional affiliation motive which has been shown to prevent unethical behavior (cf. Chapter 4).

We study unethical behavior in the context of leadership because unethical behavior seems to be particularly undervalued in leaders (Kray & Kennedy, 2017) relative to its importance for leadership effectiveness (Treviño et al., 2014; Hildreth & Anderson, 2016; Mulder & Nelissen, 2010). As measures of unethical behavior, we use the same dependent variables that are described in more detail in Chapter 4. More specifically, we conducted a laboratory study in which participants played a game of *Settlers of Catan: Oil Springs* in mixed-gender groups of 3 to 4 persons. During that game, we videotaped the conversation and coded all statements that endorsed selfishness or cooperation (reverse coded) as unethical behavior because all selfish behavior caused harm to others and could have been avoided through close collaboration. Furthermore, we counted how many oil spills an individual caused during the game which represented a deliberate form of pursuing personal interests while endangering the group. Finally, we conducted a field survey in which respondents imagined being a leader who had the opportunity to make unethical business decisions. Both studies focus on resource dilemmas which are a specific type of social dilemmas. In resource dilemmas, unethical behavior depletes or spoils a limited and shared resource (i.e., oil and productivity in the laboratory study, societal and environmental integrity in the field survey).

Men and the dysfunctional power motive

First, we hypothesize that men, on average, have a higher dysfunctional power motive than women which in turn provides a partial explanation for men's higher tendency towards unethical behavior. The dysfunctional power motive is a specific variant of the power motive that centers around gaining or exercising power to satisfy personal interests such as feeling superior or gaining resources (Chapter 2).

We derive this hypothesis from previous work. Empirical research consistently found that men have a higher power motive than women (Schwartz & Rubel, 2005; Schuh et al., 2014; Gouveia et al., 2015). However, this research did not distinguish between functional and dysfunctional variants of the power motive (cf. Chapter 2). Therefore it is unknown whether men have higher levels in both variants or only in one of them. For the following reasons, we assume that it is mostly the dysfunctional variant of the power motive in which men have higher levels than women. First, whereas women tend to strive for admiration, men place higher value on control (Locke & Heller, 2017). Second, men respond more strongly than women to intergroup conflicts (Van Vugt et al., 2007) and experience competition more positively than women (Kivikangas et al., 2014). Third, men tend to be more motivated than women to use unethical behavior in intrasexual competition for mates to gain advantages over other men (Lee et al., 2017). Control, conflicts, and competition are specific for the dysfunctional variant of the power motive and do not necessarily overlap with the functional variant of the power motive.

It seems likely that sociocultural factors play a role in the development of men's higher dysfunctional power motive (for an overview of relevant theories, see Balliet et al., 2011 and Hyde, 2014). More specifically, studies have shown that women are only less competitive than men if they were socialized together with men during childhood (Booth & Nolen, 2012) indicating that gender differences in competitiveness are acquired following interactions with men. While women are perceived as more collectivistic in Western cultures, this effect does not generalize across all cultures (Cuddy et al., 2015) indicating that gender differences in these values are shaped by culture. Finally, when women behave unethically, they often experience harsher reactions than men (Rudman et al., 2012; Williams & Tiedens, 2016) which should further decrease their desire to behave unethically.

If it is the case that men have a higher dysfunctional power motive than women, then it follows that men's higher dysfunctional power motive should drive men to behave more unethically in resource dilemmas than women because the dysfunctional power motive has been shown to promote unethical behavior (Chapter 4). While men's higher tendency towards unethical behavior is a well-established finding (Kish-Gephart et al., 2010; You et al., 2011; Friesdorf et al., 2015), there is still only incomplete knowledge about the factors underlying these gender differences (Hyde, 2014). In an attempt to contribute to identifying relevant mediators, we hypothesize:

Hypothesis 1: Men's unethical behavior in resource dilemmas can be partially attributed to men's higher dysfunctional power motive

Women and the functional affiliation motive

Second, we hypothesize that women, on average, have a higher functional affiliation motive than men which partially explains women's tendency towards ethical behavior. The functional affiliation motive is a specific variant of the affiliation motive that is characterized by a desire for sincere and considerate interactions with other people (Chapter 2).

We base this hypothesis upon previous findings. Large-sampled studies consistently found that women place higher importance on values that are directed towards the well-being of others such as benevolence and universalism (Schwartz & Rubel, 2005) and on social values in general (Su et al., 2009; Gouveia et al., 2015). However, this research did not explicitly refer to the affiliation motive and neither distinguished a functional affiliation motive from other motive variants such as the dysfunctional affiliation motive (see Chapter 2 for a discussion of motive variants). Nevertheless, there is high conceptual overlap between the functional affiliation motive, benevolence, universalism, and some of the other social goals such as support. More specifically, these values share a common core with the functional affiliation motive that consists of being considerate and protecting others' welfare through trustworthy behavior.

There is even more evidence that indirectly supports our hypothesis that women have a higher functional affiliation motive than men—in particular with respect to striving for sincere and considerate behavior. In fact, meta-analyses showed that men, on average, behave more aggressively than women (Knight et al., 2002), cheat more (Whitley et al., 1999), are more assertive and less tender-minded (Feingold, 1994), expect more rewards (Joshi et al., 2015), and take more risks (Cross et al., 2011). Research on anti-social behavior has identified a group of males who show extreme forms of anti-social behavior that starts in early childhood and is persistent over the life-course (Moffitt, 2018) whereas it seems to be much more difficult to find the same in females.

Sociocultural factors (cf. Hyde, 2014) are likely to play a role in the development of women's higher functional affiliation motive. Based on historical division of labor by gender, women's assignment to the role of child care might have contributed to the development of a higher functional affiliation motive in women because of the congruency between this motive and the responsibilities associated with child care (Diekman & Eagly, 2008). Once in place, these perceived role prescriptions perpetuate themselves through social influence processes (Rudman et al., 2012) and therefore persist even after the original division of labor has weakened.

If the assumption is correct that women have a higher functional affiliation motive than men, then it follows that women's higher functional affiliation motive should prevent women from unethical behavior (especially from actively committing it; Bossuyt & Van Kenhove, 2018) because the functional affiliation

Table 5.1
Intercorrelations of the focal variables from both samples

Variable	1	2	3	4	4.1	4.2	5	6
<i>Independent variable</i>								
1 Gender ("female" = 0, "male" = 1)		.16***	-.19***					.23***
<i>Mediators</i>								
2 Dysfunctional power motive	.24***		.01					.44***
3 Functional affiliation motive	-.31***	-.15*						-.22***
<i>Dependent variables</i>								
4 Verbal statements endorsing selfishness	.20**	.16*	-.29***					
4.1 Statements pro selfishnes	.30***	.16*	-.25***	.62***				
4.2 Statements pro cooperation	.05	-.04	.12†	-.62***	.24***			
5 Oil spills caused	.32***	.27***	-.27***	.29***	.42***	.07		
6 Unethical business decisions								

Note. $N_s = 201$ (laboratory study) and 960 (field survey). Coefficients below the diagonal are from the laboratory study and coefficients above the diagonal are from the field survey. † $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$ (two-sided t tests).

motive has been shown to prevent unethical behavior in general (Chapter 4). Examining this hypothesis is an attempt to clarify which factors underlie gender differences in unethical behavior. Alongside the dysfunctional power motive (Hypothesis 1), we hypothesize that the functional affiliation motive is another mediator of gender differences in unethical behavior:

Hypothesis 2: Women's ethical behavior in resource dilemmas can be partially attributed to women's higher functional affiliation motive

Method

Participants

Laboratory study. Two hundred and one volunteers participated of which 51.2% (103) were women (cf. Chapter 1, Tables 1.6 and 1.7 for an overview of the use of samples throughout this dissertation). Participants had a mean age of 24 years ($SD = 6$) and were mostly students (89%) who were recruited on campus and through advertisements. They received either €20 or course credit in addition to a variable compensation of $M = €6.94$ ($SD = 1.89$) for a total duration of approx. 4 hours.

Field survey. Nine hundred and sixty volunteers responded to our field survey of which 53.3% (512) were women. Respondents had a mean age of 31 years ($SD = 12$). Most of them have work experience (73%) and some of them were in professional leadership positions (27%). Respondents were recruited through an online labor market and through advertisements and received approx. €2.50 for a total duration of approx. 20 minutes.

Procedure

Laboratory study. The central part of the laboratory study was a game of *Settlers of Catan: Oil Springs* which participants played in groups of 4 persons (2 male and 2 female; $N = 45$) or 3 persons ($N = 7$), in case that one person did not show up. In that game, each player managed their own population. It is the goal of the game to grow one's population by building settlements and by accessing new areas of land through construction of roads. To build anything, players need resources that they acquire from the land on which they have settled. All players settle on the same island which brings opportunities for trading but also requires players to respect each other's territorial integrity if they strive for peaceful co-existence. The *Oil Springs* scenario adds oil to the game, which can be used for personal benefit but poses the risk of natural catastrophes such as flooding of coastal areas (Griswold, 2013). A more detailed account of the game and our modifications to it can be found in Chapter 4. On average, the game lasted about 76 minutes ($SD = 26$). Participants consented to being videotaped during the game.

Before meeting in the laboratory, participants completed an online questionnaire (including measures of motives) and registered for one of the available group sessions. On average, 19 days ($SD = 30$) passed between the online questionnaire and the group session. Nearly all group members had never met each other before (the average degree of familiarity was $M = 1.2$, $SD = 0.6$, on a scale of 1 to 6).

Field survey. The survey was conducted online and all scales were presented in randomized order. Participants provided informed consent and the institutional review board of the Technische Universität Darmstadt approved all procedures.

Motives

To measure each of the functional and dysfunctional variants of the power or affiliation motive, we used 4-item scales with 6-point response scales. As described in Chapter 2, these scales appear to be psychometrically sound and stable measures of the intended constructs. There is some evidence for their construct validity (Chapter 2), discriminant validity (Chapter 2 and 3), and criterion validity (Chapter 3 and 4).

Table 5.2
Gender differences in unethical behavior

Dependent variable	Sample	Men			Women			<i>d</i>	<i>t</i>	<i>p</i>
		<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>			
Verbal statements endorsing selfishness	Laboratory	98	0.20	1.12	103	-0.19	0.84	0.40	2.80	.006
Statements pro selfishness		98	2.26	2.91	103	1.05	2.06	0.48	3.38	.001
Statements pro cooperation		98	5.36	6.99	103	4.22	4.54	0.20	1.37	.173
Oil spills caused	Laboratory	98	0.40	0.68	103	0.06	0.24	0.67	4.66	<.001
Unethical business decisions	Field	448	2.64	1.04	512	2.18	0.91	0.47	7.22	<.001

Note. Positive values of *d* indicate higher scores for men compared to women. Verbal statements endorsing selfishness are an aggregate of all statements endorsing selfishness (positive values) or cooperation (negative values). Count values were log-transformed, aggregated using equal weights, and then aggregated over two independent observers ($r = .71$). Given that statements endorsing selfishness were more rare, we assume that they had a higher weight per statement in the conversation. By standardizing both types of statements separately before aggregating them, we assign an equal weight to both indices.

Motives as mediators. A sample item for the *dysfunctional power motive* is “it pleases me to have a lot of power and influence, because there are many people that you need to keep under control.” For the *functional affiliation motive*, a sample item is “I wish that people like me for being sympathetic and cooperative.”

Motives as control variables. We also measured the *functional power motive* and the *dysfunctional affiliation motive* using the scales described in Chapter 2.

Unethical behavior

Laboratory study: verbal statements endorsing selfishness. This variable is an index which reflects the weighted ratio between the number of verbal statements that either encouraged selfishness (positive values) or encouraged cooperation (negative values). As statements encouraging selfishness, we counted statements about selfish strategies (e.g., “I think it is best if everyone does their own thing”) as well as more general statements expressing a negative attitude towards the group (e.g., “I don’t care what happens when I cause an oil spill”). As statements encouraging cooperation, we counted statements about cooperative strategies (e.g., “we should share the resources that everyone needs”) as well as more general statements expressing a positive attitude towards the group (e.g., “great, now everyone has more than 5 victory points”). Statements that contradicted other statements were coded as statements in support of the opposite category. See Chapter 4 for more details.

Two independent and trained raters coded the whole conversation during the game. For both statements encouraging selfishness and statements encouraging cooperation, we log-transformed count values to reduce the weight of statements from players who repeat themselves often. Agreement between the two trained raters was $r = 0.78, p < .001$ for statements encouraging selfishness and $r = 0.79, p < .001$ for statements encouraging cooperation. Next, we z-standardized statements encouraging selfishness ($M_{\text{raw}} = 1.6, SD = 2.6$) and statements encouraging cooperation ($M_{\text{raw}} = 4.8, SD = 5.9$) separately. Given that statements encouraging selfishness were more rare, we assumed that they had a higher weight (per statement) in the conversation. By standardizing both types of statements separately before aggregating them, we assigned an equal weight to both categories of statements. When aggregating both categories, we assigned a negative sign to statements encouraging cooperation. Inter-rater agreement at this point was $r = 0.73, p < .001$. Finally, we aggregated the resulting aggregates from both raters.

Laboratory study: oil spills caused. This variable reflects the number of oil spills that a player has decided to cause as a consequence of his or her use of oil. Players had the opportunity to extract oil by building settlements close to an oil spring. They could then use this oil to buy other resources or to build large cities. After each fifth oil that was used, an oil spill happened. The maximum number of oil spills allowed per group was 3.

Table 5.3
Gender differences in motives

Dependent variable	Sample	Men			Women			d	t	p
		N	M	SD	N	M	SD			
Functional power motive	Laboratory	98	4.53	0.82	103	4.41	0.75	0.14	1.02	.307
	Field	448	4.34	0.73	512	4.29	0.73	0.07	1.04	.300
Dysfunctional power motive	Laboratory	98	3.10	0.96	103	2.65	0.90	0.49	3.48	.001
	Field	448	3.23	0.92	512	2.93	0.95	0.32	4.87	<.001
Functional affiliation motive	Laboratory	98	4.33	0.66	103	4.73	0.57	-0.64	4.56	<.001
	Field	448	4.24	0.71	512	4.50	0.61	-0.39	5.93	<.001
Dysfunctional affiliation motive	Laboratory	98	2.87	0.88	103	2.95	0.92	-0.09	0.64	.522
	Field	448	2.88	0.83	512	2.93	0.89	-0.05	0.81	.416

Note. Positive values of *d* indicate higher scores for men compared to women.

Table 5.4
Indirect effects of gender on unethical behavior via motives

Dependent variable	Mediator	β	95% CI	
			Lower	Upper
<i>Laboratory study</i>				
Verbal statements endorsing selfishness	Dysfunctional power motive	.03	-.00	.08
	Functional affiliation motive	.07	.02	.14
Oil spills caused	Dysfunctional power motive	.05	.01	.11
	Functional affiliation motive	.06	.01	.12
<i>Field survey</i>				
Unethical business decisions	Dysfunctional power motive	.07	.04	.10
	Functional affiliation motive	.03	.02	.05

Note. CI = bias-corrected confidence interval (10,000 bootstrap samples). N_s = 201 (laboratory study) and 960 (field survey). Both mediators were considered in parallel. Positive values of β indicate that gender differences in the mediator account for men's higher unethical behavior compared to women. We controlled for the functional power motive and the dysfunctional affiliation motive in all analyses. Additionally, we controlled for group size in the laboratory study.

Each oil spill either destroyed one of the perimeters of the island along with its future capacity to produce resources (approx. 80% probability) or caused coastal flooding destroying all settlements located on coasts (approx. 20% probability). We considered causing an oil spill to be a form of unethical behavior because oil spills put other group members at significant risk to lose part of their existence in the game. The game provided viable alternatives to using oil such as trading with other players and using sea ports. Group members never reacted positively whenever they realized that one of the players was planning to cause an oil spill.

Field survey: unethical business decisions. Respondents read detailed descriptions of six hypothetical business scenarios (Ashton & Lee, 2008). In these scenarios, they were in the role of a leader who had to decide about the preferred course of action. All choices involved an opportunity for personal benefits which always required breaking the law and/or harming society or the environment. For each scenario, respondents indicated on 6-point scales how likely it was that they would make the unethical decision.

Analytic approach

We test the hypotheses that gender differences in the dysfunctional power motive (Hypothesis 1) and the functional affiliation motive (Hypothesis 2) mediate gender differences in ethical behavior by applying a parallel mediation model.

In a first step, we calculate simple t-tests to compare men and women on our three dependent variables (verbal statements endorsing selfishness, oil spills

Table 5.5
Gender differences in unethical behavior in the field survey across subsamples with different occupational statuses

Dependent variable	Sample	Men			Women			<i>d</i>	<i>t</i>	<i>p</i>
		<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>			
Unethical business decisions	Students	127	2.74	0.97	131	2.20	0.74	0.62	4.97	<.001
	Employees	189	2.67	1.10	256	2.18	0.93	0.49	5.01	<.001
	Leaders	132	2.49	1.00	125	2.16	1.04	0.33	2.61	.010

Note. Positive values of *d* indicate higher scores for men compared to women. Students are either students or homemakers. Employees report having work experience (but no leadership position). Leaders state that they currently hold a professional leadership position or, if they are not working anymore, held one in the past.

caused, and unethical business decisions) and on the two mediators (dysfunctional power motive, functional affiliation motive). For the purpose of comparison, we also report gender differences in the functional power motive and the dysfunctional affiliation motive.

In a second step, we calculate indirect effects using the process macro for SPSS (v 2.16.1) with 95% confidence intervals estimated through the bootstrapping procedure (based on 10,000 randomly drawn samples). We report standardized effect-sizes with both motives (dysfunctional power motive, functional affiliation motive) being parallel mediators. In the dependent variables, we control for the other two motive variants (functional power motive, dysfunctional affiliation motive) as well as for group size (3 vs. 4 persons) in the laboratory study.

In a final step, we examine whether our results generalize across different subsamples of the field survey which differ by occupation status. More specifically, we analyze for each subsample whether the dysfunctional power motive (Hypothesis 1) and the functional affiliation motive (Hypothesis 2) mediate the relationship between gender and ethical behavior.

Results

Table 5.1 provides the correlations between all focal variables from both samples.

Gender differences in unethical behavior

We compared men and women in their average levels of unethical behavior. Sample sizes, mean values, and standard deviations are displayed in Table 5.2. In the laboratory study, men had higher values than women in the index of verbal statements endorsing selfishness, $d = 0.40$, $p = .006$. As shown in Table 5.2, men generally made more statements than women. However, this difference was much more pronounced in the statements pro selfishness ($M_{\text{men}} = 2.26$, $SD_{\text{men}} = 2.91$ vs. $M_{\text{women}} = 1.05$, $SD_{\text{women}} = 2.06$) than in the statements pro cooperation ($M_{\text{men}} = 5.36$, $SD_{\text{men}} = 6.99$ vs. $M_{\text{women}} = 4.22$, $SD_{\text{women}} = 4.54$). Statement pro selfishness usually centered around harming others for one's personal gain even though there were viable alternatives to such behavior. Men were also 583% more likely than women to cause an oil spill, $d = 0.67$, $p < .001$. More specifically, only 6 of 45 oil spills were caused by female participants even though more than half of our sample were women. The same pattern of results emerged in the field survey. Men indicated that they were, on average, more inclined to make an unethical business decision from which they benefitted at the expense of others, $d = 0.47$, $p < .001$.

Table 5.6
Gender differences in motives in the field survey across subsamples with different occupational statuses

Dependent variable	Sample	Men			Women			<i>d</i>	<i>t</i>	<i>p</i>
		N	M	SD	N	M	SD			
Dysfunctional power motive	Students	127	3.36	0.89	131	2.90	0.88	0.52	4.23	<.001
	Employees	189	3.19	0.91	256	2.94	0.95	0.27	2.73	.007
	Leaders	132	3.16	0.95	125	2.95	1.02	0.21	1.67	.097
Functional affiliation motive	Students	127	4.29	0.72	131	4.51	0.60	-0.33	2.58	.010
	Employees	189	4.19	0.66	256	4.49	0.60	-0.48	5.00	<.001
	Leaders	132	4.28	0.76	125	4.51	0.65	-0.32	2.68	.008

Note. Positive values of *d* indicate higher scores for men compared to women. Students are either students or homemakers. Employees report having work experience (but no leadership position). Leaders state that they currently hold a professional leadership position or, if they are not working anymore, held one in the past.

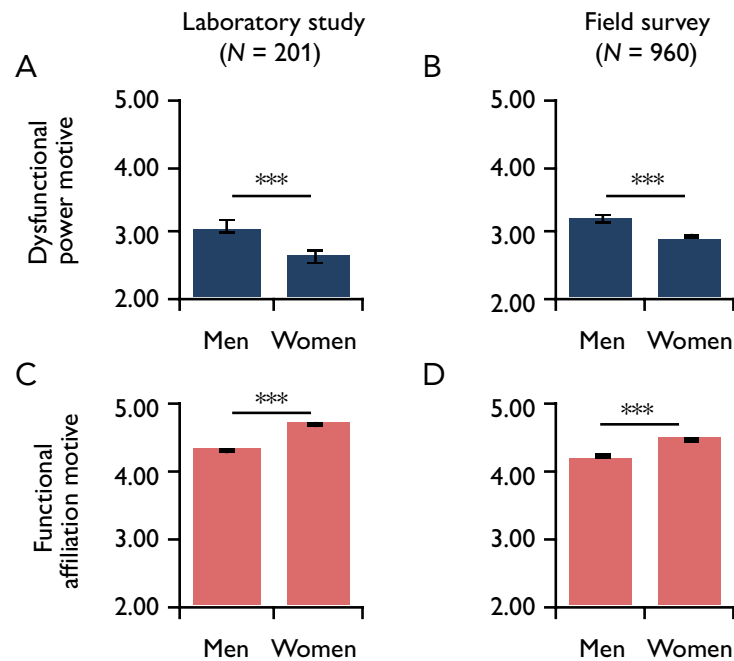


Figure 5.1 *Gender differences in motives* Analyses are based on data from the laboratory study (A, C) and from the field survey (B, D), respectively. Error bars represent standard error of measurement. *** $p < .001$ (two-sided t tests).

Gender differences in motives

We also compared men and women in their average levels of the two assumed mediators, the dysfunctional power motive and the functional affiliation motive. As shown in Figure 5.1, men's and women's mean values on these motives differed in the expected directions. More specifically, men reported a higher dysfunctional power motive in both the laboratory ($d = 0.49$, $p = .001$) and the field samples ($d = 0.32$, $p < .001$), whereas women reported a higher functional affiliation motive ($ds = -0.64$ and -0.39 , $ps < .001$). There were no gender differences in the functional power motive or in the dysfunctional affiliation motive, all $ds < |0.15|$ and $ps > .29$. See Table 5.3 for descriptive statistics.

Indirect effects of gender on unethical behavior via motives

This section tests our hypotheses that the dysfunctional power motive (Hypothesis 1) and the functional affiliation motive (Hypothesis 2) act as mediators of gender differences in unethical behavior (see Figure 5.2 and Table 5.4). For two out of three dependent variables, results support Hypothesis 1. More specifically, there is a significant indirect effect from gender on unethical behavior via the

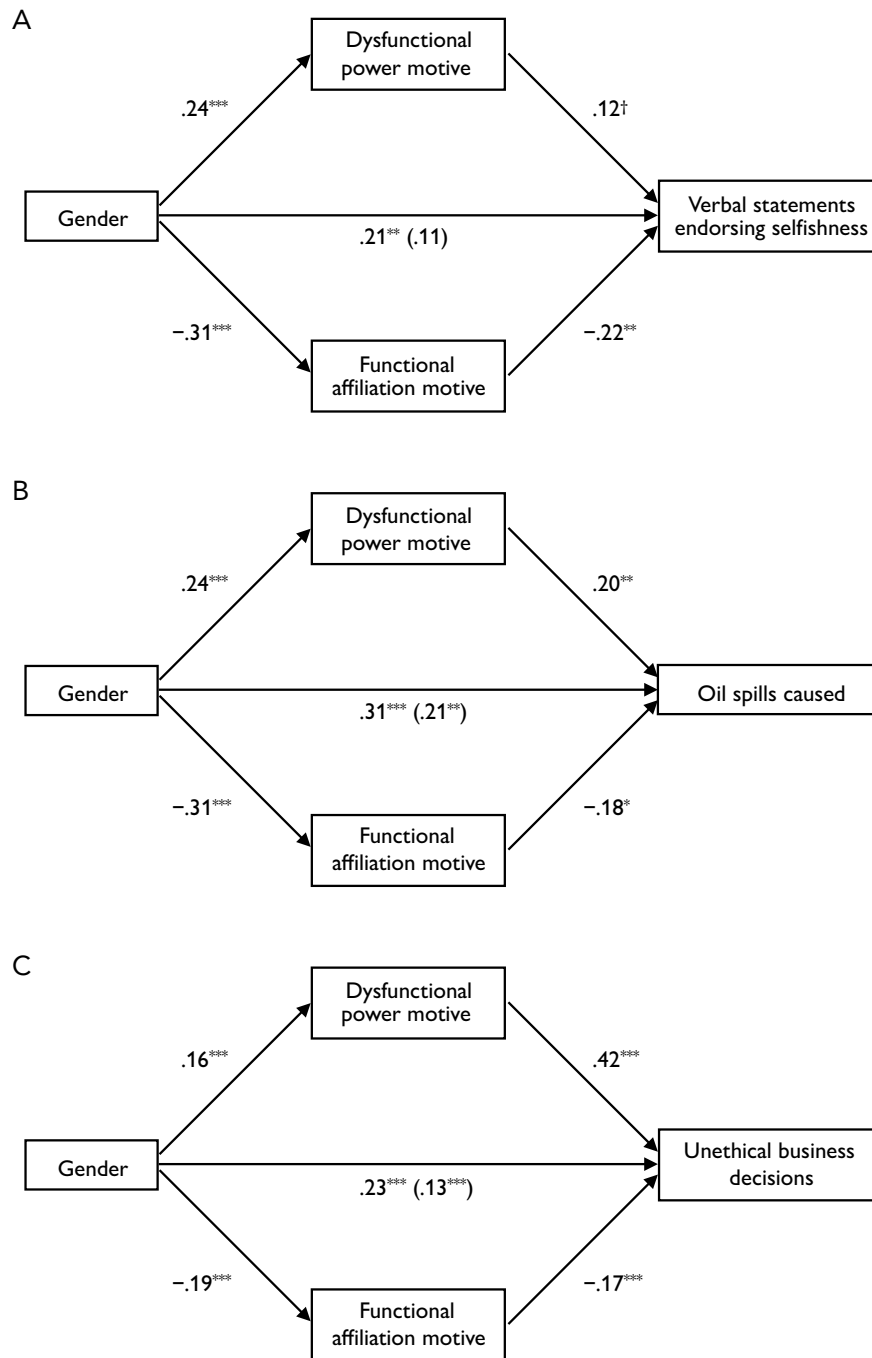


Figure 5.2 *Motives mediate gender differences in unethical behavior* Analyses are based on data from the laboratory study (A, B; $N = 201$) and from the field survey (C; $N = 960$), respectively. Coefficients represent standardized regression weights. Gender was coded “female” = 0 and “male” = 1. We controlled for the functional power motive and the dysfunctional affiliation motive. We also controlled for group size in the laboratory study. The coefficients in parentheses result from models that include the mediators. $† p < .10$, $* p < .05$, $** p < .01$, $*** p < .001$ (two-sided t tests).

dysfunctional power motive on the number of oil spills caused ($\beta = .05$, 95% CI [.01; .11]) and on unethical business decisions ($\beta = .07$, 95% CI [.04; .10]) indicating that, on average, men's higher dysfunctional power motive partially explains men's higher tendency towards unethical behavior. The indirect effect on verbal statements endorsing selfishness is in the expected direction, but it does not reach statistical significance ($\beta = .03$, 95% CI [−.00; .08]).

With the functional affiliation motive as the other mediator, there are significant indirect effects from gender on unethical behavior for all three dependent variables, indicating full support of Hypothesis 2. More specifically, the functional affiliation motive mediated gender differences in verbal statements endorsing selfishness ($\beta = .07$, 95% CI [.02; .14]), in the number of oil spills caused ($\beta = .06$, 95% CI [.01; .12]), as well as in unethical business decisions ($\beta = .03$, 95% CI [.02; .05]). These findings indicate that, on average, women's higher functional affiliation motive partially explains women's higher tendency to refrain from unethical behavior.

Figure 5.2 shows that we only found support for partial mediation. For two out of three dependent variables, significant main effects from gender on unethical behavior remained after accounting for the mediators. More specifically, gender was still a predictor of the number of oil spills caused ($\beta = .21$, $p = .004$) and of unethical business decisions ($\beta = .13$, $p < .001$). The effect of gender on verbal statements endorsing selfishness became insignificant after accounting for the mediators ($\beta = .11$, $p = .15$).

Generalizability across different occupational statuses

Finally, we examined to what extent our results generalized across subsamples of the field survey with different occupational statuses. More specifically, we repeated all analyses separately for three different subgroups of participants: (a) students or homemakers ($N = 258$), (b) employees (without a leadership position; $N = 445$), and (c) leaders (or former leaders, if already retired; $N = 257$). As shown in Table 5.5, men made more unethical business decisions than women across all three subsamples with the largest effect found among students ($d = 0.62$) and the smallest effect found among leaders ($d = 0.33$). Moreover, Table 5.6 shows that gender differences in the dysfunctional power motive ($ds = 0.27$ to 0.52) and the functional affiliation motive ($ds = -0.32$ to -0.48) remained significant and in the expected directions across all subsamples with one exception. In fact, male leaders reported only a slightly higher dysfunctional power motive than female leaders ($d = 0.21$, $p = .097$).

We also repeated our analyses of indirect effects from gender on unethical behavior via motives across all subsamples of the field survey (Table 5.7). Our findings indicate high robustness of our results. More specifically, among students and employees, the indirect effects remained significant for both the dysfunctional power motive ($\beta s = .08$ and $.05$, respectively) and the functional affi-

Table 5.7

Indirect effects of gender on unethical behavior via motives in the field survey across subsamples with different occupational statuses

Dependent variable	Mediator	β	95% CI	
			Lower	Upper
<i>Students</i>				
Unethical business decisions	Dysfunctional power motive	.08	.04	.14
	Functional affiliation motive	.03	.00	.08
<i>Employees</i>				
Unethical business decisions	Dysfunctional power motive	.05	.01	.09
	Functional affiliation motive	.03	.01	.07
<i>Leaders</i>				
Unethical business decisions	Dysfunctional power motive	.06	-.01	.14
	Functional affiliation motive	.03	.01	.07

Note. CI = bias-corrected confidence interval (10,000 bootstrap samples). Students ($N = 258$) are either students or homemakers. Employees ($N = 445$) report having work experience (but no leadership position). Leaders ($N = 257$) state that they currently hold a professional leadership position or, if they are not working anymore, held one in the past. Both mediators were considered in parallel. Positive values of β indicate that gender differences in the mediator account for men's higher unethical behavior compared to women. We controlled for the functional power motive and the dysfunctional affiliation motive in all analyses.

liation motive (β s = .03 and .03, respectively) with 95% confidence intervals excluding zero. In contrast, among leaders, the confidence interval for the indirect effect from gender on unethical behavior via the dysfunctional power motive ($\beta = .06$) had a slight overlap with zero [-.01; .14]. Finally, the indirect effect via leader's functional affiliation motive was in the expected direction ($\beta = .03$) without an overlap with zero in the 95% confidence interval [.01; .07]. This indicates that female leaders' lower tendency towards unethical business decisions in comparison to male leaders could be partially attributed to female leaders' higher functional affiliation motive. In summary, these analyses reveal effects in the expected directions across different occupational statuses with the exception of one indirect effect (involving leaders' dysfunctional power motive) not being statistically significant.

Discussion

This study examined what factors explain gender differences in unethical behavior. It found that men's higher dysfunctional power motive and women's higher functional affiliation motive both partially mediate men's higher tendency towards unethical behavior as compared to women. For the functional affiliation

motive, these findings were consistent across all dependent variables and across subsamples with different occupational statuses including leaders.

The present work focused on unethical behavior in the context of leadership. In the laboratory study, all participants were leaders of their own nation who needed to find ways to get along with the other nations that were inhabiting the same world. In the field survey, respondents imagined being in leadership roles such as being on the board of directors or being an expert who has the final say in a particular matter (Ashton & Lee, 2008). We believe that these roles partially overlapped with those of actual leaders in business and politics (Griswold, 2013; Hildreth & Anderson, 2016).

Generalizability across different types of social dilemmas

It is important to note that our results will probably apply primarily to unethical (selfish) behavior in a specific type of social dilemmas. The reason for that is that different social dilemmas vary greatly in their motivational structure (Simpson & Van Vugt, 2009). More specifically, we assume that our findings apply primarily to so called resource dilemmas (also known as take-some dilemmas). In resource dilemmas, not doing anything is the ethical choice. An unethical act does not happen unless a person *actively* commits it. This is a critical feature distinguishing resource dilemmas from other kinds of social dilemmas such as public goods dilemmas or prisoner's dilemmas in which doing nothing is either the selfish choice (in public goods dilemmas) or not possible at all (in prisoner's dilemmas). In support of this distinction, a meta-analysis found that women behave more ethically in resource dilemmas (as investigated in this study), but found no gender differences in prisoner's dilemmas or public goods dilemmas (Balliet et al., 2011).

We believe that there are at least three reasons why gender differences are most pronounced in resource dilemmas as opposed to public goods dilemmas or prisoner's dilemmas. First, given that women exhibit stronger deontological inclinations than men (Friesdorf et al., 2015), these principles should prevent women from actively committing unethical behavior. In contrast, deontological inclinations are less salient in public goods dilemmas in which selfish behavior primarily reflects the failure to maximize shared utility (without the direct causation of harm) or in prisoner's dilemmas in which selfish behavior might as well reflect a fear of another person's defection (Simpson & Van Vugt, 2009).

Second, given that women are, on average, more risk averse than men and more sensitive to punishment (Cross et al., 2011), not committing unethical behavior seems to be particularly compatible with women's lower inclination towards risk (Mengel, 2018) because unethical behavior may have unpredictable risks. This does not transfer from resource dilemmas to other types of social dilemmas because it is the other way around in public goods dilemmas or prisoner's dilemmas. In these types of dilemmas, it is the cooperative choice that is

associated with a significant risk of others' defection who may take advantage of one's cooperativeness (Simpson, 2003; Simpson & Van Vugt, 2009) or who may simply be risk averse themselves. In these dilemmas, actively taking the cooperative choice also requires a higher degree of assertiveness than it does in resource dilemmas (Bossuyt & Van Kenhove, 2018).

Third, resource dilemmas are often framed as having a competitive nature which is less salient in other kinds of social dilemmas. In a typical resource dilemma, different actors compete against each other for a limited and depleting resource such as oil in this study or forest in other studies (cf. Campbell et al., 2005). Not consuming this resource leaves more of it to others who will then be able to gain strength from consuming it. Given that men tend to be more competitive than women (Van Vugt et al., 2007; Kivikangas et al., 2014; Lee et al., 2017) and prioritize being in control (Locke & Heller, 2017), we expect that an understanding of resource dilemmas as being a competition for limited resources contributes to men's greater tendency towards unethical behavior in these dilemmas. This kind of framing is less salient in other types of social dilemmas such as public goods dilemmas.

Theoretical contribution

The present study contributes to the literature on gender differences and similarities. More specifically, this study followed a call for research on the factors that give rise to gender differences (Zell et al., 2015). It found that specific variants of power and affiliation motives partially mediate gender differences in unethical behavior. Power and affiliation motives are rather general constructs that predict a large spectrum of outcomes. Attributing gender differences in a specific variable such as unethical behavior to gender differences in more general constructs such as motives might allow models of gender differences and similarities to become more parsimonious. In these models, motives may provide a common explanation for gender differences in a number of variables exceeding unethical behavior. For instance, gender differences in variants of power and affiliation motives might have the potential to also explain parts of the gender differences in aggression (Knight et al., 2002), risk taking (Cross et al., 2011), cheating (Whitley et al., 1999), peer attachment (Gorrese & Ruggieri, 2012), and interest in people vs. things (Su et al., 2009).

Should it be the case that variants of power and affiliation motives indeed mediate gender differences in more than one phenomenon, this would suggest to focus on explaining gender differences in variants of power and affiliation motives in future research. As outlined in recent reviews, there are several theoretical accounts of gender differences and similarities and it is not fully clear to what extent they are compatible, interact with each other, or compete with each other (Eagly & Wood, 2013; Hyde, 2014). If researchers are able to apply these theories to explain only a *small* number of mediating variables (such as variants of

power and affiliation motives), this may facilitate the identification of factors that underlie the development and perpetuation of systematic gender differences and similarities in a *greater* number of outcome variables (with unethical behavior being only one of them).

On the one hand, the variants of power and affiliation motives that have been identified as relevant in the present work (dysfunctional power motive, functional affiliation motive) may be *broad enough* to be important for social interactions in general (i.e., they may predict a spectrum of social interaction outcomes). On the other hand, their conceptualization is *specific enough* to be distinguished from other motive variants (functional power motive and dysfunctional affiliation motive, see Chapter 2) that do not seem to differ substantially between men and women. This specificity may help promote a detailed understanding of the constructs that are critical for gender differences and similarities.

Implications for practice

This study's results can be used to inform organizational practices. Previous research has shown that women were, on average, less interested than men in leadership positions in those organizations that expected unethical practices from their leaders (Kennedy & Kray, 2014). There were no gender differences in leadership interest if unethical practices were absent. The present study may build upon these findings. More specifically, information about the motive variants mediating gender differences in unethical behavior is likely to be relevant to women's interest in a particular leadership position, too. For instance, if an organization offers a leadership position in an environment that is suitable for individuals with a high dysfunctional power motive or low functional affiliation motive, women's interest in these positions may decrease (Davies et al., 2005). In contrast, if an organization publicly conveys its appreciation of the opposite constellation of motives (a low dysfunctional power motive and/or a high functional affiliation motive), this might attract, on average, more women to apply for these positions or to stay in them.

Organizations have a variety of options to demonstrate their support of values and behaviors that are associated with a low dysfunctional power motive or a high functional affiliation motive. First, job advertisements are a powerful tool for organizations to communicate their expectations on potential leaders and also to disclose information about their culture and philosophy. So far, organizations often communicated a traditional or stereotypically masculine view of leadership (Askehave & Zethsen, 2014) which is not appealing to many women (Davies et al., 2005; Gaucher et al., 2011) and neither to a substantial number of men (Peters et al., 2015). Instead, traditional views of leadership should be replaced by more comprehensive perspectives that acknowledge the importance of ethical behavior for organizational performance (Treviño et al., 2014; Peterson et al., 2012; Ou et al., 2018; Gartzia & van Knippenberg, 2016). These alternative

perspectives on leadership have been shown to attract a greater proportion of women (Schneider et al., 2016; Brown et al., 2015).

Second, organizations can change the criteria that they apply for hiring and promoting leaders. In organizations with stereotypically masculine views of leadership, women are perceived to fit less with high-status positions as compared to men (Horvath & Sczesny, 2016). In contrast, when characteristics such as a low dysfunctional power motive and a high functional affiliation motive are assessed and prioritized for selection of leaders, we expect that those who make selection decisions will perceive women to be a much better fit with high-status positions. This should, on average, increase women's chances of being offered leadership positions.

Third, as a consequence of these changes, there will likely be a growing number of role models who in turn perpetuate an organization's support of values associated with a low dysfunctional power motive or high functional affiliation motive. The availability of role models has been shown to influence a number of variables such as identity safety (Zirkel, 2002), interest in a specific activity (Elprana et al., 2015), and self-efficacy beliefs (BarNir et al., 2011). This may result in a positive feedback loop which further contributes towards attracting more individuals with these motive variants into leadership positions among whom many are likely to be women.

Limitations and future research

It is not possible to draw inferences about causality from this study. More specifically, we cannot know if gender differences in motives are a causal explanation of gender differences in unethical behavior. Instead, there might be an omitted third variable causing both gender differences in motives and gender differences in unethical behavior leaving motives only with little explanatory value. In that case, gender differences in motives would still be a part of the explanation of gender differences in unethical behavior because they would reveal how extensive and systematic the effects of the omitted third variable would be. However, one could not conclude that reducing gender differences in motives (e.g., through interventions that help men reflect upon their dysfunctional power motive) would automatically reduce gender differences in unethical behavior, too.

Furthermore, this study does not provide any insights about the development of gender differences in the dysfunctional power motive and in the functional affiliation motive. Future research could focus on factors that contribute to the development of gender differences in motives as it was already done for motivation to lead (Elprana et al., 2015). Experimentally manipulating those factors on the one hand and motives on the other hand will promote a better understanding of the cause and effect relationships between all relevant variables. There is a large body of theoretical and empirical work from which specific hypotheses can be derived about the factors that might be causing and perpetuating

gender differences in motive variants (e.g., Eagly & Wood, 2013; Hyde, 2014; Rudman et al., 2012; Williams & Tiedens, 2016). Given that gender differences in motive variants only showed *partial* mediation of gender differences in unethical behavior, it remains an interesting question what factors other than motives give rise to gender differences in unethical behavior.

Conclusion

Across two studies in the context of leadership, the present work identified motives as mediators of the relationship between gender and unethical behavior. More specifically, women's higher functional affiliation motive and men's higher dysfunctional power motive both mediated a part of men's higher tendency towards unethical behavior in resource dilemmas. This effect was most consistent for the functional affiliation motive. We outlined how research on gender differences and similarities as well as organizational practices might benefit from these findings. It is important to keep in mind that our results describe differences in *group means* which cannot be used to make assumptions about individual persons based on their group membership.

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Part III

General discussion

6

Overall conclusions and future directions

The previous chapters examined the role of motives for leadership and found that neither the power motive nor the affiliation motive universally benefitted all included indicators of effective leadership. Instead, we identified particular variants of each motive that were positively related to some criterion variables whereas other variants were negatively related to other criteria. We found gender differences in those motive variants that are important for pro-social indicators of effective leadership. Figure 6.1 summarizes the relationships that were investigated in the empirical chapters of this thesis.

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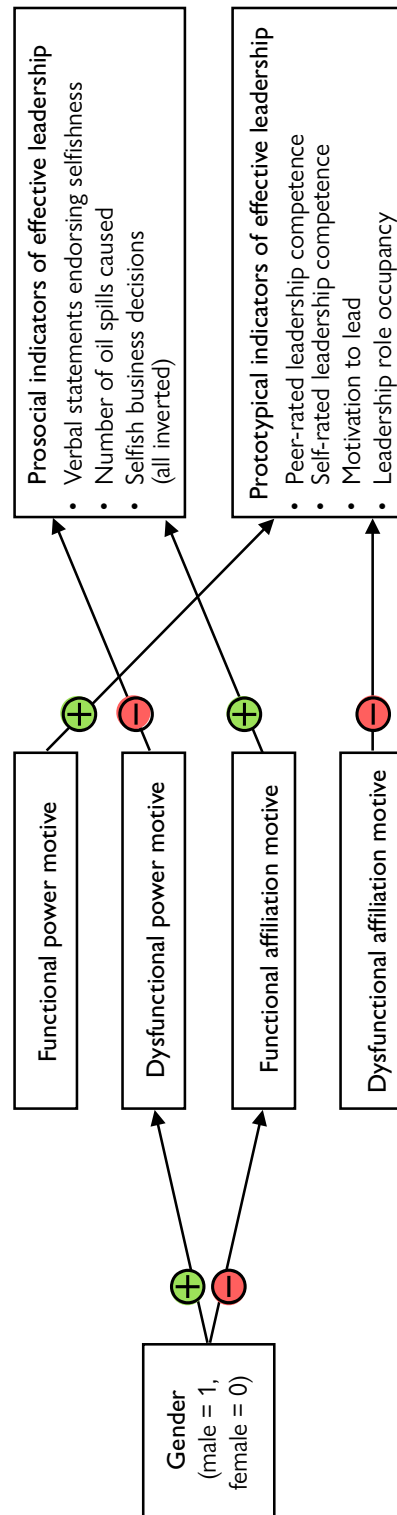


Figure 6.1 Conceptual model of the relationships between gender, motives, and leadership

Distinguishing between functional and dysfunctional variants

Based on the findings from Chapters 2 to 5, distinguishing between functional and dysfunctional variants of power and affiliation motives seems to be beneficial. First, Chapter 2 provides evidence that separate measurement models for both motives fitted substantially better if they distinguished between functional and dysfunctional variants of each motive. Furthermore, functional and dysfunctional variants of both motives showed distinct and meaningful correlations with bright and dark personality characteristics. For instance, the dysfunctional power motive was positively related to the dark triad whereas the functional power motive was not. Instead, it was positively related to openness and conscientiousness. The functional affiliation motive was positively related to fairness and conscientiousness whereas the dysfunctional affiliation motive was not. Instead, it was negatively related to extraversion and emotional stability.

Second, Chapters 3 and 4 suggest that each variant has a unique pattern of correlations with all of the 7 criterion variables. The functional power motive was important for *prototypical* indicators of effective leadership such as peer-rated leadership competence, motivation to lead, or leadership role occupancy. The functional affiliation motive was important for *prosocial* indicators of effective leadership reflected in ethical business decisions, verbal statements endorsing cooperation, and avoidance of selfish behavior such as causing oil spills. The dysfunctional power motive showed the opposite relationships than the functional affiliation motive. Similarly, the dysfunctional affiliation motive showed the opposite relationships to prototypical indicators of effective leadership as compared to the functional power motive.

Third, Chapter 5 showed that only two of the four motive variants differed between men and women. The identified pattern of mean differences between men and women is in line with previous findings on gender differences in values (Schwartz & Rubel, 2005), interests (Su et al., 2009), and sociocultural factors (Cuddy et al., 2015; Rudman et al., 2012; Williams & Tiedens, 2016). Distinguishing between functional and dysfunctional variants of power and affiliation motives revealed that women did not report higher levels of *both* variants of the affiliation motive but only of the *functional* affiliation motive. Similarly, men did not report higher values on *both* variants of the power motive but only on the *dysfunctional* power motive. We interpret these seemingly “clean” patterns of gender differences in only two of the four motive variants (cf. Table 5.3) as another indication for the benefits of distinguishing between functional and dysfunctional variants of power and affiliation motives.

The differentiation between functional and dysfunctional variants of power and affiliation motives is not our own idea at all. Instead, it is based on five de-

acades of research on the role of power and affiliation motives for social interactions with a particular focus on leadership (Winter, 1967; McClelland, 1970; McClelland & Burnham, 1976; Weinberger et al., 2010; Spangler et al., 2014). However, previous approaches to measuring functional and dysfunctional variants of the *power motive* varied widely (cf. columns 11 and 12 in Table 1.5) with little apparent convergence in findings across studies (cf. column 13 in Table 1.5). No approach existed for measuring functional and dysfunctional variants of the *affiliation motive* (but see Langens, 2010). While these ideas concerning the differentiation between functional and dysfunctional variants of power and affiliation motives originated from research on *implicit* motives, we see no reason why they should not also apply to *explicit* motives (also see Wang & Sun, 2016). Our findings seem to suggest that they do.

The main advantage of the differentiation between functional and dysfunctional variants of power and affiliation motives may lie in the specificity of their conceptualization. Compared to *general* power and affiliation motives (e.g., Schönbrodt & Gerstenberg, 2012), the functional and dysfunctional variants are more exclusive in their focus. This narrows down the particular aspects that are *included* in each definition and makes explicit what parts that *do not belong* to each definition. Even though the introduced scales are still far from being conceptually clear, the differentiation between functional and dysfunctional variants of power and affiliation motives may still be a step in the direction of conceptual clarity (cf. Locke, 2012). The clearer we can describe a variable and distinguish it from related variables, the easier it seems to make use of any knowledge that we have about that variable. For example, if someone aims to change a motive through an intervention, this intervention is likely to be more effective if it targets *the exact variant* of the motive that out to be changed (rather than targeting a *more general* motive which would include many aspects that are irrelevant or have opposite consequences). Conceptual ambiguity might be one of the reasons why findings from previous studies on the role of implicit power and affiliation motives for leadership diverge substantially from one another (Table 1.5).

The nature of power and affiliation motives

The scales presented in this dissertation represent only a first step towards a better understanding of functional and dysfunctional variants of *explicit* power and affiliation motives. Future research can build upon this work. More specifically, it seems necessary to examine the inner structure of each variant. This may include explicit tests of the assumptions that are made about each motive variant. For example, we assume that the dysfunctional power motive is characterized by a devaluation of other people. Is this a crucial aspect of the dysfunctional power motive or are there any subfacets of the dysfunctional power motive that

have a different focus? One way to examine these questions is through creating longer scales that distinguish between subfacets of each motive. One could then correlate these subfacets with relevant outcomes in order to identify which subfacets are most important and which ones are less relevant. Another way to examine the inner structure of each variant would be through interventions that target different aspects of each variant. If some interventions produce larger effects on relevant outcomes than other interventions, this would point towards essential aspects of the respective motive variant.

A more detailed understanding of all motive variants can be used to create longer scales for measuring the functional and dysfunctional variants of power and affiliation motives. It is our hope that longer scales will show improved reliabilities. Future research should conduct thorough validation studies including broad outcomes such as identity, beliefs, and social networks. For instance, individuals with a strong dysfunctional power motive should have an individual identity, entity theories of intelligence (i.e., that people cannot improve their abilities), and social networks that are characterized by hierarchy and vertical interdependence. More specifically, individuals with a strong dysfunctional power motive should have relationships with lower-status individuals that are dependent on them and also with higher-status individuals on which they depend. In contrast, those with a low dysfunctional power motive may have better relationships with equal-status individuals and relationships that are more voluntary and informal.

A better understanding of functional and dysfunctional power and affiliation motives may also help to understand what variables *mediate* the relationships identified in this dissertation. Why are individuals with a strong functional power motive rated as more competent leaders? And why do individuals with a strong functional affiliation motive behave more cooperatively? In the respective chapters, we have outlined our assumptions what might underlie these relationships (e.g., influencing others and feeling empathy, respectively). It would be interesting to put these and other potential explanations to an empirical test. This might be done using an experimental approach in which motives and mediators are manipulated through interventions in order to investigate the cause and effect relationships among these variables.

Motives and leadership

It is our hope that the simultaneous consideration of several classes of outcomes (in our case: prototypical vs. prosocial indicators of effective leadership) contributes to a more differentiated view of the role of individual characteristics for leadership (cf. Judge et al., 2009). Future research on individual differences in leaders may benefit less from a “one-size-fits-all” approach when seeking for the

characteristics of an ideal leader. Instead, it may be driven by specific demands for leaders who are either particularly prosocial (e.g., in an educational context) or particularly innovative (e.g., in a technological or scientific context) or particularly prototypical (e.g., in a political context)—depending on the organization and the respective role of the leader.

As soon as current models of the role of leader characteristics for leader effectiveness (e.g., DeRue et al., 2011; Zaccaro et al., 2018) start to differentiate between different classes of outcomes (as proposed by Kaiser et al., 2008), it will become even more interesting to understand any discrepancies between the different classes of outcomes. For instance, one may ask whether selfishness is always a bad thing in leaders or if it is sometimes necessary. We attempted to pursue this question through further analyses of our data. As reported in more detail in Wolff and Keith (2019), we looked at the team performance of groups that behaved cooperatively vs. those that behaved more selfishly. Our findings indicated that selfish behavior—despite its short-term benefits for the selfish person—had no positive effect on *team performance*. Instead, verbal endorsement of selfishness was even negatively related to team performance on the group level ($\beta = .34, p = .001$). Furthermore, in groups in which more oil spills were caused, group members rated each other lower on transformational leadership ($\beta = -.21, p = .039$).

On the individual level, the relationship between prosocial criteria (low selfishness) and prototypical criteria (ratings of transformational leadership) was less clear. In the laboratory study, we found that group members rated individuals who behaved selfishly (i.e., who knowingly caused an oil spill) as assuming a leadership role which, in turn, was related to *higher* ratings of transformational leadership. We also explored what characteristics prevented these stereotypical patterns of evaluation from happening (which are in line with male leadership stereotypes and benefitted men in our studies who caused 87 % of all oil spills cf. Epitropaki & Martin, 2004; Koenig et al., 2011; Gartzia & Baniandrés, 2016). To our surprise, awareness of gender-based discrimination did not prevent raters from perceiving selfish actors as leaderlike but instead even exacerbated this effect (see Wolff & Keith, 2019, for more detail). Future research could further examine this issue. Western cultures are currently dominated by a norm of self-interest (Miller, 1999) and ratings of leaders do not always seem to be based on objective criteria (Keller Hansbrough, 2018). Instead, many people perceive tradeoffs between warmth and competence (Fiske et al., 2016). Once someone becomes aware of a societal standard, it may be hard not to internalize this standards (for example, there is a positive relationship between awareness and internalization of a thinness ideal; Heinberg et al., 1995; Stice, 2002; Thompson et al., 2004). Given that selfishness is often counterproductive in leaders (e.g., Harrell & Simpson, 2016; Peterson et al., 2012; Ou et al., 2018; Treviño et al., 2014) and deters women (more than men) from assuming leadership positions (e.g.,

Kennedy & Kray, 2014), we call for the development of interventions that increase the appreciation of cooperativeness in leaders (Watts et al., 2018).

Conclusion

The present dissertation started with asking if all variants of the power motive are desirable in leaders, if all variants of the affiliation motive are undesirable in leaders, and whether interventions should be recommended to women that aim to increase their power motive. In our opinion, the answer to all of these questions is “no”. A dysfunctional power motive can be detrimental for prosocial aspects of leadership such as cooperation and ethical behavior. A functional affiliation motive can be beneficial for those criteria. Interventions that foster women’s power motive may indeed increase their career success. However, we would either suggest to focus on the functional variant of the power motive (even though we found no gender differences there) or to do something entirely different such as increasing the appreciation of cooperative leaders. First, this would attract more women (Kennedy & Kray, 2014) and cooperative men (Peters et al., 2015) to apply for leadership positions. Second, this would likely reduce discrimination against leaders who do not fit a masculine leadership stereotype (Horvath & Sczesny, 2016; Williams & Tiedens, 2016; Rudman et al., 2012).

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Appendix A

Table A.1

German items measuring functional and dysfunctional variants of power and affiliation motives

Item
<i>Functional power motive</i>
1 Es stellt mich zufrieden, andere Menschen so in ihren Handlungen und Einstellungen zu beeinflussen, dass sie ungeahnte Fähigkeiten entdecken und herausfordernde Aufgaben bewältigen können.
2 Es bereitet mir Freude, Verantwortung für eine übergeordnete Sache zu übernehmen, auch wenn das bedeuten kann, Rückschläge zu erfahren und Fehler eingestehen zu müssen.
3 Ich mag es, kontroverse Standpunkte zu vertreten, aber nur, solange es auf angemessene Art und Weise geschieht.
4 Ich genieße es, durch die eigenen Einflussmöglichkeiten etwas beitragen zu können, das im Sinne übergeordneter Ziele steht.
<i>Dysfunctional power motive</i>
1 Ich genieße es, wenn andere meinen Rat oder meine Anweisungen einholen müssen, bevor sie handeln.
2 Es gefällt mir, viel Macht und Einfluss zu haben, da es viele Menschen gibt, die man unter Kontrolle halten sollte.
3 Es ist mir so wichtig, meine persönlichen Ziele zu erreichen, dass ich dafür auch andere Menschen benutzen würde.
4 Es ist ein schönes Gefühl, meinen gesellschaftlichen Status zu demonstrieren.
<i>Functional affiliation motive</i>
1 Ich wünsche mir, für meine verständnisvolle und kooperative Art gemocht zu werden.
2 Bei Entscheidungen, die ich gegen den Willen anderer treffen muss, achte ich sehr darauf, nicht in eine Außenseiterposition zu geraten.
3 Ich genieße es, mit anderen Menschen konstruktiv ein gemeinsames Ziel zu verfolgen.
4 Gerade bei unpopulären Entscheidungen finde ich es besonders wichtig, viel Verständnis für diejenigen aufzubringen, die von solchen Entscheidungen betroffen sind.
<i>Dysfunctional affiliation motive</i>
1 Ich vermeide es um jeden Preis, Konflikte auszutragen, die das harmonische Miteinander in der Gruppe gefährden.
2 Ich mache mir oft Sorgen, von anderen weniger gemocht zu werden, weil ich etwas Falsches sage. In solchen Momenten schweige ich lieber, als dass ich es riskiere, mit meiner Meinung anzuecken.
3 Es ist mir wichtiger, Konflikte konstruktiv anzugehen, anstatt sie unter den Teppich zu kehren, nur um die Harmonie aufrecht zu erhalten. (<i>umzukodieren</i>)
4 Es ist mir sehr wichtig, von anderen akzeptiert zu werden. Deshalb sage ich manchmal Dinge, von deren Richtigkeit ich zwar nicht überzeugt bin, aber durch die ich gut dastehe.

Scientific CV

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Obligatory declaration

I hereby declare that I have, with the exception of the help that has been clearly mentioned in the thesis, completed this work on my own. I have included a list of all references used in the present thesis. This thesis was not used in the same or in a similar version to achieve an academic grading.

Bamberg, February 25, 2019

Christian Wolff