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## The Dominance, Prestige, and Leadership Account of Social Power Motives

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The dominance, prestige, and leadership account of social power motives

Felix Suessenbach, Steve Loughnan, Felix Schonbrodt, & Adam Moore

27                    **Abstract**

28                    The power motive predicts influential social behaviour; however, its heterogeneous  
29                    conceptualisations have produced inconsistent results. To overcome this problem we developed and  
30                    validated a unitary taxonomy of social power motives based on established delineations of social  
31                    hierarchies: the dominance, prestige, and leadership account. While we could measure these motives  
32                    both reliably and distinctively (Study 1) we also showed they strongly related to a common power desire  
33                    (Study 2). Assessing their nomological networks (Study 3 & 4) we demonstrated distinct associations  
34                    between the dominance motive (D: wanting to coerce others into adhering to one's will) and anger and  
35                    verbal aggression; the prestige motive (P: wanting to obtain admiration and respect) and the fear of  
36                    losing reputation and claiming to have higher moral concerns; the leadership motive (L: wanting to take  
37                    responsibility in and for one's group) and emotional stability and helping behaviour. Furthermore, while  
38                    D uniquely predicted agonistic/retaliatory behaviour in dictator games (Study 5), L uniquely predicted  
39                    the attainment of higher employment ranks in various professions (Study 7). Finally, at least to some  
40                    degree, P & L related positively, and D negatively to prosocial donating behaviour (Study 6). This  
41                    taxonomy represents a novel and powerful approach to predicting influential social behaviour.

42                    Keywords: dominance; prestige; leadership; social hierarchies; power motive;

43

## 1. General Introduction

45           Powerful individuals such as Stalin, Stephen Hawking, or Angela Merkel have, or have had,  
46 substantial influence on our lives, for example, by threatening war, making ground-breaking discoveries,  
47 or governing our countries. Understanding the motives behind this impactful behaviour of powerful  
48 people or the people yet to obtain power would arguably facilitate its prediction and thus opens up  
49 possibilities to mediate or support it (e.g., Heckhausen & Heckhausen, 2008). One such motive has been  
50 proposed to be a desire for power itself – the power motive - defined as a personality disposition  
51 energising, directing, and maintaining behaviour concerned with “having impact on others, arousing  
52 strong emotions in others, or maintaining reputation and prestige.” (Winter, 1988, p. 510; Heckhausen  
53 & Heckhausen, 2008). On the one hand, multiple studies could confirm the power motives’ predictive  
54 validity regarding power relevant variables such as the preference for (Jackson, 1984) and successful  
55 attainment of high-power professions (e.g., Winter, 1988), or the participation in competitive sports  
56 (Winter, 1973; see Schmalt & Heckhausen, 2008, for an overview). On the other hand, associations  
57 between such variables could be quite different depending on which power motive scale researchers  
58 applied (Engeser & Langens, 2010). This has been attributed to the power motives’ fairly heterogeneous  
59 definition (Engeser & Langens, 2010; see also: McClelland, 1970; Schönbrodt & Gerstenberg, 2012).  
60 Thus, to better predict potentially influential behaviour of people aspiring power a clear taxonomy of  
61 different desires to obtain power is needed. In this research we aim to achieve exactly this by proposing  
62 and preliminarily validating an account of differentially predictive desires for dominance, prestige, and  
63 leadership subsumed under the general power motive.

64           Recent advances in social hierarchy research provide a strong theoretical framework to  
65 differentiate power motive components (e.g., Cheng & Tracy, 2014; Henrich & Gil-White, 2001; Magee  
66 & Galinsky, 2008). Social hierarchies describe a rank ordering of individuals resulting in asymmetrical  
67 access to resources, attention, and control over others; in other words, different degrees of power (e.g.,  
68 Chase, Tovey, Spangler-Martin, & Manfredonia, 2002; Magee & Galinsky, 2008). Crucially,  
69 researchers have proposed that individuals simultaneously reside in different kinds of hierarchies in  
70 which they are ranked according to qualitatively different attributes such as dominance or prestige (i.e.,

71 dominance vs prestige account; e.g., Cheng & Tracy, 2014; Henrich & Gil-White, 2001; Maner & Case,  
72 2016; see also Bischof, 2008). Whereas a higher rank in a dominance hierarchy is obtained through  
73 forcing deference (e.g., by intimidation and coercion of others; cf. Stalin) a higher rank in a prestige  
74 hierarchy is obtained through voluntary deference (e.g., through the admiration and respect for one's  
75 valued skills and knowledge; cf. Stephen Hawking). In addition to dominance and prestige, we propose  
76 that individuals can also obtain power through leadership, a concept related to dominance and prestige  
77 rankings but functionally distinct (e.g., de Waal-Andrews, Gregg, & Lammers, 2015). We propose  
78 leadership shows in taking initiative and responsibility in order to direct a group to common group goal  
79 (cf. Angela Merkel). This supplies a leader with a unique kind of power which is granted as well as  
80 claimed in order to achieve this group goal. As leaders can be ranked on different levels, we propose a  
81 leadership hierarchy based on the extent to which a person takes responsibility/initiative and directs  
82 others' activities towards a common group goal.

83 In summary, although all social hierarchies provide power to the people on top they can be  
84 discriminated by three qualitatively different power sources (i.e., being forcefully taken, voluntarily  
85 given, or being granted as a necessity). In the following we will further elaborate on these hierarchies  
86 and outline how their adaptive benefits supported the evolving of three hierarchy-specific motives to  
87 obtain power: dominance, prestige, and leadership.

### 88 **1.1 Dominance Motive (D)**

89 The capacity and propensity to form dominance hierarchies probably evolved among animals  
90 living in groups in order to reduce potentially dangerous competition for scarce resources such as food  
91 or mating partners (e.g., Bischof, 2008; Cheng & Tracy, 2014; Henrich & Gil-White, 2001; Moosa &  
92 Ud-Dean, 2011). Dominance hierarchies are arguably the simplest form of social hierarchy as they are  
93 merely based on one member of the group being able to force another member into submission (e.g.,  
94 through superior physical strength). As such, fairly stable dominance rankings based on the number of  
95 victories/defeats in dyadic contests can be observed in simple animals such as crayfish (Fero & Moore,  
96 2008), lizards (Bush, Quinn, Balreira, & Johnson, 2016), or birds (Valderrábano-Ibarra, Brumon, &  
97 Drummond, 2007). Moreover, they can often be observed in more human-like species such as monkeys

98 (e.g., Gammell, de Vries, Jennings, Carlin, & Hayden, 2003) but also humans (e.g., Cheng & Tracy,  
99 2014; Henrich & Gil-White, 2001; von Rueden, Gurven, & Kaplan, 2008). Importantly, actual fights  
100 among conspecifics are often costly for both parties, therefore many dominance contests are settled by  
101 fear-inducing threatening means which are arguably used to different degrees among primates, including  
102 humans. These means include displays of aggression, dominant body postures, glares, vocal pitch, verbal  
103 threats, emotional blackmailing, or deception (Cheng, Tracy, Ho, & Henrich, 2016; Kyl-Heku & Buss,  
104 1996; Mazur, 1985; Sell, Tooby, & Cosmides, 2009).

105         Some scholars have argued that dominance hierarchies are more prevalent among males than  
106 among females (e.g., Bischof-Köhler, 2011; Bischof, 2008) as some means of exerting dominance (e.g.,  
107 through physical size) are evolutionary more applicable to males than females, at least for most primates.  
108 Accordingly, most studies linking dominance rank to reproductive success, or proxies for reproductive  
109 success, rely exclusively on male monkeys and humans (e.g., Cowlshaw & Dunbar, 1991; Ellis, 1995;  
110 Snyder, Kirkpatrick, & Barrett, 2008; von Rueden, Gurven, & Kaplan, 2011; but see Pusey, Williams,  
111 & Goodall, 1997). Nonetheless, some means of exerting dominance can be used by males and females  
112 alike (e.g., emotional blackmailing, deception, verbal aggression) which could increase this person's  
113 fitness. Thus, although weaker, dominance hierarchies might also exist among females. Given that  
114 dominance-related behaviours are observed in a wide variety of species and that position within such a  
115 hierarchy has been linked to reproductive advantage, it seems clear that there is an evolutionary basis  
116 for such behaviours. Allport (1937) and Bischof (2008) have argued that these kind of evolutionary-  
117 driven behaviours might underlie functionally autonomous motives which energise short-term goal  
118 attainment (e.g., acting dominant) to keep the underlying beneficial behavioural patterns refreshed even  
119 if this does not always lead to long-term goal attainment (e.g., power). In line with this we define a  
120 functionally autonomous dominance motive (D) as a desire to coerce others into adhering to one's will.

## 121 **1.2 Prestige Motive (P)**

122         Besides dominance hierarchies, scholars have argued that evolution selected for a second kind  
123 of hierarchy, most commonly termed prestige hierarchy (e.g., Bischof, 2008; Cheng & Tracy, 2014;  
124 Henrich & Gil-White, 2001; Magee & Galinsky, 2008). Prestige hierarchies are based on the voluntary

125 deference to higher ranking members as a function of admiration and respect for these individuals’  
126 valued skills and knowledge (e.g., Henrich & Gil-White, 2001). Rudimentary forms of this can be  
127 observed in the animal kingdom (e.g., Stambach, 1988), however, human-specific prestige hierarchies  
128 have evolved beyond the mere trading of deference (e.g., grooming, support) for food between less and  
129 more skilled conspecifics (Henrich & Gil-White, 2001). More specifically, only humans are argued to  
130 have been able to truly acquire and pass on to their offspring expert motor skills and behavioural  
131 objectives. Thus, natural selection would have favoured individuals who could obtain access to experts  
132 by wooing them with their admiration, respect, and voluntary deference (in short, conferring prestige).  
133 Having prestige, in turn, would become evolutionarily beneficial for the person who has it (Henrich &  
134 Gil-White, 2001).

135           Some studies could show links between higher prestige ranks and increased reproductive  
136 success. For example, observations of hunter-gatherer tribes have suggested a link between foraging  
137 skills and reproductive success, beyond the mere surplus in food, but rather mediated by signalling these  
138 superior foraging qualities themselves (e.g., Gurven & von Rueden, 2006; Henrich & Gil-White, 2001;  
139 Kaplan & Hill, 1985; Smith, 2004). Thus, similar to the dominance motive, we propose that selection  
140 pressures resulted in a functional autonomous prestige motive (P), defined as a desire to be admired and  
141 respected primarily for one’s skills and knowledge. We say “primarily” because, though holding that in  
142 most cases the prestige motive relates to admiration for specific skills and knowledge, we propose that  
143 sometimes the motive can manifest itself as a general/unspecified desire for admiration and respect (cf.  
144 status hierarchies; Magee & Galinsky, 2008).<sup>1</sup>

### 145 **1.3 Leadership Motive (L)**

146           Similar to dominance and prestige hierarchies, researchers have proposed an evolutionary  
147 theory of leadership, which can be defined as a process of taking initiative and responsibility for one’s  
148 group and directing it towards a common group goal (Van Vugt, 2006). The evolutionary theory holds  
149 that, as social group living has presented considerable and varied coordination problems (e.g., when and  
150 where to gather food, defending the group, when and where to move), natural selection would have  
151 favoured propensities to adopt leader and follower roles, since concerted (as opposed to uncoordinated)



152 actions were more likely to increase group members' fitness (Maynard-Smith, 1982; Van Vugt, 2006).  
153 Depending on group sizes leadership can occur at several levels (e.g., leader of hunter group/leader of  
154 tribe, sergeant/major/general; e.g., Chen & Bliese, 2002) thus, like dominance and prestige, it can be  
155 conceptualised as hierarchical.

156           Based on modern leadership theory we propose that ranks in these leadership hierarchies are  
157 obtained through dynamic processes of granting and claiming (DeRue & Ashford, 2010). Natural  
158 selection might have favoured granting processes to be influenced by leader-specific attributes such as  
159 dominance or prestige and claiming processes to be influenced by individuals' desires to lead. More  
160 precisely, scholars (e.g., Maner, 2017; Van Vugt, 2006) argued that it would have been adaptive for  
161 groups to grant leadership to individuals which seemed most capable to achieve specific group goals.  
162 For example, whereas in times of war or crisis people preferred dominant leaders who could enforce  
163 group cohesion (Kakkar & Sivanathan, 2017) during peace times people seemed to prefer leaders  
164 inviting cooperation, conceivably based on voluntary deference (Spisak, Dekker, Krüger, & van Vugt,  
165 2012; see also Ho, Shih, & Walters, 2012).<sup>2</sup> Although in some cases leaders might take on leadership  
166 positions merely as they have been asked to do so (e.g., see Chan & Drasgow, 2001: social-normative  
167 motivation to lead) more than often attaining leadership positions also depends on the degree to which  
168 they have been claimed (e.g., DeRue & Ashford, 2010; Sorrentino & Boutillier, 1975). One driving  
169 force behind such claiming has been captured in Chan & Drasgow's (2001) affective motivation to lead  
170 (MTL), describing a desire to lead purely as one enjoys doing so.<sup>3</sup> Natural selection might have favoured  
171 individuals having such desires as they predict the attainment of leadership positions (Luria & Berson,  
172 2013) which in turn have been linked to greater reproductive success (Jokela & Keltikangas-Järvinen,  
173 2009).

174           Similar to the unique power sources in dominance and prestige hierarchies (Henrich & Gil-  
175 White, 2001; Cheng & Tracy, 2014) we argue that higher ranking members of leadership hierarchies are  
176 supplied with a specific kind of power. Based on the process of granting and claiming as well as the  
177 core requirements to leadership (Van Vugt, 2006), we propose a leader's power is neither strictly forced  
178 nor voluntarily given but granted as a necessity to achieve a common group goal. This kind of

179 legitimised power could be demonstrated in group tasks in which members accepted leaders' directions  
180 to achieve a common group goal if they believed these leaders had been democratically elected (i.e.,  
181 having been granted leadership by a group; French & Raven, 1959; Raven & French, 1958).

182 In summary, evolutionary theory stresses the adaptive value for human groups to have  
183 organised themselves into hierarchical structures of leaders and followers. We proposed dynamic  
184 processes of granting and claiming underlie rank attainment in these hierarchies which supply higher  
185 ranking members with a unique source of power granted by the group as a necessity to reach a common  
186 goal. Moreover, whereas individuals may be granted leadership based on their dominance and prestige,  
187 individuals may claim leadership as a function of their desire to lead. Such desires have been shown to  
188 predict leadership attainment which in turn increased reproductive success. Thus, mirroring the  
189 evolutionary argument for dominance and prestige motives and expanding on the affective MTL's (Chan  
190 & Drasgow, 2001) pure enjoyment to lead by including Van Vugt's (2006) evolutionary core elements  
191 of leadership, we propose a functionally autonomous leadership (L) motive as a desire to take initiative  
192 and responsibility in one's group to direct it to a common group goal.

#### 193 **1.4 Individual Differences in Dominance, Prestige, and Leadership (DoPL) Motives**

194 Although stronger DoPL motives are arguably linked to increasing a person's fitness, adaptive  
195 pressures likely fostered a differentiation in these motives to support a variety of strategies to secure the  
196 survival of one's genes (e.g., D. M. Buss, 2009). Obviously the intensities of DoPL motives are not  
197 directly linked to an individual's capabilities, but rather variation in these motives across individuals  
198 (and perhaps within individuals over time) provides the raw material for selective advantage in  
199 aggregate. As an idealised example, high dominance motives would, on average, be evolutionarily  
200 detrimental to individuals ill-equipped to elicit threats (e.g., smaller/weaker individuals) as they would  
201 waste energy on unsuccessful domination attempts, and likely be injured as a result. Thus, a uniformly  
202 strong dominance motive in a population would be maladaptively to all but the (temporarily) strongest  
203 individuals. A distribution of this motive, however, would provide alternative strategies. For example,  
204 lower dominance motivated individuals (i.e., being more agreeable; John, Naumann, & Soto, 2008) and  
205 could maximise their fitness through being valued as trusted friends and coalition partners (e.g., Nettle,

206 2006). Similarly, prestige desires are to some degree linked to costly signalling (i.e., individuals have to  
207 invest in acquiring the attributes they want to be admired for) which might be more or less affordable to  
208 varying individuals (e.g., Hardy & Van Vugt, 2006; Henrich & Gil-White, 2001). Moreover, high  
209 prestige-motivated individuals might be more vulnerable to narcissistic admiration (e.g., Back et al.,  
210 2013) which benefits having many short-term mates (i.e., maximising offspring quantity) but hindering  
211 maintaining long-term relationships (i.e., maximising offspring quality, conceivably a low-prestige  
212 motive strategy; D. M. Buss & Schmitt, 1993; Campbell & Campbell, 2009). Individual differences in  
213 the leadership motive might be particularly driven by frequency-dependent selection (e.g., D. M. Buss,  
214 2009). Leaderless groups would have less chances of survival (e.g., Maynard-Smith, 1982; Van Vugt,  
215 2006) thus fitness for each group member would increase if some would adopt leadership roles (i.e.,  
216 having high leadership desires) and even more would adopt follower roles (i.e., having low leadership  
217 desires). Finally, similar to conceptually related personality traits such as extraversion, DoPL motives  
218 are likely polygenic (e.g., Lukaszewski & Roney, 2011). Thus, as more genes influence phenotypic  
219 expressions of DoPL motives more natural mutations occur, increasing phenotypic variance (e.g., D. M.  
220 Buss, 2009).

### 221 **1.5 Previous Power Motive Distinctions and Attempts to Measure Hierarchy-Relevant Motives**

222 Importantly, we are not the first scholars to propose different power motive components. In a  
223 first attempt, researchers proposed the power motive could be divided into personalised/self-serving (p  
224 power) and socialised/other-serving power (s power) components (Magee & Langner, 2008;  
225 McClelland, 1970; Winter & Stewart, 1978). However, the interpretations of p and s power have been  
226 different due to their broad definitions and lack of a clear theoretical framework. For example, whereas  
227 some conceptualised s power as being doubtful about one's influence and regard it as dangerous or  
228 flawed (e.g., Magee & Langner, 2008; McClelland, 1970), others only stress s power's hope to gain  
229 power (Wang & Sun, 2016). Whereas some regard desires to impress others or showing unsolicited  
230 helping behaviour as defining parts of p power (e.g., Magee & Langner, 2008), others do not include  
231 this but conceptualise it as an abuse of power or general belief that some people should be superior to  
232 others (e.g., Torelli & Shavitt, 2010). In a second attempt, judging by the power motive's definition and  
233 a cluster analysis of power motive items, Schönbrodt and Gerstenberg (2012) concluded that there are

234 two components to the power motive, control and prestige. Further applying the framework of approach  
235 and avoidance motives (e.g., Elliot & Thrash, 2002), they proposed two distinct power avoidance  
236 components: a fear to lose control and a fear to lose reputation/prestige. However, somewhat less  
237 consistently, they proposed a single power approach component, a hope to gain power, encompassing  
238 both control and prestige aspects. In summary, although researchers have acknowledged that the power  
239 motive is a heterogeneous construct, a clear theoretical framework to distinguish between different  
240 components of the power motive remained elusive.

241 We are also not the first scholars investigating motives related to dominance, prestige, and  
242 leadership. Nonetheless, none of the previous scales measuring these motives show a clear distinction  
243 between all three motives or their motivational content was somewhat unclear. For example, Cheng,  
244 Tracy, and Henrich (2010) developed a questionnaire to measure people's dispositional dominance and  
245 prestige strategies. Whereas the dominance-strategy items showed a great resemblance with the  
246 dominance motive (e.g., "I enjoy having control over others."), the prestige-strategy items described a  
247 state of having prestige rather than a desire to gain prestige (e.g., "Members of my group respect and  
248 admire me."). Maner and Mead (2010) utilised a subset of the Achievement Motive Scales (AMS;  
249 Cassidy & Lynn, 1989) to measure dominance and prestige desires. Here, at face-value, the prestige  
250 scale seemed to match our prestige definition. The dominance scale did not seem to measure dominance  
251 desires as defined by Henrich and Gil-White (2001) nor as measured by Cheng and colleagues (2010)  
252 but seemed to be more concerned with leadership desires (e.g., "I would make a good leader."). Thus,  
253 previous scales to measure dominance, prestige, and leadership motives did not seek to clearly  
254 differentiate between these three concepts.

## 255 **1.6 Overview of Studies**

256 In the present research we tested the validity of our DoPL account of social power motives. In  
257 Study 1 we showed that a 3-factor solution of previously selected DoPL questionnaire items (see Studies  
258 SX1-SX3 in supplementary material) provided a good model fit in confirmatory factor analyses and  
259 outperformed all 2- or 1-factor solutions. These DoPL motives explained more than 80% of variance  
260 (shared among or unique to each motive) in two established power motive scales (Study 2). To situate

261 the DoPL motives within their respective nomological networks we tested their associations with other  
262 motives, personality traits, and self-reported behaviour (Study 3) as well as self-reported moral concerns  
263 (Study 4). To demonstrate the DoPL scales' predictive and discriminant validity we could show D's  
264 unique predictive power regarding dictator game behaviour (Study 5), differential effects of the DoPL  
265 motives when predicting charitable donations (Study 6), and L's unique predictive power regarding  
266 workers' employment ranks (Study 7). Studies 3, 5, and 6 were preregistered; studies 2, 4, and 7 were  
267 not. Data for the latter studies was collected alongside other studies which determined their sample sizes.  
268 As we were not sure how large a sample we could use when we started data collection for studies 2, 4,  
269 and 7 we did not preregister them. Nonetheless, as findings in each of these studies could be confirmed  
270 across multiple independent samples, this supports their reliability and replicability. Reproducible R-  
271 scripts, codebooks, and data for all our studies can be found here: <https://osf.io/ux tq2/>

## 2. Study 1: Confirmatory Factor Analyses

272  
273

274 To statistically distinguish and distinctively measure the DoPL motives, we conducted several  
275 exploratory factor analyses (EFAs; see Studies SX1 - SX3 in supplementary material) on responses to a  
276 pool of 57 items selected from existing power motive scales (e.g., Personal Value Questionnaire:  
277 McClelland, 1991; Unified Motive Scales, UMS, power: Schönbrodt & Gerstenberg, 2012) or created  
278 to match the DoPL motives' definitions. Based on high primary factor loadings, no cross-loadings > .25,  
279 broad concept coverage and an even distribution of ABCD<sup>4</sup> aspects of motives (cf., Wilt & Revelle,  
280 2015), we selected 10 items for each DoPL scale (30 items total). Moreover, we created 6- and 4-item  
281 short scales for each motive by the same requirements (see Table 3). Here we wanted to assess the model  
282 fit of these DoPL scales as well as some alternative models using confirmatory factor analysis (CFA).

283

### 284 2.1 Method

#### 285 2.1.1 Participants.

286 Participants for this study came from sample #1 ( $n = 400$ ; see Table 1 for more information  
287 and sample size rationale).

#### 288 2.1.2 Material & procedure.

289 The 30 DoPL items were selected based on results of previous EFAs (see Studies SX1-SX3 in  
290 supplementary material) and consisted of either statements or goals measured on 6-point Likert scales  
291 with the anchors “Strongly disagree”, “Disagree”, “Slightly disagree”, “Slightly agree”, “Agree” and  
292 “Strongly agree” (for statements) and “Not important to me”, “Of little importance to me”, “Of some  
293 importance to me”, “Important to me”, “Very important to me”, “Extremely important to me” (for goals;  
294 cf. Schönbrodt & Gerstenberg, 2012). These items were intermingled with 13 additional DoPL items as  
295 well as items for the UMS motive scales for achievement, affiliation, power, intimacy, fear of losing  
296 reputation, and fear of losing control (Schönbrodt & Gerstenberg, 2012). Afterwards, participants filled  
297 in several self-report scales to investigate the DoPL scales' nomological network (see Study 3).

299 **2.2 Results**

300 All 4-, 6-, and 10-items scales showed sufficient internal consistencies (Cronbach's  $\alpha$ s = .83 -  
301 .96; see Table 2) and, with the exception of the 4-item dominance scale being right skewed, were  
302 normally distributed (see Figure SX2 in supplementary material). Moreover, whereas each of the 4-, 6-  
303 , and 10-item versions showed moderately sized correlations among the DoPL scales,  $.39 < r_s < .53$ , the  
304 different lengths of each DoPL scale showed almost perfect correlations,  $.94 < r_s < .99$ . None of these  
305 correlations differed across gender (see Table 2), however, males generally had higher mean dominance  
306 scores than females,  $5.58 < t_s < 5.85$ ,  $p_s < .001$ ,  $0.55 < d_s < 0.58$  (see Table S1 in supplementary  
307 material).

308 To assess and compare model fit across all scales we conducted CFAs for each of the 4-, 6-,  
309 and 10-item version of the DoPL scales (see Table 3 & Table 4). Model fit was evaluated based on  
310 comparative fit indices (CFI), Tucker Lewis Index (TLI), root mean square error of approximation  
311 (RMSEA), and the standardised root mean square residual (SRMR). For CFI and TLI, values between  
312  $>.90$  to  $.95$ , and for RMSEA and SRMR, values of  $<.08$  were taken as indicative of good fit (Hu &  
313 Bentler, 1999; Murray, McKenzie, Kuenssberg, & Booth, 2015; van de Schoot, Lugtig, & Hox, 2012).  
314 Whereas the 6-item scales showed a good fit, CFI & TLI  $> 0.920$ , RMSEA & SRMR  $< 0.075$ , the 10-  
315 item and 4-item scales fit slightly worse meeting some but not all thresholds (see Table 4; see also Table  
316 3 for all items and factor loadings based on these CFAs).

317 Based on the best fitting model with 6-items per DoPL scale (CFA6) we created a range of  
318 alternative models, including several 2-factor models, a 1-factor model, and a 3-factor model with a  
319 bifactor onto which all items loaded. None of the 2-factor models or the 1-factor model showed adequate  
320 model fits, CFIs & TLIs  $< 0.790$ , RMSEAs & SRMRs  $> 0.129$ . Notably, the 3-factor model with a  
321 bifactor (CFA6BI) fit better, CFI & TLI  $> 0.928$ , RMSEA & SRMR  $< 0.071$ , than a model without  
322 bifactor (CFA6). We believe this bifactor to represent the common hope to gain power in the DoPL  
323 motives, which is substantiated by the DoPL scales' very high correlations,  $.59 < r_s < .85$ , with the

324 general power motive (Schönbrodt & Gerstenberg, 2012; see Study 2). To investigate the bifactor's  
325 strength relative to the specific subscale factors we calculated several indices recommended by Murray  
326 and colleagues (2015), which showed that the DoPL items more strongly reflected specific factors as  
327 opposed to the bifactor. For example, the explained common variance (ECV; Reise, 2012) was higher  
328 for the specific factors,  $ECV = .53$ , than the bifactor,  $ECV = .47$ ; the worst split-half reliability (Revelle,  
329 1979) was higher for individual subscales,  $\beta = .71$  to  $.84$ , than the bifactor,  $\beta = .64$  (see Table S2  
330 supplementary material).

331

### 332 **2.3 Discussion**

333 In several CFAs we confirmed the 3-factor structure in the 10-item (i.e., 10-items per DoPL  
334 scale), 6-item, and 4-item versions of the DoPL scales. Based on these results all DoPL scales can be  
335 used, though the 6-item scales showed the best fit while the 10- and 4-item scales showed a slightly  
336 worse fit. In the following studies we only report results regarding these 6-item scales, nonetheless,  
337 findings regarding the 10- and 4-item scales were very similar (see additional analysis in our open data  
338 set <https://osf.io/uxtq2/>).

339 Further CFAs testing 2-factor and 1-factor models showed insufficient fits and were therefore  
340 discarded, however, the fit of a model including the DoPL factors and a bifactor onto which all items  
341 loaded was better than the fit of a model without this bifactor. This bifactor likely represents a common  
342 hope to gain power inherent in all three DoPL scales. However, given the strong unique influence of the  
343 DoPL subscales, we recommend not using weighted subscale scores as, for example, one might mask a  
344 negative relationship of a specific DoPL scale with some external variable if the general factor has a  
345 strong positive relationship with this variable (e.g., DeMars, 2013; Murray et al., 2015). Rather, to  
346 account for the DoPL scales' shared variance, we recommend conducting linear multiple regressions  
347 with all DoPL scales in the same model to obtain residualised/unique effects (Vize, Collison, Miller, &  
348 Lynam, 2018) and, for comparison, report correlations of the individual DoPL scales with the external  
349 variable.



### 3. Study 2: DoPL Motives in Relation to the Power Motive

350  
351

352 As we conceptualised the DoPL motives as different components of a general power motive  
353 (Heckhausen & Heckhausen, 2008; Winter, 1973) in this study we wanted to demonstrate that the DoPL  
354 motives could explain most of the variance in two established power motive scales and further  
355 investigate each of the DoPL motives' unique and shared contribution to this explained variance. For  
356 this we picked the Unified Motive Scales power (UMS power, Schönbrodt & Gerstenberg, 2012), a  
357 modern scale comprised of the best items from a range of power motive scales, and Personality Research  
358 Form dominance (PRF dominance; Jackson, 1984), the oldest, most widely used power/dominance scale  
359 (Mayer, Faber, & Xu, 2007). Notably, PRF dominance does not include prestige aspects but this is to  
360 some extent captured in a separate scale called "social recognition" (PRF social recognition). As the  
361 item content of both UMS power and PRF dominance scales seemed to be mostly centred on leadership  
362 (despite their labels), we hypothesised most of the variance (shared and unique) to be explained by L.<sup>5</sup>

363

#### 364 3.1 Method

##### 365 3.1.1 Participants.

366 Participants for this study came from sample #1 ( $n = 400$ ) and #2 ( $n = 250$ ; see Table 1).

##### 367 3.1.2 Material & procedure.

368 Sample #1 data only included DoPL scales and UMS power but not PRF dominance and PRF  
369 social recognition (see Table 1 and <https://osf.io/uxtq2/> for complete codebooks). Participants in sample  
370 #2 (see Table 1) first provided demographic information and then filled in a questionnaire consisting of  
371 the 10-item DoPL scales intermingled with UMS power, UMS affiliation, UMS intimacy, UMS  
372 achievement (Schönbrodt & Gerstenberg, 2012), PRF dominance, and PRF social recognition<sup>6</sup> (Jackson,  
373 1984). After that participants played four rounds of a dictator game (see Study 5) and were then fully  
374 debriefed.

375 We pooled data from sample #1 and #2 for all analyses involving the DoPL scales and UMS  
376 power; analyses involving the DoPL and the PRF scales were only based on sample #2's data. In both  
377 samples we only report data regarding the 6-items DoPL scales (i.e., 6 items per DoPL scale).

378

### 379 **3.2 Results**

380 All DoPL motives correlated moderately with each other,  $.41 < r_s < .44$ . Moreover, all DoPL  
381 motives correlated strongly with UMS power,  $.59 < r_s < .85$ , and moderately to strongly with PRF  
382 dominance,  $.39 < r_s < .89$ . As hypothesised, the correlations between L and UMS power,  $r = .85$ , as well  
383 as PRF dominance,  $r = .89$ , were very high, and PRF social recognition correlated highly with P,  $r =$   
384  $.64$ , but showed only small correlations with the other two DoPL motives,  $.23 < r_s < .24$  (see Table 5).

385 To investigate shared variance between the DoPL motives, UMS power, and PRF dominance,  
386 we conducted two commonality analyses using R's `yhat` package (Nimon, Lewis, Kane, & Haynes,  
387 2008; see Table 6a-b). The DoPL motives explained 84% of the variance in UMS power and 81% in  
388 PRF dominance. As hypothesised, L was the biggest contributor of both unique and shared variance  
389 (i.e., shared with other DoPL motives) for both UMS power and PRF dominance. However, whereas D  
390 and P had a sizeable unique contribution to explaining the variance in UMS power, their contribution to  
391 explaining the variance in PRF dominance was almost entirely shared with the respective other DoPL  
392 motives.

393

### 394 **3.3 Discussion**

395 The DoPL motives explained 84% and 81% of the variance in the UMS power (Schönbrodt &  
396 Gerstenberg, 2012) and the PRF dominance (Jackson, 1984) scales, respectively, demonstrating very  
397 strong relationships with established power motive scales. As expected, L explained the most unique  
398 and shared variance in, and had the highest correlation with, both power motive scales. As both of these  
399 scales are unidimensional constructs it is perhaps little surprising that they largely focussed on one

400 particular aspect of power; in this case leadership. The small relationship between PRF dominance and  
401 P is also not surprising, as prestige aspects are not covered by PRF dominance but by a separate scale:  
402 PRF social recognition (Jackson, 1984). This latter scale correlated highly with P, though, the two scales  
403 show some differences: PRF social recognition seems to aim more at social acceptance (e.g., “I will not  
404 go out of my way to behave in an approved manner.” reverse-coded). Since the DoPL motives explained  
405 most of the variance in UMS power and PRF dominance, we believe that these scales measure, to  
406 varying degrees, distinct components of the general power motive.

#### 4. Study 3: Nomological Networks

407  
408

409 To show convergent and divergent validity of the DoPL scales, we situated them in their  
410 nomological networks (Cronbach & Meehl, 1955). Thus, based on our conceptualisation of the DoPL  
411 motives we predicted their relationships with personality traits and attitudes (BIG 5: John et al., 2008;  
412 narcissistic rivalry and admiration: Back et al., 2013; social dominance orientation: SDO, Pratto,  
413 Sidanius, Stallworth, & Malle, 1994), other motives (achievement, affiliation, intimacy, fear of losing  
414 control, fear of losing reputation: Schönbrodt & Gerstenberg, 2012), self-reported behaviour (anger &  
415 verbal aggression: A. H. Buss & Perry, 1992; helping behaviour: Penner, Fritzsche, Craiger, & Freifeld,  
416 1995; porn consumption) as well as the number of leading positions in the last five years. Note, although  
417 we made an effort to base all of our hypotheses on sufficient theoretical foundations, this was not  
418 possible in all cases; hence, these correlations are to some extent exploratory and in some cases we could  
419 not make a clear prediction at all. To increase rigour, we thus preregistered our sample size and  
420 hypotheses regarding the correlations of the nomological networks (<https://osf.io/rge59/>). Here we lay  
421 out our view of the expected nomological network relationships via a (somewhat idealised) view of a  
422 person driven by each of the DoPL motives (see SOM for Study 3 in supplementary material for a more  
423 detailed description and hypothesised sizes of correlations).

##### 4.1 Dominance Motive (D) Predictions

425 Someone driven to dominate others and avoid being dominated in turn ( $r_{\text{fear of losing control}} > 0$ ;  
426 Schönbrodt & Gerstenberg, 2012) is likely to willingly seek out social interaction to pursue this goal  
427 ( $r_{\text{extraversion}} > 0$ ) and treat others poorly in such interactions ( $r_{\text{agreeableness}} < 0$ ; cf. John et al., 2008). To be  
428 able to dominate others they likely desire to improve the skills needed to do so ( $r_{\text{achievement}} > 0$ ;  
429 Schönbrodt & Gerstenberg, 2012), are angrier, and show more aggressive behaviour ( $r_{\text{anger}/r_{\text{aggression}}} > 0$ ;  
430 Henrich & Gil-White, 2001) but might also try to satisfy their dominance desires by proxy, for example,  
431 by watching someone else dominating another person sexually ( $r_{\text{porn consumption}} > 0$ ; e.g., Heckhausen &  
432 Heckhausen, 2008; cf., Bridges, Wosnitzer, Scharrer, Sun, & Liberman, 2010; Wright, Sun, Steffen, &  
433 Tokunaga, 2015). Moreover, a dominance motivated person likely thinks (inappropriately) highly of  
434 themselves, particularly in comparison to those whom they (seek to) dominate ( $r_{\text{narcissistic rivalry}/r_{\text{narcissistic$

435 admiration  $> 0$ ; Back et al., 2013), and believe it is socially appropriate to treat others in this way to benefit  
436 oneself/one's group ( $r_{\text{SDO}} > 0$ ; cf. Pratto et al., 1994). As these anti-social attributes might make long-  
437 term social relationships difficult, dominance motivated individuals might not strongly value making  
438 friends ( $r_{\text{affiliation}} \geq 0$ ; Schönbrodt & Gerstenberg, 2012) and are likely even opposed to close intimate  
439 relationships ( $r_{\text{intimacy}} < 0$ ; Wurst et al., 2017). Contrarily to prestige motivated individuals a dominance  
440 motivated person is not dependent on others' evaluation to obtain power ( $r_{\text{fear of losing reputation}} = 0$ ; Henrich  
441 & Gil-White, 2001) which should make this person's emotional well-being independent of others'  
442 judgement ( $r_{\text{neuroticism}} = 0$ ; John et al., 2008). We made no predictions regarding openness or  
443 conscientiousness. We also made no prediction for helping behaviours. This is because such may  
444 counteract effects of threatening someone (e.g., Cheng et al., 2010), but on the other hand, when mixed  
445 with aggression, could also lead to an "attachment trap" (Bischof, 2008, p. 471) in which the victim  
446 perceives the perpetrator as a source of security, thus being beneficial for dominance motivated people.  
447 Finally, given the weak relationships found between dominance and leadership emergence (e.g., Judge,  
448 Bono, Ilies, & Gerhardt, 2002), we predicted either no or a weak positive relationship with the number  
449 of leadership positions in the last five years.

#### 450 **4.2 Prestige Motive (P) Predictions**

451 A prestige driven person should be similar to a dominance driven person in some ways and  
452 different in several others. While they should also seek out social interactions to satisfy their motive  
453 ( $r_{\text{extraversion}} > 0$ ), they would likely treat others in a much more positive fashion ( $r_{\text{agreeableness}} > 0$ ; Garden,  
454 Hu, Zhan, & Yao, 2017), and value mutually respectful, healthy relationships ( $r_{\text{affiliation}/r_{\text{intimacy}}} > 0$ ;  
455 Schönbrodt & Gerstenberg, 2012; Wurst et al., 2017). This dependence on others for satisfaction of this  
456 motive, and possibly fearing their judgment ( $r_{\text{fear of losing reputation}} > 0$ ; Miller et al., 2015), might make a  
457 prestige driven person somewhat emotionally dependent on external factors (i.e., neurotic), but  
458 emotional instability may also be detrimental to obtaining and maintaining prestige ( $r_{\text{neuroticism}} \geq 0$ ; Cheng  
459 et al., 2010). Prestige driven people are also likely to seek out opportunities to impress and to diligently  
460 work to obtain skills/abilities which are impressive to others ( $r_{\text{openness}/r_{\text{conscientiousness}/r_{\text{achievement}}} > 0$ ; Blickle,  
461 1996; Lee & Klein, 2002; Schönbrodt & Gerstenberg, 2012). Similarly, a prestige driven person will

462 value being perceived as unique, impressive, and charming ( $r_{\text{narcissistic admiration}} > 0$ ; Back et al., 2013) but  
463 will not desire to devalue or subjugate others ( $r_{\text{narcissistic rivalry}} = 0$ ; Back et al., 2013), and thus will not  
464 generalise such behaviours to social norms ( $r_{\text{SDO}} = 0$ ; Henrich & Gil-White, 2001). This lack of  
465 dominance desires might also show in less fear of being controlled and less gratification from viewing  
466 sexual domination of others ( $r_{\text{fear of losing control}/r_{\text{porn consumption}}} = 0$ ; Heckhausen & Heckhausen, 2008;  
467 Schönbrodt & Gerstenberg, 2012). Whereas taking on leadership positions and showing helping  
468 behaviour have been linked to obtaining admiration (Bai, 2017; Cheng et al., 2010; Henrich & Gil-  
469 White, 2001) and might thus be shown by a prestige motivated individual ( $r_{\text{helping behaviour}/r_{\text{leadership positions}}}$   
470  $> 0$ ), aggressive behaviour can either be positively (e.g., when directed at a group's opponent; Bischof,  
471 2008) or negatively evaluated (e.g., causing within group conflict;  $r_{\text{anger}/r_{\text{aggression}}} = 0$ ; Henrich & Gil-  
472 White, 2001).

### 473 **4.3 Leadership Motive (L) Predictions**

474 A leadership motivated individual should seek out social interactions with people they could  
475 potentially lead ( $r_{\text{extraversion}} > 0$ ; Costa & McCrae, 1992; Goldberg et al., 2006), thus, this person should  
476 be interested in increasing their social circle ( $r_{\text{affiliation}} > 0$ ; Schönbrodt & Gerstenberg, 2012), and benefit  
477 less from few close relationships ( $r_{\text{intimacy}} = 0$ ; Schönbrodt & Gerstenberg, 2012). Leadership status can  
478 be achieved/maintained both by cooperative (e.g., Cogliser, Gardner, Gavin, & Broberg, 2012) and/or  
479 antagonistic behaviours ( $r_{\text{agreeableness}} = 0$ ;  $r_{\text{anger}/r_{\text{aggression}}} > 0$ ; Judge et al., 2002; Schwarzmüller, Brosi,  
480 Spörrle, & Welp, 2017; Waasdorp, Baker, Paskewich, & Leff, 2013), but will benefit most from  
481 confidence and emotional stability, as opposed to the lack thereof ( $r_{\text{neuroticism}} < 0$ ; Hill & Ritchie, 1977;  
482 Judge et al., 2002). Given this middle ground between cooperation and aggression an aspiring leader  
483 should to some degree value social norms supporting dominance ( $r_{\text{SDO}} > 0$ ; French & Raven, 1959).  
484 Improving their skill set should increase their chance to lead ( $r_{\text{achievement}} > 0$ ; Schönbrodt & Gerstenberg,  
485 2012) and whereas achieving a leadership position should strongly satisfy their leadership desires  
486 ( $r_{\text{leadership positions}} > 0$ ; Chan & Drasgow, 2001) watching pornography should not ( $r_{\text{porn consumption}} = 0$ ).  
487 Having obtained a leadership position, a leadership motivated individual should fear to lose it again ( $r_{\text{fear}}$   
488  $\text{of losing control}} > 0$ ;  $r_{\text{fear of losing reputation}} \geq 0$ ; Howell & Shamir, 2005; Schönbrodt & Gerstenberg, 2012). As

489 leadership involves responsibility taking this person should show prosocial helping behaviour in their  
490 larger social group ( $r_{\text{helping behaviour}} > 0$ ; Van Vugt, 2006). Though narcissistic admiration correlates  
491 positively with self-assignment of leadership roles (Back et al., 2013), the social emergence and  
492 maintenance of leadership would not likely/typically benefit from overt, extreme narcissism ( $r_{\text{narcissistic}}$   
493  $\text{rivalry}/r_{\text{narcissistic admiration}} \geq 0$ ; Grijalva, Harms, Newman, Gaddis, & Fraley, 2015). We made no predictions  
494 for conscientiousness and openness.

495

## 496 **4.4 Method**

### 497 **4.4.1 Participants.**

498 Participants for this study came from sample #1 ( $n = 400$ ; see Table 1).

### 499 **4.4.2 Material & procedure.**

500 After filling in the DoPL scales and UMS scales for power, affiliation, achievement, intimacy,  
501 fear of losing control, and fear of losing reputation (Schönbrodt & Gerstenberg, 2012), participants filled  
502 in the following validation scales in this fixed order: 1. Intermingled Big Five personality variables  
503 (John et al., 2008; Rammstedt & John, 2007), 2. Narcissism Admiration and Rivalry Questionnaire  
504 (NARQ; Back et al., 2013), 3. Social Dominance Orientation (SDO; Pratto et al., 1994), 4. Intermingled  
505 Anger and Verbal Aggression scales (A. H. Buss & Perry, 1992), 5. Self-reported helping behaviour  
506 scale (Penner et al., 1995), 6. One question about average weekly pornography consumption in hours,  
507 7. One question about the number of leadership positions in the last 5 years (see Table S4 in  
508 supplementary material for more details). All measures were standardised for analysis.

509

## 510 **4.5 Results**

### 511 **4.5.1 Preregistered analysis (correlations).**

512 Correlations of  $r \geq .15$  were significant at  $p < .05$  after applying correction for multiple  
513 comparisons (see Table 7 for complete overview of results). DoPL scales' correlations with DVs did not  
514 differ significantly across gender (see Table S5 in supplementary material). As predicted, D correlated  
515 small to moderately negatively with agreeableness,  $r = -.34$ , and positively with extraversion,  $r = .23$ . It  
516 did not correlate with neuroticism, openness, or conscientiousness,  $r_s < .10$ . Further, it correlated  
517 positively and strongly with both narcissistic admiration,  $r = .55$  (somewhat higher than expected), and  
518 rivalry,  $r = .64$ . As hypothesised, D correlated moderately with SDO,  $r = .34$ . Regarding other motives,  
519 D showed the predicted small positive correlations with achievement,  $r = .24$ , and fear of losing control,  
520  $r = .22$ . The correlations with affiliation desires,  $r = .33$ , and fear of losing reputation,  $r = .19$ , were  
521 somewhat higher than expected. As opposed to the predicted negative correlation, D showed a zero  
522 correlation with intimacy desires,  $r = .01$ . Regarding self-reported behaviour, D showed the predicted  
523 moderate to strong correlations with verbal aggression,  $r = .54$ , anger,  $r = .35$ , and porn consumption,  $r$   
524  $= .28$ . D did not correlate with helping behaviour,  $r = .04$ , and showed a small correlation with the  
525 number of leading positions in the last five years,  $r = .19$ .

526 Opposed to our prediction P did not correlate significantly with agreeableness, neuroticism, or  
527 openness,  $r_s < .12$ . Nonetheless, it showed the predicted small correlation with conscientiousness,  $r =$   
528  $.18$ , and a somewhat smaller-than-predicted correlation with extraversion,  $r = .29$ . P showed the  
529 expected strong and positive relationship with narcissistic admiration,  $r = .58$ , but also a stronger-than-  
530 expected relationship with narcissistic rivalry,  $r = .31$ . As hypothesised, P did not correlate with SDO,  
531  $r = .05$ . Further, as hypothesised, P correlated strongly with desires for affiliation, achievement, and fear  
532 of losing reputation,  $.53 < r_s < .56$ , and stronger than expected with desires for intimacy,  $r = .43$ , and  
533 the fear of losing control,  $r = .34$ . Following our predictions, P did not correlate with verbal aggression,  
534 anger, or porn consumption,  $r_s < .14$  and showed a small correlation with the number of leading  
535 positions,  $r = .23$ . The positive relationship between P and helping behaviour was somewhat smaller  
536 than expected,  $r = .19$ .

537 As hypothesised, L did not correlate with agreeableness,  $r = .11$ , correlated positively and  
538 strongly with extraversion,  $r = .52$ , and showed a negative but stronger-than-expected relationship with



539 neuroticism,  $r = -.41$ . Moreover, L correlated moderately with openness,  $r = .22$ , and conscientiousness,  
540  $r = .37$ . L was much stronger related to narcissistic admiration, than we expected,  $r = .56$ , and a little bit  
541 stronger than expected to narcissistic rivalry,  $r = .16$ ; however, showed the predicted small relationship  
542 with SDO,  $r = .15$ . Whereas L's relationships with desires for affiliation,  $r = .55$ , achievement,  $r = .55$ ,  
543 intimacy,  $r = .33$ , and the fear of losing reputation,  $r = .22$ , were all stronger than hypothesised, its  
544 relationship with the fear of losing control was smaller than expected,  $r = .03$ . L showed the hypothesised  
545 small correlation with verbal aggression,  $r = .21$ , but opposed to our prediction, no correlation with  
546 anger,  $r = .01$ . As hypothesised, L did not correlate with porn consumption,  $r = .00$ , but correlated  
547 moderately with helping behaviour,  $r = .32$ , and the number of leading positions,  $r = .42$ .

#### 548 **4.5.2 Exploratory analysis (regression models).**

549 To account for the shared variance among the DoPL motives, which is probably largely due  
550 to a general hope to gain power in all DoPL motives (see Study 1), we conducted linear regressions  
551 including all three DoPL motives as IVs and each nomological network variable as DV (see Table 7)<sup>7</sup>.  
552 These results can be understood as power desires unique to each DoPL motive and we will thus refer to  
553 them as residualised effects (cf., Vize et al., 2018). Here and in the following research we treat effect  
554 sizes of  $\beta = |0.05|$  as small,  $\beta = |0.25|$  as moderate, and  $\beta = |0.45|$  as large (Peterson & Brown, 2005).  
555 Accounting for the DoPL scales' shared variance generally augmented the differences between them.  
556 For example, whereas agreeableness,  $\beta = -0.56, p < .001$ , and intimacy desires,  $\beta = -0.29, p < .001$ , were  
557 negatively related to residualised D, they were positively related to residualised P & L,  $\beta_s > 0.21, p_s <$   
558  $.001$ . Whereas conscientiousness,  $\beta = -0.27, p < .001$ , and helping behaviour,  $\beta = -0.17, p = .030$ , were  
559 negatively related to residualised D, they were unrelated to residualised P,  $\beta_s = 0.09, p_s = 1$ , and  
560 positively related to residualised L,  $\beta = 0.46, p < .001$ , and  $\beta = 0.36, p < .001$ , respectively. Moreover,  
561 after controlling for shared variances, only residualised D predicted SDO,  $\beta = 0.37, p < .001$ , and verbal  
562 aggression,  $\beta = 0.58, p < .001$ , only residualised P predicted the fear of losing reputation,  $\beta = 0.58, p <$   
563  $.001$ , and only residualised L predicted extraversion,  $\beta = 0.51, p < .001$ , and the number of leading  
564 positions,  $\beta = 0.43, p < .001$ .

#### 565 **4.6 Discussion**

566 To locate the DoPL scales within their nomological networks we investigated their  
567 relationships with a range of relevant personality traits, attitudes, other motives, and self-reported  
568 behaviour. In line with our hypotheses the most distinct attributes of highly dominance motivated  
569 individuals were being disagreeable, verbally aggressive, often angry, interested in their in-group being  
570 superior to out-groups, and watching a significant amount of pornography. Highly leadership motivated  
571 individuals seemed to be very extraverted, emotionally stable, reported more helping behaviour, and  
572 held many leading positions in the last five years. Highly prestige motivated individuals showed the  
573 strongest fears to lose reputation, had high desires for intimacy, and, together with leadership motivated  
574 people, showed high desires for affiliation and achievement. Notwithstanding, some hypotheses could  
575 not be confirmed. Most strikingly, D & L were more strongly related to narcissistic admiration, P was  
576 more strongly related to narcissistic rivalry than we had hypothesised. This indicates people desiring  
577 power are generally more narcissistic than we had anticipated (cf. Zeigler-Hill et al., 2018). Whereas  
578 we had predicted L to relate to the fear of losing control and P being unrelated to it, P turned out to  
579 predict the fear of losing control; L did not. This seems to match a pattern of leadership motivated  
580 individuals being more self-confident (i.e., high emotional stability, only small fears of losing  
581 reputation) as compared to prestige motivated individuals (i.e., high fears of losing control and  
582 reputation; cf. Bischof, 2008). Moreover, we had predicted prestige motivated individuals to report more  
583 helping behaviour as this might signal higher morals and might thus increase others' admiration for them  
584 (e.g., Bai, 2017); nonetheless, this relationship was weak (see General Discussion).

585 When shared "hope for power" desires among the DoPL scales were accounted for, their  
586 relationships to the nomological network variables were somewhat more nuanced. For example, whereas  
587 in zero-order correlations only D related negatively to agreeableness, taking into account shared DoPL  
588 influences, residualised P and residualised L related positively to agreeableness while residualised D  
589 still predicted it negatively. This highlights weaker non-shared relationships of agreeableness with P and  
590 L (e.g., Cogliser et al., 2012; Garden et al., 2017). Whereas all DoPL motives related positively to  
591 extraversion and the number of leadership positions in zero-order correlations, all of this variance was  
592 explained by residualised L, indicating that residualised L predicted extraversion and leadership  
593 positions above and beyond D & P (cf. Costa & McCrae, 1992; Goldberg et al., 2006). Whereas both P

594 and L showed zero-order correlations with helping behaviour and D did not, after controlling for shared  
595 influences residualised D predicted helping behaviour negatively, residualised P was unrelated, and  
596 residualised L stayed positively related, which indicates specific antagonistic and prosocial tendencies  
597 in D & L, respectively (e.g., Cheng et al., 2010; Van Vugt, 2006). In sum, the DoPL scales showed  
598 many predicted and differential relationships with variables constituting their nomological networks,  
599 however, not all of our hypotheses could be confirmed and some differences only showed after shared  
600 desires for power had been controlled for. Thus, additional studies are needed to further delineate the  
601 DoPL scales' nomological network differences (Study 4) and to demonstrate the DoPL scales'  
602 discriminant and predictive validity (Studies 5 to 7).

## 5. Study 4: DoPL Motives and Moral Concerns

603  
604

605 To expand the DoPL scales' nomological networks, in particular regarding the prestige motive,  
606 we investigated the DoPL scales' relationship with self-reported moral concerns. Morals can be  
607 delineated along five trans-cultural foundations: caring for and not harming others (harm), being fair to  
608 others (fairness), favouring one's in-group (in-group), obeying authorities (authority), and abstaining  
609 from disgusting things/actions (purity; Graham et al., 2011; Haidt & Graham, 2007; Shweder, Much,  
610 Mahapatra, & Park, 1997). The propensity to hold these morals likely developed through evolutionary  
611 adaptations at a group level (e.g., Bai, 2017) as morals represented codes of conduct, which would have  
612 benefitted societies by aiding their maintenance and survival (e.g., Alexander, 2007). Thus, adaptive  
613 pressures might have selected for people valuing moral individuals (e.g., through voluntary  
614 deference/admiration) as well as for individuals to at least appear moral in order to reap these benefits  
615 (e.g., Bai, 2017; Cheng & Tracy, 2014). As this kind of reward represents strong incentives to prestige  
616 motivated people, we predicted P to be positively related to higher endorsement of moral concerns. We  
617 made no *a priori* predictions regarding D and L.

618

### 619 5.1 Method

#### 620 5.1.1 Participants.

621 Participants for this study came from sample #3, #4 and #5 (see Table 1), yielding a combined  
622 sample of  $n = 939$ .

#### 623 5.1.2 Material & procedure.

624 Moral concerns were measured with the Moral Foundation Questionnaire (MFQ; Graham et  
625 al., 2011) with 6 items per moral concern/foundation (e.g., "Compassion for those who suffer is the most  
626 crucial virtue." for the harm foundation). The DoPL scales were measured with the 10-items DoPL  
627 scales (sample #3 and #4) and the 6-items DoPL scales (sample #5), however, as with all other studies  
628 we only report results regarding the 6-items DoPL scales (i.e., 6 items per DoPL motive). All scales

629 were embedded in studies focussing on different research questions: Sample #3, the relationship between  
630 the DoPL motives and employment ranks (see Study 7) and differences in unconscious motives for  
631 dominance and prestige (reported elsewhere), sample #4, the relationship between power and moral  
632 disengagement (reported elsewhere); sample #5, the relationship between the DoPL motives and  
633 charitable giving (see Study 6) and employment ranks (see Study 7). Any experimental manipulation in  
634 these studies was performed after questionnaire data had been obtained. More information regarding all  
635 measures and procedures applied across all three samples can be found here: <https://osf.io/uxtq2/>. All  
636 measures were standardised for analysis.

637

## 638 **5.2 Results**

639 As previously found the DoPL scales correlated moderately with each other,  $.27 < r_s < .35$ ,  $ps$   
640  $< .001$ , and showed sufficient internal consistencies (Cronbach's  $as = .79$  to  $.89$ ). In line with the  
641 published literature (e.g., Graham et al., 2011) internal consistencies of moral concerns were somewhat  
642 lower (Cronbach's  $as = .65$  to  $.75$ ) and correlations ranged from uncorrelated to strongly correlated,  $.04$   
643  $< r_s < .68$  (see Table 8). After pooling all three samples P showed the predicted positive but small  
644 correlations with all five moral concerns,  $.10 < r_s < .25$ ,  $ps < .007$ . Whereas D correlated small and  
645 negatively with concerns for harm,  $r = -.18$ ,  $p < .001$ , and fairness,  $r = -.10$ ,  $p = .008$ , it correlated small  
646 and positively with concerns for ingroup, authority, and purity,  $.11 < r_s < .16$ ,  $ps < .008$ . L showed the  
647 same pattern with a small and negative relationship to harm concerns,  $r = -.07$ ,  $p = .046$ , a descriptively  
648 negative but non-significant relationship to fairness concerns,  $r = -.04$ ,  $p = .215$ , and small and positive  
649 relationships to concerns for ingroup, authority, and purity,  $.14 < r_s < .18$ ,  $ps < .001$  (see Table 9). DoPL  
650 scales' correlations with moral concerns did not differ significantly across gender (see Table S6 in  
651 supplementary material).

652 To account for the shared general hope to gain power among the DoPL motives (see Study 1)  
653 we conducted multiple regression models (model 0s) on each moral concern including all 3 DoPL  
654 motives simultaneously as predictors. Moreover to account for idiosyncrasies of individual samples we

655 compared each of these models with a model (model 1s) which additionally included 2 sum-contrast  
656 coded sample factors (to assess whether there were mean differences of moral concerns across samples)  
657 and a model (model 2s) which additionally included sample factors as well as interactions between  
658 sample factors and each DoPL motive (to assess whether the relationship between each DoPL motive  
659 and moral concerns differed across sample). With the exception of moral concerns for ingroup  $X^2$  model  
660 comparisons indicated that there were no mean differences in moral concerns and no differences  
661 between the relationships of DoPL motives and moral concerns across all three samples. For simplicity  
662 here we will only report DoPL coefficients of the besting fitting models (model 0s regarding moral  
663 concerns for harm, fairness, authority, and purity; model2 for ingroup).<sup>8</sup> The DoPL motives' residualised  
664 effects largely mirrored correlational findings. As before and as predicted residualised P related  
665 positively with small to moderate effect sizes to all moral concerns,  $0.07 < \beta_s < 0.21$ ,  $ps < .047$  (see  
666 Table 9). Residualised D still related negatively and small to moderately to concerns for harm,  $\beta = -$   
667  $0.23$ ,  $p < .001$ , and fairness,  $\beta = -0.15$ ,  $p < .001$  as well as small and positively to ingroup concerns,  $\beta =$   
668  $0.11$ ,  $p = .012$ . However, diverting from the correlational findings, residualised D did not relate to  
669 concerns for authority, and purity,  $\beta_s < 0.05$ ,  $ps > .169$ . Similar to correlational findings residualised L  
670 related negatively and with small effect sizes to concerns for harm,  $\beta = -0.08$ ,  $p = .016$ , and positively  
671 to concerns for ingroup,  $\beta = 0.14$ ,  $p = .005$ , authority,  $\beta = 0.10$ ,  $p = .003$ , and purity,  $\beta = 0.08$ ,  $p = .012$ ,  
672 as well as non-significantly to concerns for fairness,  $\beta = -0.06$ ,  $p = .083$  (see Table 9).

673

### 674 5.3 Discussion

675 Based on the assumption that having, or claiming to have, high moral standards would gain  
676 admiration and voluntary deference of others (i.e., prestige; Bai, 2017; Cheng & Tracy, 2014), we  
677 predicted highly prestige motivated individuals to indicate having higher moral concerns across all  
678 moral domains (cf., Graham et al., 2011). This hypothesis was confirmed for all 5 moral concerns for  
679 both zero-order and residualised P effects. Arguably the most important moral domain is being  
680 concerned about (not) harming others, as about half of moral incidents in our daily lives are concerned  
681 with this aspect (Hofmann, Wisneski, Brandt, & Skitka, 2014). This moral concern showed the most

682 striking differences among the DoPL motives as both zero-order and residualised effects of P related  
683 positively to it whereas both zero-order and residualised effects of D and L related negatively to it. This  
684 indicates the important and unique role of prestige among the DoPL motives when predicting the  
685 intersection of morality and power-relevant outcomes.

686           We had not made any hypotheses for D and L. Interestingly, their pattern of being negatively  
687 related to concerns for harm and fairness as well as being positively related to concerns for ingroup,  
688 authority, and purity mirrored the distinction between super-ordinate moral factors of individualising  
689 and binding (Graham et al., 2011). Whereas the individualising factor (harm, fairness) relates to a liberal,  
690 the binding factor (ingroup, authority, purity) relates to a conservative political ideology (Graham,  
691 Haidt, & Nosek, 2009). Nonetheless, given that not all relationships with the relevant moral concerns  
692 were statistically significant for both zero-order and residualised effects, as well as these findings being  
693 exploratory, future research must address whether there is a systematic pattern behind D, L, and the  
694 moral underpinnings of political ideology.

695  
696

## 6. Study 5: DoPL Motives and Dictator Game Behaviour

697 To demonstrate the DoPL scales' predictive validity beyond mere self-report measures we  
698 conducted three studies (Studies 5 to 7) focussing on more objective power correlates. In the present  
699 preregistered study (<https://osf.io/cmw75>), we examined the DoPL scales' relation to agonistic and  
700 retaliatory behaviour in a dictator game (DG). The DG is an economic decision problem in which one  
701 person, a dictator, is endowed with a certain amount of money (e.g., 3 GBP), which they need to split  
702 with another person, the receiver, who has no other choice than accepting this split (Kahneman, Knetsch,  
703 & Thaler, 1986). Proportions given in DGs have been found to relate negatively to dictators' general  
704 power motives (Baumert, Schlösser, & Schmitt, 2014; Schönbrodt & Gerstenberg, 2012). This might be  
705 due to dominance desires within the power motive, as by withholding money one exerts the kind of  
706 agonistic influence (i.e., forcing one's will upon others) desired by dominance motivated people (cf.  
707 Cheng & Tracy, 2014; Henrich & Gil-White, 2001). Additionally, if money was withheld from  
708 dominance motivated receivers, they should retain even more money in a consecutive DG playing as  
709 dictator. Such retaliatory behaviour (even when not directed at the original perpetrator; Sjöström &  
710 Gollwitzer, 2015) should serve to reinstate dictators' feelings of dominance (see motivational arousal;  
711 Heckhausen & Heckhausen, 2008) and relates to dominance proxies such as SDO (Gerber & Jackson,  
712 2013) and anger (Gollwitzer, Meder, & Schmitt, 2011). Hence, we predicted a negative relationship  
713 between D and proportions given in a DG (neutral condition); this effect should be augmented if  
714 dictators had not received any money in previous DGs (arousal condition).

715 Given results of a pilot study (see SOM for Study 5 in supplementary material) and the  
716 theoretically strongest relationship, we believed D to best predict DG behaviour. However, we also made  
717 predictions for weaker P and L effects. Based on the assumption that male leadership tends to be more  
718 self-centred and assertive as compared to female leadership (Eagly & Johnson, 1990; Moskowitz, Suh,  
719 & Desaulniers, 1994) and in the absence of potential prosocial influences of responsibility taking in  
720 anonymous 1:1 interactions, we predicted a negative relationship between L and proportions given in  
721 the DG in males but not in females. Regarding P, we hypothesised a positive relationship with



722 proportions given in the DG as this kind of altruistic behaviour might still signal a higher level of  
723 morality even in an anonymous DG context (e.g., Cheng & Tracy, 2014 & see Study 4).

## 724 **6.1 Method**

### 725 **6.1.1 Participants.**

726 Participants for this study came from sample #2 (see Table 1). The sample size ( $n = 250$ ) was  
727 determined by the smallest effect size for any DoPL motive in a pilot study (see SOM for Study 5 in  
728 supplementary material) of the DGs neutral condition.

### 729 **6.1.2 Material & procedure.**

730 This study was conducted online. After participants filled in the DoPL scales intermingled  
731 with UMS power, affiliation, achievement, intimacy (Schönbrodt & Gerstenberg, 2012), PRF  
732 dominance, and social recognition (Jackson, 1984; see Study 2), they were introduced to the DG.  
733 Participants were shown 10 examples of possible splits to make sure they understood the rules of the  
734 game. Participants were told that they would play four rounds of the DG with a 3 GBP stake: two rounds  
735 as receiver (the money would, ostensibly, come from the two persons that have filled in the survey just  
736 before them) and two rounds as dictator (the money would, ostensibly, go to the two people who would  
737 fill in the survey immediately after the participant). Note that we labelled the DG as an “economic  
738 exchange game” and dictators as “proposers” to avoid demand characteristics of highly dominant  
739 individuals. Participants were told that they would get paid all rewards as receiver and one randomly  
740 selected reward in the role of dictator. In reality they were paid a base-rate of 1 GBP as well as the  
741 amount of money won in the first DG played as dictator. The order of playing dictator and receiver roles  
742 was ostensibly randomised; however, the order was fixed as dictator, receiver, receiver, dictator. When  
743 participants played as receiver, they always received 0 GBP in order to create two conditions: A neutral  
744 condition when playing as dictator for the first time and an arousal condition when playing as dictator  
745 for the second time. After this participants were fully debriefed. All measures were standardised for  
746 analysis.

747

## 748 6.2 Results

749 While the DoPL scales correlated moderately with each other,  $.37 < r_s < .40$ ,  $ps < .001$ , the  
750 proportion given in the neutral condition correlated strongly with the proportion given in the arousal  
751 condition,  $r = .55$ ,  $p < .001$ . The only significant correlation among the DoPL motives and proportions  
752 given was a small and predicted negative relationship between D and the proportion given in the arousal  
753 condition,  $r = -.17$ ,  $p = .041$ . This means, following two DGs in which they received nothing, being  
754 more dominance motivated predicted giving less money to the receiver (see Table 10). DoPL scales'  
755 correlations with DVs did not differ significantly across gender (see Table S8 in supplementary  
756 material).

### 757 6.2.1 Preregistered analysis.

758 To investigate our predicted baseline and gender effects of the DoPL motives while  
759 simultaneously accounting for shared variance among them, we conducted a preregistered regression  
760 model with proportions given in the neutral condition as DV, DoPL motives, gender (effect coded: males  
761 = -0.5), and the two-way interactions between gender and the DoPL motives as IVs. Although all  
762 hypothesised residualised effects pointed in the predicted direction (D:  $\beta = -0.11$ ; P:  $\beta = 0.10$ ; L\*gender:  
763  $\beta = 0.10$ ) none were significant (all  $ps > .132$ ; see Table 11). Extending this model to include condition  
764 as a within-subject factor (effect coded: neutral = -.5; arousal condition = .5), all two way interactions  
765 between condition and the DoPL motives, and the interaction between condition and gender, we  
766 conducted a multilevel model with by-participant random intercepts and by-participant random slopes  
767 for condition (see Table 12)<sup>9</sup>. Residualised D showed the predicted negative and small relationship to  
768 proportions given averaged across both conditions,  $\beta = -0.14$ ,  $p = .026$ . However, it did not differ, as we  
769 had hypothesised, between conditions,  $\beta = -0.08$ ,  $p = .226$ . Besides a large effect of condition,  $\beta = -0.44$ ,  
770  $p < .001$ , showing participants gave far less money when aroused, no other effects reached significance,  
771  $ps > .226$ .

772

## 773 6.3 Discussion

774 To further demonstrate the DoPL scales' predictive and discriminant validity, we could show  
775 that only D predicted the proportion of money given in a DG. We proposed this effect of more  
776 dominance motivated dictators giving less to receivers to be due to the former behaving generally  
777 agonistically, and specifically vengefully after having been dominated (i.e., been withheld money; e.g.,  
778 Gerber & Jackson, 2013; Heckhausen & Heckhausen, 2008; Henrich & Gil-White, 2001). Despite our  
779 hypothesis neither individuals' D nor residualised D (i.e., after controlling for shared DoPL influences)  
780 significantly predicted their proportion given in the neutral condition but did after money had been  
781 withheld from them (i.e., in the arousal condition). However, as these dominance effects did not differ  
782 significantly between conditions, we believe D and residualised D predicting the proportion given in the  
783 arousal condition to be best explained by a combination of agonistic and retaliatory effects. Effects for  
784 P and L followed the predicted directions descriptively but were too small to be detected given our  
785 sample size (see Limitations in General Discussion). This was unsurprising as we believed the positive  
786 prestige effect, based on seeking admiration through prosocial behaviour (e.g., Bai, 2017), to be  
787 attenuated in the DG's anonymous 1:1 setting and the negative male leadership effect, based on male  
788 leadership being more self-centred (e.g., Moskowitz et al., 1994), to be somewhat spurious. In sum, this  
789 study adds to the DoPL scales' predictive validity by demonstrating the unique predictive validity of D  
790 in relation to agonistic and vengeful behaviour in the dictator game.

## 7. Study 6: DoPL Motives and Charitable Giving

791  
792

793           Here we investigated the DoPL scales' relationship with charitable donation behaviour. As we  
794 previously argued, prosocial behaviour such as donating money to charities should serve as a way to  
795 signal higher morality, which in turn should lead to individuals obtaining more admiration (Bai, 2017;  
796 Cheng & Tracy, 2014). As the latter represents a prestige incentive, highly prestige motivated  
797 individuals should display more donating behaviour. Congruently, we found that P and residualised P  
798 related positively to measured moral concerns (Study 4) and P, yet not residualised P, related positively  
799 to self-reported helping behaviour (Study 3). However, neither P nor residualised P predicted  
800 prosocial/generous giving in an anonymous dictator game (Study 5). To account for shortcomings in  
801 these previous studies, here we investigated actual donating behaviour instead of self-reports (i.e.,  
802 participants could donate part of their monetary reward for this study to a charity), made this behaviour  
803 overt as opposed to anonymous (i.e., participants' names could be displayed on a list of current top 15  
804 donors), and used a flexible Bayesian sampling procedure to be able to detect small but unknown effect  
805 sizes (Schönbrodt, Wagenmakers, Zehetleitner, & Perugini, 2017).

806           Although our main focus in this study was to validate P we also made hypotheses for D and  
807 L. Following previous reasoning we predicted D to be negatively related to charitable giving as this  
808 represents the self-serving, agonistic tendencies in dominance motivated people (cf. Cheng et al., 2010;  
809 Henrich & Gil-White, 2001 & see Study 5). Conversely, L should be positively related to donating  
810 behaviour as this might represent, other than in anonymous 1:1 dictator game contexts (see Study 5), a  
811 kind of responsibility taking appealing to leadership-motivated individuals (cf. Van Vugt, 2006; see also  
812 Study 3). We preregistered these hypotheses, the confirmatory statistical models to test them, as well as  
813 the sample size and rationale (<https://osf.io/7c8sn/>).

814

### 815 7.1 Methods

#### 816 7.1.1 Participants.

817 Participants for this study came from sample #5 ( $n = 550$ ; see Table 1).

### 818 **7.1.2 Preregistered study design & sample size rationale.**

819 We had preregistered this study to contain two experimental conditions (overt and covert  
820 donation condition) and used a sequential Bayes Factor (BF; Morey & Rouder, 2015; Schönbrodt et al.,  
821 2017) approach to sample as many participants as needed to detect an *a priori* unknown effect size for  
822 residualised P. Throughout we used standard “medium” wide priors based on a Cauchy distribution with  
823 scale parameter  $r = \sqrt{2}/4$  (Morey & Rouder, 2015). Using the amount donated by participants as DV,  
824 we first sampled within the overt donation condition aiming to reach predetermined thresholds of  $BF_{10}$   
825  $> 6$  for the model comparisons “intercept only” (H0a) vs. “intercept + dominance + prestige +  
826 leadership” (H1a) and “intercept + dominance + leadership” (H0b) vs. “intercept + dominance + prestige  
827 + leadership” (H1b), indicating that data are six times more likely under the H1 models than under the  
828 H0 models. As after reaching our maximum sample size of  $n = 550$  (predetermined by our budget), the  
829 BFs indicated, if anything, anecdotal evidence for the H0 ( $BF_{S_{10}} < 0.30$ ) we stopped sampling (i.e., we  
830 did not sample any participants in the covert condition). Hence, we could not conduct all of our  
831 preregistered statistical models and therefore conducted a more fine-grained exploratory analysis of the  
832 overt condition only. To increase robustness of these findings we only conducted Bayesian analyses  
833 which can be interpreted independent of sampling stops (e.g., Kruschke, 2015), however, as with all  
834 exploratory analyses any findings reported here have to be interpreted cautiously.

### 835 **7.1.3 Procedure & material**

836 This study was conducted online and was introduced as a survey on personality, employment  
837 positions, and opinions regarding charities. After filling in the 6-item DoPL scales (i.e., 6 items per  
838 DoPL motive) intermingled with 6-item versions of the UMS affiliation and intimacy scales (Schönbrodt  
839 & Gerstenberg, 2012), items to measure moral concerns (see Study 4) and employment ranks (see Study  
840 7), participants read a brief description of three real British humanitarian charities (e.g.,  
841 [www.childrenwithcancer.org.uk](http://www.childrenwithcancer.org.uk)). We then asked if they were to donate any money to a charity, which  
842 one of these charities they would choose. Following this we asked three decoy questions regarding the

843 chosen charity (e.g., “Have you ever donated money to this charity?”). In the overt condition participants  
844 then saw a list of the ostensible current top 15 donors who filled in this survey, with 15 fake names,  
845 locations, and the charity these people ostensibly had donated to. People on this list were ranked by the  
846 proportions of their earnings without displaying the donated amount, which, together with the list being  
847 updated after 4, 15, and 25 seconds, was intended to create the illusion that positions were still  
848 contestable. Following this, participants could choose to donate any proportion (in 10% increments) of  
849 their 1.20 GBP earnings of this study to their chosen charity and could then provide their name and  
850 location to be displayed in the list of top 15 donors. The covert condition would have been identical  
851 except without displaying the list and the option to provide one’s information. Immediately after this,  
852 participants were fully debriefed, informed that due to the deception no money had gone to their chosen  
853 charities and were paid the full 1.20 GBP. Nonetheless, we provided web links to all charities in case  
854 participants wanted to donate some money after all. All measures were standardised for analysis.

855

## 856 **7.2 Results**

857 DoPL motives (Cronbach’s  $\alpha$ s = .80 to .91) correlated moderately with each other,  $.33 < r_s <$   
858  $.38$ ,  $p_s < .001$ , but showed no significant zero-order correlations with the amount donated to charities, -  
859  $.08 < r_s < .07$ ,  $p_s > .186$  (see Table 13). DoPL scales’ correlations with the amount donated did not  
860 differ significantly across gender (see Table S11 in supplementary material).

### 861 **7.2.1 Preregistered analysis.**

862 To compare unique and shared DoPL motive relationships we conducted one model including  
863 all DoPL motives at the same time (to investigate residualised effects free from shared DoPL influences)  
864 and three models with each individual DoPL motive as IVs. Whereas the amount donated showed the  
865 predicted negative and small relationship with residualised D,  $M = -0.12$ , 95% ETI [-0.21, -0.03]<sup>10</sup>, it  
866 showed the predicted positive and small relationship with residualised L,  $M = 0.09$ , 95% ETI [0.00,  
867 0.18]. Residualised P only descriptively showed the predicted positive relationship with the amount

868 donated,  $M = 0.04$ , 95% ETI [-0.05, 0.13], (see Figure 1). None of the DoPL motives predicted the  
869 amount donated as individual IVs (see Table S12 in supplementary material).

### 870 **7.2.2 Exploratory analysis.**

871 For a more fine-grained exploratory analysis we conducted further Bayesian hurdle models  
872 with donating decision (0 = nothing donated, 1 = something donated) and, in the subsample of donators,  
873 amount donated as DVs. Whereas both P,  $M = 0.21$ , 95% ETI [0.02, 0.41], and residualised P,  $M = 0.25$ ,  
874 95% ETI [0.02, 0.47], related positively to the probability of donating, residualised D,  $M = -0.25$ , 95%  
875 ETI [-0.47, -0.04], but not D as an individual predictor,  $M = -0.10$ , 95% ETI [-0.31, 0.09], related  
876 negatively to the probability of donating. Both L,  $M = 0.17$ , 95% ETI [-0.02, 0.38], and residualised L,  
877  $M = 0.17$ , 95% ETI [-0.04, 0.37], were unrelated to the probability of donating (see Figure 1 & Table  
878 S13 in supplementary material). Moreover, neither residualised DoPL motives nor any DoPL motive as  
879 individual IV predicted the amount donated in the subsample of donators (see Table S14 in  
880 supplementary material).

881

### 882 **7.3 Discussion**

883 To further assess the DoPL scales' predictive validity we investigated their relationship with  
884 ostensibly overt charitable donating behaviour. Contrary to our prediction, higher prestige motivated  
885 individuals did not donate more of their earnings for this study. However, although P did not predict the  
886 amount individuals donated, both P and residualised P related positively to donating something vs  
887 nothing. This pattern of prestige motivated individuals showing only small degrees of prosocial  
888 behaviour appears across several studies (Study 3, 5, 6) and seems at odds with claims of having higher  
889 moral values (Study 4) and our thoughts that such behaviour is way to accrue prestige by signalling  
890 morality (e.g., Bai, 2017; Cheng & Tracy, 2014; see General Discussion for a potential explanation of  
891 these findings). Whereas residualised D showed the predicted, self-serving (e.g., Cheng & Tracy, 2014;  
892 Henrich & Gil-White, 2001; see Study 5), negative relationship with the donated proportion and the  
893 probability to donate at all, D as an individual predictor was unrelated to either DVs. Similar to the

894 finding that only after controlling for P and L, D negatively predicted self-reported helping behaviour  
895 (see Study 3), this might indicate that shared influences of P and L to some extent attenuate the kind of  
896 agonistic behaviour specific to D. Regarding L, only residualised L showed the predicted positive  
897 relationship with the amount donated, which we argued to represent a kind of responsibility taking for  
898 one's larger group: a leadership desire (cf. Van Vugt, 2006). Notably, residualised L did not predict the  
899 probability of donating; neither did L as an individual IV predict either of these DVs. This indicates that  
900 the prosocial effects of responsibility taking might be specific to leadership (i.e., not shared with D and  
901 P), but also somewhat weak, at least in this context. No effects showed when investigating the  
902 relationship between the DoPL motives and proportion given in the subsample of donors which might  
903 be explained by the generally small effects and the substantially reduced statistical power in this smaller  
904 subsample (550 vs. 138 participants). In summary, the DoPL scales showed some of the predicted  
905 relationships with charitable donating behaviour (i.e., P and L tending to be positively, D tending to be  
906 negatively related to donating); however, not all of our hypotheses could be confirmed. Moreover, given  
907 the exploratory nature of our analyses this study only provides a preliminary validation and further  
908 research is needed to confirm these results.



## 8. Study 7: DoPL Motives and Employment Ranks

909  
910

911 To show the DoPL scales' predictive validity specifically regarding L in this study we  
912 investigated L's relationship with the amount of directive power and responsibilities in companies (i.e.,  
913 employment ranks) taking into account gender and national differences (i.e., between the US and UK).  
914 As strong desires to obtain specific states predict their attainment (Sheldon & Schöler, 2011), and higher  
915 employment ranks should satisfy L's desire for directive power and taking responsibility for one's group  
916 (cf., Van Vugt, 2006) we hypothesised a strong relationship between L and employment ranks. Given  
917 gender discrimination in promotion (e.g., stricter performance standards for females, Lyness & Heilman,  
918 2006; mismatching stereotypes of how women and how leaders 'ought' to be, Eagly & Karau, 2002;  
919 Heilman & Eagly, 2008), we hypothesised female leaders would need to compensate for this by being  
920 more motivated than male counterparts of equal rank; thus, we predicted a stronger relationship between  
921 employment ranks and L for females than males. Although L should be the strongest DoPL component  
922 both D and P might also show somewhat weaker relationships with higher employment ranks as they  
923 provide a source of coercive power (i.e., a superior can to some degree force an employee to do a task)  
924 and admiration (e.g., Cheng et al., 2010).

925

### 926 8.1 Method

#### 927 8.1.1 Participants.

928 Participants were full-time employees of various professions (e.g., sales assistant, manager,  
929 lecturer, accountant, soldier) from the US (sample #4,  $n = 278$ ) and the UK (sample #5,  $n = 550$ ; see  
930 Table 1).

#### 931 8.1.2 Material & procedure.

932 Employment ranks corresponded to the number of affirmations of 11 yes-or-no questions  
933 regarding a person's influence in their company (e.g., "Do you have people reporting to you within the  
934 organisation?" or "Do those that report to you have people working for them?", Odey, 2016; see Table

935 S15 in supplementary material). DoPL motives were measured by the 6-item DoPL scales (i.e., 6 items  
936 per DoPL motive). All scales were embedded in online surveys and data was collected before any  
937 experimental manipulation occurred. Whereas sample #4 was collected to investigate the relationship  
938 between DoPL motives and moral disengagement (Odey, 2016), sample #5 was collected to investigate  
939 DoPL differences in predicting moral concerns (see Study 4) and in charitable giving (see Study 7). A  
940 full description of all measures and procedures used in both studies can be found here  
941 <https://osf.io/uxtg2/>. DoPL scores were standardised for analysis.

942

## 943 **8.2 Results**

944 Correlations between DoPL motives were small to moderate in both samples,  $.17 < r_s < .33$ ,  
945  $p_s < .015$ , with the exception of a zero-correlation between D and L in the US sample,  $r = .09$ ,  $p = .131$   
946 (see Table 14). D and P were small and positively related to employment ranks in the UK sample,  $.12 <$   
947  $r_s < .17$ ,  $p_s < .005$ , but not in the US,  $r_s = -.05$ ,  $p_s > .373$ . L was moderately positively related to  
948 employment ranks in both samples,  $r_{US/UK} = .28/.47$ ,  $p_s < .001$  (see Table 14). The only significant  
949 gender difference across DoPL scales' correlations with employment ranks was a stronger correlation  
950 of L for females than males in the US  $r_{diff} = .45$ ,  $p < .001$  (see Table S16 in supplementary material).  
951 The only significant mean motive differences across genders were higher D scores for males in the UK,  
952  $M_{diff} = 1.26$ ,  $t(526.61) = 2.74$ ,  $p = .006$ ,  $d = 0.23$ , and higher P scores for females in the US sample,  $M_{diff}$   
953  $= 1.41$ ,  $t(182.54) = 2.48$ ,  $p = .014$ ,  $d = 0.31$ . Notably, mean L scores did not differ across genders in  
954 either sample ( $p_s > .119$ ; see Table S17 in supplementary material).

955 To investigate residualised and gender effects we conducted quasipoisson regression models  
956 (due to employment rank being count data) for each sample with DoPL motives, effect coded gender  
957 variables (men =  $-.5$ ; women =  $.5$ ), and two-way interactions between each DoPL motive and gender as  
958 predictors (see Table S18 in supplementary material). Across both samples residualised L showed the  
959 hypothesised positive and moderately sized relationship with employment ranks,  $b_{US/UK} = 0.30/0.39$ ,  $p_s$   
960  $= <.001$ ,  $R_{\Delta}^2 = .12/.19$ .<sup>11</sup> Moreover significant small sized residualised L\*gender interactions,  $b_{US/UK} =$   
961  $0.43/0.14$ ,  $p_{US/UK} = <.001/.026$  (one-tailed),  $R_{\Delta}^2 = .05/.003$ , indicated that, as predicted, this relationship

962 was stronger for females than for males (see Figure 2). Note, whereas this interaction held for L as an  
963 individual predictor (i.e., not accounting for shared DoPL influences) in the US sample,  $b = 0.42$ ,  $p <$   
964  $.001$ , it did not in the UK sample,  $b = 0.10$ ,  $p = .146$  (see Table S19 in supplementary material). In both  
965 samples there were small to moderately sized gender differences in employment ranks with males having  
966 higher ranks than females,  $b_{US/UK} = -0.45/-0.16$ ,  $p_{US/UK} = <.001/.017$ ,  $R_{\Delta}^2 = .07/.01$ . Moreover, opposed  
967 to our prediction, across both samples neither residualised D nor residualised P predicted employment  
968 ranks,  $-0.08 < bs < 0.02$ ,  $ps > .084$  (see Table S18 in supplementary material).

969

### 970 **8.3 Discussion**

971 In two samples (US & UK), full-time employees with higher employment ranks had higher L  
972 and residualised L scores, which we proposed to be due to higher employment ranks offering leadership-  
973 specific rewards (e.g., Van Vugt, 2006). Moreover, we had predicted and found these relationships to  
974 be stronger for females than males, putatively because women had to work harder to overcome gender-  
975 specific difficulties as employees (e.g., Lyness & Heilman, 2006). Note though that this gender effect  
976 did not reach significance for L as an individual predictor in the UK sample and given bigger gender-  
977 specific effect sizes in the US further studies are needed to explore potential national idiosyncrasies.  
978 Although higher employment ranks arguably hold dominance and prestige incentives (e.g., Cheng et al.,  
979 2010), we only found the predicted small positive relationships between employment ranks and D & P  
980 in the UK but not the US sample. Moreover, in both samples residualised D and residualised P did not  
981 predict employment ranks indicating that specific D or P desires are not beneficial to obtaining higher  
982 employment ranks. Across both samples women had lower employment ranks than men, which mirrors  
983 contemporary surveys (e.g., World Economic Forum, 2016) and which has been attributed to women  
984 generally having lower power desires than men (e.g., Gino, Wilmoth, & Brooks, 2015; Schuh,  
985 Hernandez, Frieg, & Dick, 2014). Nonetheless, given the DoPL scales' differentiated approach to  
986 analysing power desires, we show that women only deviated in the largely irrelevant D & P components  
987 but not L, rendering this explanation unlikely. More to the point, at least in the US sample, women had  
988 significantly higher leadership desires than men of equal rank, despite being under-represented at those

989 ranks. In sum, L and residualised L positively related to directive power and responsibility in companies  
990 (i.e., employment rank). D & P showed no unique predictive value in this regard.

## 9. General discussion

991  
992           The power motive is an important determinant of power-relevant behaviour (e.g., Schmalt &  
993 Heckhausen, 2008; Schönbrodt & Gerstenberg, 2012; Winter, 1973). However, given its broad  
994 definition, different conceptualisations of the same motive have shown diverging associations (e.g.,  
995 Engeser & Langens, 2010). To provide scholars with a unitary taxonomy of social power motives, we  
996 proposed and preliminarily validated an account of dominance, prestige, and leadership (DoPL) motives  
997 based on recent delineations of social hierarchies (e.g., Cheng & Tracy, 2014; Henrich & Gil-White,  
998 2001; Magee & Galinsky, 2008; Van Vugt, 2006). Across multiple studies we showed the DoPL motives  
999 could be measured both reliably and distinctively (Study 1) but were also strongly related to a common  
1000 desire for power (Study 2). Assessing the DoPL scales' nomological networks (Study 3 & 4)  
1001 demonstrated that the dominance motive (D, i.e., the desire to coerce others into adhering to one's will)  
1002 related most distinctively to SDO, anger, verbal aggression, antagonism, and porn consumption. The  
1003 prestige motive (P, i.e., the desire to obtain admiration and respect) related most distinctively to the fear  
1004 of losing reputation and claiming to have higher moral concerns. The leadership motive (L, i.e., the  
1005 desire to take responsibility in and for one's group) related most distinctively to extraversion, emotional  
1006 stability, helping behaviour, and the number of leadership positions held. Furthermore, while D uniquely  
1007 predicted agonistic/retaliatory behaviour in dictator games (Study 5), L uniquely predicted the  
1008 attainment of higher employment ranks in various professions (Study 7). Finally, we found that, at least  
1009 to some degree, P & L related positively, and D negatively to prosocial donating behaviour (Study 6).  
1010 In sum, across multiple studies using both correlational and mixed experimental designs, we found  
1011 significant support for the DoPL account of social power motives.

1012           One example illustrating the benefits of this differential DoPL motive account is its nuanced  
1013 predictions and findings regarding prosocial behaviour. Although Bischof (2008) argued that behaving  
1014 prosocially might be beneficial to increase one's dominance by means of binding another person to  
1015 oneself, our research suggests that D, especially when freed from shared P & L influences, relates  
1016 generally negatively to prosocial behaviour (i.e., self-reported helping behaviour, giving behaviour in  
1017 dictator games, and charitable donating; cf. Cheng & Tracy, 2010). The relationship of prosocial  
1018 behaviour with L might be strongly situationally dependent. Following our theory, situations that

1019 represented a responsibility taking for one's group fostered prosocial behaviour (i.e., self-reported  
1020 helping behaviour, charitable donations); anonymous 1:1 situations did not (i.e., dictator game  
1021 behaviour). Regarding P, scholars have argued that displaying higher morals aids gaining other people's  
1022 admiration (e.g., Bai, 2017; Cheng & Tracy, 2014) and indeed we found P related positively to *claiming*  
1023 to have stronger moral concerns across a range of domains. Somewhat contrarily though, prestige  
1024 motivated individuals only weakly demonstrated their morality via prosocial behaviour (e.g., P predicted  
1025 the probability to donate but not the amount). Conscious or unconscious cost/benefit analyses might  
1026 explain this discrepancy; though prosocial behaviour may yield more admiration (e.g., Hardy & Van  
1027 Vugt, 2006), such reputational gains may not increase linearly with its costs (e.g., spending money or  
1028 time). This resembles moral licensing, an effect where establishing moral credentials increases the  
1029 likelihood of repeated moral transgressions (e.g., Merritt, Effron, & Monin, 2010; Miller & Effron,  
1030 2010). In other words, we propose that once prestige motivated individuals felt they affirmed their own  
1031 morality they only very weakly followed through on it.

1032 Differential predictions of prosocial behaviour are just one of the DoPL account's many  
1033 merits. For example, long linked solely to aggression, researchers recently showed that testosterone  
1034 predicted both aggressive as well as cooperative behaviour (Dreher et al., 2016; Eisenegger, Naef,  
1035 Snozzi, Heinrichs, & Fehr, 2010) putatively because testosterone fuelled desires to attain higher ranks  
1036 in social hierarchies (Eisenegger, Haushofer, & Fehr, 2011). The DoPL theory could provide useful  
1037 predictions here: Experimentally increasing testosterone should yield behaviour in line with a person's  
1038 most prominent DoPL desire. Moreover, the DoPL account could be used to extend the influential  
1039 dominance vs prestige account of social hierarchies (e.g., Cheng & Tracy, 2014; Henrich & Gil-White,  
1040 2001). Whereas in this account leadership is sometimes seen as equivalent to dominance or prestige  
1041 ranks with leaders only wielding their specific dominance or prestige power (e.g., only punish or reward;  
1042 Cheng, Tracy, Foulsham, Kingstone, & Henrich, 2013; Maner & Mead, 2010), other times leadership is  
1043 differentiated from mere high ranks and leaders are proposed to have all kinds of power (e.g., Cheng et  
1044 al., 2013; Henrich, Chudek, & Boyd, 2015). The DoPL theory could provide clarity here by  
1045 distinguishing leadership from mere high rankings and offering that leaders hold an additional kind of

1046 power (legitimised by the need to attain a common goal) which conceivably allows both punishment  
1047 and reward of followers.

## 1048 **9.1 Limitations**

1049 It is important to note that this work only represents a first validation of the newly developed  
1050 DoPL account. Though we confirmed many of the DoPL motives' predicted relationships with external  
1051 variables, not all relationships followed our hypotheses. For example, all DoPL motives showed  
1052 somewhat stronger-than-expected relationships with narcissism; D and residualised D only related  
1053 negatively to giving behaviour in a dictator game after being aroused; P and residualised P related  
1054 generally more weakly to prosocial behaviour than predicted. Moreover, in studies 5 to 7 (determining  
1055 the DoPL scales' predictive validity), we hypothesised one particular DoPL aspect would have the  
1056 strongest relationship and hypothesised weaker relationships for the other two. Whereas in Study 5 and  
1057 7 the focal DoPL motives largely followed our predictions, the respective other two motives only  
1058 showed descriptive tendencies in the hypothesised directions; indicating small effects that might be  
1059 covered up by insufficient sample sizes. Moreover, Study 6's results can only be regarded as exploratory  
1060 as we could not completely follow our preregistered study plan and statistical evidence of effects was  
1061 inconsistent, depending on which proxy of donating behaviour was used (e.g., total amount donated vs  
1062 probability to donate) and whether shared DoPL influences were controlled for or not. Finally, although  
1063 the DoPL scales represent distinct components of the power motive they all share a common core and  
1064 thus, in some cases, related to external variables very similarly (vector correlations of all correlations  
1065 regarding the DoPL scales reported in studies 3 to 7 were moderate to strong:  $r_{DP} = .47$ ;  $r_{DL} = .43$ ;  $r_{PL} =$   
1066  $.66$ ; Rauthmann, Horstmann, & Sherman, 2018). Therefore future studies are needed to further delineate  
1067 more precise differences in the DoPL scales' nomological networks and outcomes, and determine the  
1068 moderators and processes underlying these differences.

1069 Additionally, we want to stress that the DoPL account neither provides the only possible  
1070 taxonomy of power desires nor their highest possible level of differentiation. For example, D combines  
1071 aspects of autonomy desires (e.g., not wanting to be dominated; cf., Lammers, Stoker, Rink, & Galinsky,  
1072 2016) with desires for agonistic influence (e.g., wanting to dominate others). P contains both desires for

1073 admiration and respect. Recently, Bai (2017) has argued that although both admiration and respect yield  
1074 voluntary deference, the former might be obtained by displaying one's morality and the latter by  
1075 displaying one's valuable skills and knowledge. Whereas in this research we conceptualised L as a desire  
1076 to actively claim a leadership position, Chan & Drasgow (2001) showed that in some cases leadership  
1077 desires can be more passive (e.g., wanting to lead when being asked) or based on cost/benefit analyses  
1078 (e.g., only wanting to lead if there are no repercussions). Moreover, exploratory analyses of a much  
1079 wider range of power-relevant questionnaire items might reveal as yet unknown subcomponents (e.g.,  
1080 Dhimi, Hertwig, & Hoffrage, 2004). Ultimately, any taxonomy of power desires represents a trade-off  
1081 between covering a wide range of such desires and being able to make precise/nuanced and meaningfully  
1082 different predictions regarding each of them. We believe the DoPL account provides a good balance.  
1083 More precisely, as the DoPL account explains more than 80% of variance in established power motive  
1084 scales, it provides sufficient coverage of power desires by still being embedded in a well-founded  
1085 theoretical framework (cf., Cheng & Tracy, 2014; Henrich & Gil-White, 2001; Magee & Galinsky,  
1086 2008; Van Vugt, 2006). Ever more fine-grained differentiations likely yield increasingly similar results;  
1087 thus, to determine unique differences would require increasingly bigger sample sizes. Moreover, further  
1088 research would have to show that these differences provide practical value (e.g., does behaviour  
1089 meaningfully change whether one desires to be admired as opposed to be respected?). Components of  
1090 the DoPL account predict power-relevant variables in a meaningfully different manner and at the same  
1091 time only requiring reasonable sample sizes. In sum, although further differentiations of power desires  
1092 are undoubtedly possible, we believe the DoPL account currently provides the best combination of range  
1093 of power desires measured and precision of meaningful predictions.

## 1094 **9.2 Recommendations for Other Researchers**

1095         As we provide several scales for several motives, scholars might be unsure which one to use  
1096 in which scenario. All 10-, 6-, and 4-item DoPL scales show respectable model fits and high internal  
1097 consistencies, thus all could be used. Nonetheless, as the 6-item scales (i.e., 6 items per DoPL motive)  
1098 show the best model fit we generally recommend using these. Although all DoPL scales share a common  
1099 desire for power we do not recommend computing a single power motive sum score as this might cover



1100 up important differences between these motives (cf. Murray et al., 2015). Rather, we recommend to  
1101 always assess all DoPL motives and report zero-order correlations with the desired DVs as well as  
1102 regression coefficients controlling for shared DoPL influences (e.g., Vize et al., 2018).

### 1103 **9.3 Conclusion**

1104           Throughout human history influential people such as political leaders, scientists, teachers, and  
1105 managers have impacted our lives. Whereas sometimes this influence has arguably been self-serving or  
1106 socially regressive, other times it has been prosocial and responsible. In order to predict socially  
1107 regressive agents' behaviour as well as promote responsible leadership it is important to understand the  
1108 motives underlying such behaviour. The DoPL account of social power motives provides a potent  
1109 framework towards this goal and we hope it inspires further investigations in this important field of  
1110 research.

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## 1489 Tables

1490 Table 1. List of all 5 samples of participants used in studies for the DoPL scales' confirmatory factor analysis (1), assessing the DoPL scales' relationship  
 1491 with other power motive scales (2), investigating the DoPL scales' nomological net (3) and relationship to morality (4), giving behaviour in dictator games (5),  
 1492 charitable donating behaviour (6), the relationship between the DoPL scales and employment ranks (7). Full codebooks regarding each sample can be accessed  
 1493 here: <https://osf.io/uxtq2/>

Sample number	Final n (n excluded)	Females	M <sub>age</sub>	SD <sub>age</sub>	Kind of sample	Reimbursed with	Used in study	Sample size rationale
1	400 (40) <sup>a,b</sup>	187	36.98	11.69	Online platform (MTurk), restricted to UK and US	1 USD or equivalent in GBP	1,2,3	To find small effects of $r = .20$ with $\beta = .80$ in 57 correlations constituting the DoPL scales' nomological net, we needed approximately 400 participants when applying Bonferroni-Holm correction for multiple testing.
2	250 (14) <sup>a</sup>	111	29.88	10.62	Online platform (profilic.ac), restricted to UK	1 GBP + winnings in study	2,5	By using a pilot study (see SOM for Study 5 in supplementary material) we determined that we would need 250 participants to find the smallest proposed effect (3% of variance explained) with $\beta = .80$ .
3	111 (0)	72	22.58	3.48	Student sample	4 GBP	4	Maximum sample size given our budget.
4	278 (0)	81	36-45 <sup>d</sup>	-	Full-time employees in the US contacted via email	-	4,7	Maximum sample size given timeframe of data collection.
5	550 (55) <sup>c</sup>	300	36.69	10.00	Online platform (profilic.ac), restricted to full-time employees in the UK	1.20 GBP	4,6,7	Based on reaching credibility threshold using Sequential Bayes Factors (SBF; Schönbrodt et al., 2017), however, in the absence of reaching this threshold stopped at predetermined maximum sample size of 550 participants (for more information see Study 6).

1494 Exclusions based on attention checking questions a) "It is better to do good than to do bad." (widely used in Moral Foundation Questionnaire, MFQ, 2017, [www.moralfoundations.org](http://www.moralfoundations.org), by Graham et al., 2011), b) "I have been  
 1495 on the moon", & c) "Please answer this question with 'Strongly agree' ". d) This represents the median age bracket, as age was only assessed in age brackets of ten years. SD could not be calculated.

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Table 2. Zero-order correlations of 10, 6, and 4-item version for each DoPL scale in subdiagonal and separately for male/female in superdiagonal. Mean

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and [SD] of sum scores in diagonal. Significant effects in bold after applying Bonferroni-Holm correction. No correlations differed significantly across gender.

	Dominance 10	Prestige 10	Leadership10	Dominance 6	Prestige 6	Leadership 6	Dominance 4	Prestige 4	Leadership 4
Dominance 10	25.03 [8.89]	<b>.46/.39</b>	<b>.53/.51</b>	<b>.98/.97</b>	<b>.47/.37</b>	<b>.51/.49</b>	<b>.95/.94</b>	<b>.49/.37</b>	<b>.51/.48</b>
Prestige 10	<b>.42</b>	37.66 [8.07]	<b>.53/.42</b>	<b>.47/.38</b>	<b>.97/.96</b>	<b>.50/.39</b>	<b>.44/.34</b>	<b>.94/.93</b>	<b>.52/.40</b>
Leadership 10	<b>.53</b>	<b>.48</b>	34.18 [11.50]	<b>.51/.49</b>	<b>.51/.43</b>	<b>.99/.99</b>	<b>.47/.44</b>	<b>.50/.41</b>	<b>.98/.97</b>
Dominance 6	<b>.97</b>	<b>.42</b>	<b>.50</b>	15.46 [5.71]	<b>.47/.34</b>	<b>.48/.47</b>	<b>.96/.96</b>	<b>.49/.34</b>	<b>.49/.46</b>
Prestige 6	<b>.40</b>	<b>.97</b>	<b>.47</b>	<b>.39</b>	22.11 [5.35]	<b>.48/.40</b>	<b>.45/.30</b>	<b>.97/.97</b>	<b>.51/.40</b>
Leadership 6	<b>.50</b>	<b>.45</b>	<b>.99</b>	<b>.48</b>	<b>.44</b>	20.77 [7.16]	<b>.44/.41</b>	<b>.46/.39</b>	<b>.99/.98</b>
Dominance 4	<b>.95</b>	<b>.38</b>	<b>.46</b>	<b>.96</b>	<b>.36</b>	<b>.43</b>	9.60 [3.91]	<b>.46/.31</b>	<b>.45/.40</b>
Prestige 4	<b>.43</b>	<b>.94</b>	<b>.46</b>	<b>.41</b>	<b>.97</b>	<b>.43</b>	<b>.39</b>	14.00 [4.01]	<b>.49/.39</b>
Leadership 4	<b>.50</b>	<b>.47</b>	<b>.98</b>	<b>.48</b>	<b>.46</b>	<b>.99</b>	<b>.43</b>	<b>.44</b>	13.96 [4.92]
Cronbach's $\alpha$	.90	.87	.96	.86	.83	.94	.83	.83	.92

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All correlations significant at  $p < .001$ .

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1502 Table 3. Statement and *goal (in italics)* items of the DoPL scales with factor loadings of the 10-, 6-, and 4-item scales based on CFA (first loadings of  
 1503 each scale fixed to 1). ABCD denotes the affective, behavioural, cognitive, and desire aspect (Wilt & Revelle, 2015), items with # are reverse scored. Note, that  
 1504 we added the word resume to the original prestige motive item “I like it when others compliment me on my curriculum vitae.” after finishing data collection to  
 1505 ease understanding especially for non-academic American-English speakers. The items translated into German showed the same three-factor structure as tested in  
 1506 a dataset provided by Lübke and Schönbrodt (in prep).

Motive	English	German	10 – Item loadings	6 – Item loadings	4 – Item loadings	ABCD
Dominance	I enjoy bending others to my will.	Ich genieße es, andere meinem Willen zu unterwerfen.	1.00	1.00	1.00	A
	I am willing to use aggressive tactics to get my way.	Ich bin bereit aggressive Strategien anzuwenden, um meinen Willen durchzusetzen.	1.19	1.21	1.14	B
	When people challenge me I want to put them down hard.	Wenn mich Leute herausfordern, will ich sie demütigen.	1.07	1.07	1.00	D
	I want to twist others around my little finger.	Ich will andere um meinen Finger wickeln.	0.90	0.90	0.89	D

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	I often try to get my own way regardless of what others may want.	Ich versuche oft meinen eigenen Willen durchzusetzen, unabhängig davon was andere wollen.	1.07	1.10		B
	I try to control others rather than permit them to control me.	Ich versuche, andere unter meinen Einfluss zu bekommen, anstatt zuzulassen, dass sie mich kontrollieren.	0.95	1.01		B
	It's not good to dominate others.#	Es ist nicht gut andere zu dominieren.#	0.76			C
	I enjoy manipulating others.	Ich genieße es, andere zu manipulieren.	0.84			D
	Putting people in their place is often necessary.	Es ist oft notwendig andere Leute in ihre Schranken zu weisen.	1.00			C
	<i>Getting others to do what I want.</i>	<i>Andere Leute dazu bringen, das zu tun, was ich will.</i>	1.05			D
Prestige	I feel sad if nobody recognises my unique talents and abilities.	Es macht mich traurig, wenn niemand meinen besonderen Fähigkeiten und Talenten Beachtung schenkt.	1.00	1.00	1.00	A

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I am happy when I can present my achievements to others.	Es macht mich glücklich, wenn ich anderen meine erfolgreichen Leistungen präsentieren kann.	1.06	1.07	1.02	A
<i>Recognition from others.</i>	<i>Anerkennung von anderen Menschen.</i>	1.35	1.40	1.44	D
<i>Be respected and admired by other people.</i>	<i>Von anderen Leuten respektiert und bewundert werden.</i>	1.26	1.33	1.31	D
Success means being respected.	Erfolg bedeutet respektiert zu werden.	0.90	0.88		C
I often share with others when I achieved something great.	Ich erzähle oft anderen davon, wenn ich etwas Tolles erreicht habe.	0.73	0.74		B
I like it when others compliment me on my curriculum vitae/resume.	Ich mag es, wenn mir jemand ein Kompliment zu meinem Lebenslauf macht.	0.87			A
I am willing to work harder if this earns me more recognition from others.	Ich bin bereit härter zu arbeiten, wenn mir das mehr Anerkennung von anderen einbringt.	1.00			B

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	Being unnoticed by others is a terrible thing.	Von anderen nicht beachtet zu werden ist eine schlimme Sache.	1.00			C
	I am happy to do people favours as long as they respect me.	Ich tue anderen Leuten gerne einen Gefallen, solange sie mich respektieren.	0.50			B
Leadership	I relish opportunities in which I can lead others.	Ich genieße Situationen, in denen ich andere anführen kann.	1.00	1.00	1.00	A
	I have little interest in leading others.#	Ich habe nur wenig Interesse daran, andere zu führen.#	1.03	1.02	1.00	D
	I feel confident when directing the activities of others.	Ich fühle mich in meinem Element, wenn es darum geht, die Tätigkeiten anderer zu leiten.	1.03	1.06	1.07	A
	I make a good leader.	Ich bin ein guter Anführer.	1.09	1.12	1.13	C
	I am often the leader.	Ich bin oft der Anführer.	1.05	1.05		B
	I avoid positions with responsibility over others.#	Ich vermeide Positionen, in denen ich Verantwortung über andere habe.#	0.88	0.89		B

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I like to be in charge of others.	Ich mag es, für andere verantwortlich zu sein.	1.00	D
I do not enjoy having authority over other people.#	Ich mag es nicht anderen übergeordnet zu sein.#	0.88	A
When things need to be changed in the group, I step up and do it.	Falls sich etwas in meiner Gruppe ändern muss, nehme ich das in die Hand.	0.81	B
<i>Strong leadership.</i>	<i>Starke Führung.</i>	1.08	C

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1508 Table 4. Fit indices for CFAs with the 10-, 6-, and 4-item versions of the DoPL scales (CFA10,  
 1509 CFA6, CFA4) forcing a 3-factor solution, several 2-factor solutions based on the 6-item versions of the  
 1510 DoPL scales (CFA6DP, CFA6PL, CFA6DL), a 1-factor solution based on the 6-item versions of the  
 1511 DoPL scales (CFA6SI), a 3-factor solution with an additional bifactor onto which all items loaded based  
 1512 on the 6-item versions of the DoPL scales (CFA6BI).

Name	Latent variables	# of items	CFI	TLI	RMSEA	SRMR
CFA10	Dominance, prestige, leadership	30	0.884	0.874	0.075	0.066
CFA6	Dominance, prestige, leadership	18	0.931	0.920	0.075	0.056
CFA4	Dominance, prestige, leadership	12	0.946	0.930	0.085	0.049
CFA6DP	Combined dominance & prestige latent variable, leadership	18	0.790	0.760	0.129	0.102
CFA6PL	Combined prestige & leadership latent variable, dominance	18	0.784	0.754	0.131	0.112
CFA6DL	Combined dominance & leadership latent variable, prestige	18	0.790	0.760	0.129	0.102
CFA6SI	Latent variable with loadings on all items	18	0.647	0.600	0.167	0.139
CFA6BI	Dominance, prestige, leadership, latent variable (bifactor) with loadings on all items	18	0.945	0.928	0.071	0.047

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1518 Table 5. Zero-order correlations between DoPL scales, two power motive scales (UMS power  
 1519 & PRF dominance), and PRF social recognition. Cronbach's  $\alpha$  was between .81 and .94 for all scales.  
 1520 Mean and [SD] of sum scores in diagonal. Significant effects in bold after applying Bonferroni-Holm  
 1521 correction.

	DoPL dominance	DoPL prestige	DoPL leadership	UMS power	PRF dominance	PRF social recognitio n
DoPL dominance	16.58 [5.99]					
DoPL prestige	<b>.41</b>	22.89 [5.39]				
DoPL leadership	<b>.44</b>	<b>.43</b>	21.10 [6.92]			
UMS power	<b>.64</b>	<b>.59</b>	<b>.85</b>	33.77 [11.21]		
PRF dominance	<b>.47</b>	<b>.39</b>	<b>.89</b>	<b>.83</b>	55.66 [12.71]	
PRF social recognition	<b>.23</b>	<b>.64</b>	<b>.24</b>	<b>.38</b>	<b>.25</b>	51.01 [9.99]

1522 All correlations significant at  $p < .001$ .

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1524 Table 6. Explained variance and commonality analysis of UMS power (Table 6a) and PRF  
 1525 dominance (Table 6b) with the DoPL scales.

1526 Table 6a.

UMS power as dependent variable		
	DoPL Overall $R^2$	0.84
	Unique Variance	Total Variance
DoPL dominance	6%	41%

DoPL prestige	3%	35%
DoPL leadership	29%	72%

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Table 6b.

PRF dominance as  
dependent variable

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DoPL Overall $R^2$	0.81
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	Unique Variance	Total Variance
DoPL dominance	2%	22%
DoPL prestige	0%	15%
DoPL leadership	54%	79%

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Note: "Unique Variance" shows the unique contribution of each DoPL scale, "Total Variance" shows the variance this scale explains including

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both unique and shared contributions. The shared contribution can be calculated by subtracting the unique variance from the total variance

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explained. For example, in the case of PRF dominance, DoPL leadership explains 79% of  $R^2$ , of which 54% are unique to DoPL leadership

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and 25% (79% - 54%) are shared with the other DoPL scales.

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1534 Table 7. Relationship of Dom(inance), Pre(stige), and Lead(ership) motives with nomological  
 1535 network variables as zero-order correlations and in multiple regressions including all DoPL motives in  
 1536 the same model. Last column shows Adj(usted) R<sup>2</sup> of these models. Significant effects in bold after  
 1537 applying correction for multiple comparisons.

Nomological network variable	Zero-order correlations			Multiple regression coefficients			Adj. R <sup>2</sup>
	Dom	Pre	Lead	Dom	Pre	Lead	
BFI agreeableness	<b>-.34</b>	.12	.11	<b>-0.56</b>	<b>0.21</b>	<b>0.29</b>	.24
BFI extraversion	<b>.23</b>	<b>.29</b>	<b>.52</b>	-0.04	0.08	<b>0.51</b>	.27
BFI neuroticism	-.10	-.04	<b>-.41</b>	0.09	0.15	<b>-0.52</b>	.19
BFI openness	.02	.12	<b>.22</b>	-0.12	0.05	<b>0.26</b>	.05
BFI conscientiousness	-.02	<b>.18</b>	<b>.37</b>	<b>-0.27</b>	0.09	<b>0.46</b>	.19
NARQ admiration	<b>.55</b>	<b>.58</b>	<b>.56</b>	<b>0.28</b>	<b>0.35</b>	<b>0.27</b>	.51
NARQ rivalry	<b>.64</b>	<b>.31</b>	<b>.16</b>	<b>0.70</b>	<b>0.15</b>	<b>-0.24</b>	.45
SDO	<b>.34</b>	.05	<b>.15</b>	<b>0.37</b>	-0.10	0.02	.12
UMS affiliation	<b>.29</b>	<b>.51</b>	<b>.54</b>	-0.03	<b>0.35</b>	<b>0.40</b>	.38
UMS achievement	<b>.24</b>	<b>.53</b>	<b>.55</b>	-0.12	<b>0.39</b>	<b>0.44</b>	.41
UMS intimacy	.01	<b>.43</b>	<b>.33</b>	<b>-0.29</b>	<b>0.42</b>	<b>0.28</b>	.27
UMS fear of los. control	<b>.22</b>	<b>.34</b>	.03	<b>0.18</b>	<b>0.37</b>	<b>-0.22</b>	.15
UMS fear of los. reputation	<b>.19</b>	<b>.56</b>	<b>.22</b>	-0.02	<b>0.58</b>	-0.03	.31
Verbal aggression	<b>.54</b>	.14	<b>.21</b>	<b>0.58</b>	-0.07	-0.03	.29
Anger	<b>.35</b>	.07	.01	<b>0.45</b>	-0.01	<b>-0.20</b>	.15
Helping behaviour	.04	<b>.19</b>	<b>.32</b>	<b>-0.17</b>	0.09	<b>0.36</b>	.12
Pornography consumption	<b>.28</b>	.00	.00	<b>0.38</b>	-0.08	-0.15	.10
Number of leading positions	<b>.19</b>	<b>.23</b>	<b>.42</b>	-0.03	0.06	<b>0.43</b>	.16

1538 For correlations:  $p < .05$  for  $r \geq |.15|$ ;  $p < .01$  for  $r \geq |.18|$ ;  $p < .001$  for  $r \geq |.21|$ .

1539

1540 Table 8. Zero-order correlations and Cronbach's  $\alpha$ s of five moral concerns. Mean and [SD] of sum  
 1541 scores in diagonal. Significant effects in bold after applying Bonferroni-Holm correction.

	Harm	Fairness	Ingroup	Authority	Purity
Harm	28.25 [4.46]				
Fairness	<b>.57</b>	27.15 [4.18]			
Ingroup	<b>.20</b>	<b>.09</b>	20.88 [5.37]		
Authority	<b>.15</b>	.04	<b>.64</b>	22.75 [5.24]	
Purity	<b>.20</b>	.06	<b>.57</b>	<b>.68</b>	19.94 [5.97]
Cronbach's $\alpha$	.65	.65	.70	.71	.75

1542  $p < .05$  for  $r \geq |.09|$ ;  $p < .001$  for  $r \geq |.15|$ .

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1546 Table 9. Relationship of Dom(inance), Pre(stige), and Lead(ership) motives with moral  
 1547 concerns as zero-order correlations and in multiple regressions including all DoPL motives in the same  
 1548 model. Significant effects in bold after applying Bonferroni-Holm correction to correlations only.

Moral concerns for	Zero-order correlations			Multiple regression coefficients		
	Dom	Pre	Lead	Dom	Pre	Lead
Harm	<b>-.18</b>	<b>.10</b>	<b>-.07</b>	<b>-0.23</b>	<b>0.21</b>	<b>-0.08</b>
Fairness	<b>-.10</b>	<b>.11</b>	-.04	<b>-0.15</b>	<b>0.18</b>	-0.06
Ingroup <sup>8</sup>	<b>.16</b>	<b>.19</b>	<b>.17</b>	<b>0.11</b>	<b>0.07*</b>	<b>0.14</b>
Authority	<b>.14</b>	<b>.25</b>	<b>.18</b>	0.05	<b>0.20</b>	<b>0.10</b>
Purity	<b>.11</b>	<b>.18</b>	<b>.14</b>	0.03	<b>0.14</b>	<b>0.08</b>

1549 For correlations:  $p < .05$  for  $r \geq |.07|$ ;  $p < .01$  for  $r \geq |.10|$ ;  $p < .001$  for  $r \geq |.14|$ . \* indicates one-tailed test.

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1551

1552 Table 10. Zero-order correlations between DoPL motives and proportion (in pennies) out of 3  
 1553 GBP given to the receiver in a dictator game in neutral (NC) and arousal condition (AC; i.e., after having  
 1554 received nothing twice in previous dictator games). Cronbach's  $\alpha$ s = .81 to .88 for DoPL scales. Mean  
 1555 and [SD] in diagonal. Significant effects in bold after applying Bonferroni-Holm correction.

	Dominance	Prestige	Leadership	NC	AC
Dominance	18.36 [5.99]				
Prestige	<b>.37</b>	24.14 [5.23]			
Leadership	<b>.37</b>	<b>.40</b>	21.64 [6.49]		
NC	-.13	.01	-.12	105.76 [68.09]	
AC	<b>-.17</b>	-.04	-.08	<b>.55</b>	72.52 [81.21]

1556  $p < .05$  for  $r \geq |.17|$ ;  $p < .001$  for  $r \geq |.37|$ .

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1558 Table 11. Linear regression model of the proportion of money (in pennies) out of 3 GBP given  
 1559 to another participant predicted by DoPL motives in interaction with gender in the neutral condition.

	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Intercept	0.03	0.06	0.40	.693
Dominance	-0.11	4.88	-1.51	.132
Prestige	0.10	4.91	1.37	.173
Leadership	-0.12	4.83	-1.75	.082
Gender	0.18	8.81	1.43	.155
Dominance*gender	0.14	9.75	0.95	.343
Prestige*gender	-0.10	9.81	-0.69	.492
Leadership*gender	0.10	9.66	0.68	.500

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1562 Table 12. Multilevel regression model of the proportion of money (in pennies) out of 3 GBP  
 1563 given to another participant predicted by DoPL motives, condition (neutral and arousal condition),  
 1564 gender, and all two-way interactions with these variables with by-participant random intercepts and by-  
 1565 participant random slopes for condition. Significant effects in bold.

	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>
Intercept	0.02	0.06	0.43	< .666
<b>Dominance</b>	<b>-0.14</b>	<b>4.71</b>	<b>-2.22</b>	<b>.026</b>
Prestige	0.06	4.73	1.02	.309
Leadership	-0.07	4.66	-1.20	.231
Gender	0.10	8.51	0.90	.370
<b>Condition</b>	<b>-0.44</b>	<b>4.56</b>	<b>-7.41</b>	<b>&lt; .001</b>
Gender*condition	-0.13	9.36	-1.09	.278
Dominance*gender	0.19	9.41	1.51	.226
Prestige*gender	-0.05	9.47	-0.39	.700
Leadership*gender	-0.04	9.32	-0.35	.729
Dominance*condition	-0.08	5.18	-1.21	.226
Prestige*condition	-0.05	5.12	-0.78	.437
Leadership*condition	0.07	5.12	1.02	.309

1566 As *t*-distributions with *df* > 30 are approximately normally distributed, *p*-values for regression coefficients corresponded to the *t* quantile of  
 1567 a standard normal distribution (e.g.,  $t > |1.96|$  corresponded to  $p < .05$ ).

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1571 Table 13. Zero-order correlations of DoPL motives and amount donated to charities. Mean  
 1572 and [SD] in diagonal. Significant effects in bold after applying Bonferroni-Holm correction.

	Dominance	Prestige	Leadership	Amount donated
Dominance	15.02 [5.42]			
Prestige	<b>.38</b>	22.68 [4.86]		
Leadership	<b>.33</b>	<b>.35</b>	21.96 [6.24]	
Amount donated	-.08	.03	.07	12.11 [27.33]

1573  $p < .001$  for  $r \geq |.33|$ .

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1578 Table 14. Zero-order nonparametric Spearman correlations (due to employment rank as count  
 1579 data) of DoPL motives and employment ranks in US sample (subdiagonal) and UK sample  
 1580 (superdiagonal). Mean and [SD] of US (first) and UK (second) sample in diagonal. Cronbach's  $\alpha$ s = .75  
 1581 - .91. Significant effects in bold after applying Bonferroni-Holm correction.

	Dominance	Prestige	Leadership	Employment rank
Dominance	15.91/15.02 [5.15/5.42]	<b>.33</b>	<b>.29</b>	<b>.17</b>
Prestige	<b>.29</b>	24.07/22.68 [4.68/4.86]	<b>.33</b>	<b>.12</b>
Leadership	.09	<b>.17</b>	26.94/21.96 [4.78/6.24]	<b>.47</b>
Employment rank	-.05	-.05	<b>.28</b>	6.38/4.24 [3.88/3.31]

1582 For subdiagonal:  $p < .01$  for  $r \geq |.17|$ ;  $p < .001$  for  $r \geq |.28|$ . For superdiagonal:  $p < .01$  for  $r \geq |.12|$ ;  $p < .001$  for  $r \geq |.17|$ .

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1585 **Figures**

1586

1587 Figure 1. Residualised DoPL motives (i.e., free from shared DoPL influences) predicting  
1588 overall proportion of money donated to charities (top) and probability to donate anything at all (bottom).  
1589 Solid lines indicate significant effects.

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1591 Figure 2. Best fitting lines for residualised leadership motive predicting employment rank in  
1592 UK and US sample based on quasipoisson distribution. Main effects and interaction significant at  $p <$   
1593  $.05$  in both samples. Data jittered for better visualisation.

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1605                   **Footnotes**

1606                   1) It is important to distinguish this motive from related other motives. For example, the  
1607                   prestige motive is different from the achievement motive (e.g., Brunstein & Heckhausen, 2008). Prestige  
1608                   motivated people would seek to improve their skills in order to obtain respect and admiration from others  
1609                   whereas achievement motivated people would want to improve their skills to experience a sense of  
1610                   mastery for their own benefit (e.g., Brunstein & Heckhausen, 2008). Thus, a prestige motivated person  
1611                   would only learn a skill to the degree that they appear to have it and would take more pleasure in  
1612                   showcasing it publicly. Importantly, by showcasing we do not mean boasting about one’s achievement  
1613                   or collecting status symbols (Anderson, Hildreth, & Howland, 2015). Although related to prestige, these  
1614                   behaviours are likely a mix of both dominance and prestige desires (i.e., a way of forcing others’  
1615                   admiration). This is also indicated by questionnaire items such as “I often want to impress other people  
1616                   with my actions” or “I like buying things which impress other people” loading on both prestige and  
1617                   dominance factors (see Study SX1 in supplementary material).

1618                   2) These relationships between leadership, dominance, and prestige ranks are likely  
1619                   responsible for proponents of the dominance vs prestige account to treat leadership and high prestige or  
1620                   dominance ranks as essentially equivalent (e.g., Cheng et al., 2013). However, in line with others (e.g.,  
1621                   de Waal-Andrews et al., 2015) we differentiate leadership from merely having a high prestige or  
1622                   dominance rank for two reasons: 1. Leadership ranks only partly depend on dominance and prestige as  
1623                   they are not only granted but also claimed. 2. Independent of dominance and prestige sources of power  
1624                   individuals in leadership position hold a unique kind of power granted as a necessity to reach a common  
1625                   group goal.

1626                   3) Additionally Chan & Drasgow (2001) proposed a noncalculative MTL representing the  
1627                   degree to which individuals factor in the costs of leading. Along with the social-normative MTL (i.e.,  
1628                   leading based on pressure of being asked to lead) these MTL components seem not to represent an active  
1629                   claiming of leadership positions.

1630 4) This was to parallel motive with trait research and arguing that motives not only consist of  
1631 pure desires (D; e.g., “I want to dominate others.”) but also manifest themselves in affective (A; e.g., “I  
1632 enjoy dominating others.”), behavioural (B; e.g., “I often dominate others.”) and cognitive (C; e.g.,  
1633 “Others should be dominated.”) ways.

1634 5) In an independent sample ( $n = 62$ ; see Table S3 in supplementary material) we had also  
1635 investigated the DoPL scales’ relationships with Chan and Drasgow’s (2001) MTL components. L  
1636 correlated highly with the affective MTL,  $r = .89, p < .001$ , showing the expected close relationship  
1637 between these two variables. Thus, L and affective MTL seem to some degree interchangeable, hence,  
1638 might relate very similarly to external variables. Nonetheless, as the DoPL scales were developed in  
1639 concert and with the aim to distinguish amongst each other, L might be more beneficial when  
1640 investigating unique leadership relationships controlling for dominance and prestige influences (e.g.,  $r_L$   
1641  $\& D = .33$ ;  $r_{\text{MTL affective leadership} \& D} = .51$ ).

1642 6) We did not collect data on the outdated item “I don’t try to ‘keep up with the Joneses’ ”.

1643 7) For structural equation models with latent variables for DoPL motives and clusters of  
1644 nomological network variables see Figures S3.1 to S3.4 in supplementary material. Estimates of latent  
1645 measurement models were similar to multiple regression model coefficients.

1646 8) Multiple regression coefficients for the ingroup model represent mean relationships of each  
1647 DoPL motive with ingroup concerns across all three samples. Significant interaction terms indicate that,  
1648 compared to this mean relationship, the relationship between residualised P and ingroup concerns was  
1649 more negatively in sample 3,  $\beta = -0.17, p = .018$ , and the relationship between residualised D and ingroup  
1650 concerns was more negatively in sample 4,  $\beta = -0.14, p = .012$  (see Table S7 in supplementary material).

1651 9) Model conducted with R’s *lme4* package (Bates et al., 2016; version 1.1-12). As the initial  
1652 model did not converge we restricted all random effect correlations to 0 (Barr et al., 2013).

1653 10) Means of Bayesian posterior distribution can be interpreted equivalently to standard  
1654 regression coefficients. 95% ETI (equal tailed intervals) describe the boundaries between which the true

1655 value of the parameter is with 95% probability (given the prior and the likelihood). Assuming a normal  
1656 posterior distribution, ETIs are identical with highest density intervals.

1657 11)  $R_{\Delta}^2$  calculated as the overall loss in  $R^2$  when removing the respective predictor from the  
1658 model.