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When status is grabbed and when status is granted: Getting ahead in dominance and prestige hierarchies

Wendy de Waal-Andrews[1,2]*, Aiden P. Gregg[1] and Joris Lammers[3]

[1]School of Psychology, University of Southampton, UK
[2]Department of Social Psychology, Tilburg University, Tilburg, The Netherlands
[3]Social Cognition Center Cologne, University of Cologne, Germany

What type of behaviour affords status, agentic, or communal? Research to date has yielded inconsistent answers. In particular, the *conflict view* holds that agentic behaviour permits the imperious to grab status through overt force, whereas the *functional view* holds that communal behaviour permits the talented to earn status through popular appeal. Here, we synthesize both views by taking into account the moderating role played by group hierarchy. Group hierarchy can range from being dominance based (where status is grabbed) to prestige based (where status is granted). In a field study (Study 1), and a laboratory experiment (Study 2), we demonstrate that in different groups, status can be achieved in different ways. Specifically, agentic behaviour promotes status regardless of hierarchy type, whereas the effect of communal behaviour on status is moderated by hierarchy type: it augments it in more prestige-based hierarchies but diminishes it in more dominance-based hierarchies.

One of the most important challenges that people face in navigating their social world is attaining *status* (Fiske, 2010). People with high status are more influential (Berger, Cohen, & Zelditch, 1972), have larger and stronger social networks (Ibarra & Andrews, 1993), enjoy a wider choice in romantic partners (Betzig, 1986), and lead longer and healthier lives (Ellis, 1994). To have status is to succeed, to lack it is to fail.

Despite the importance of status as a social variable, psychological research has not yet unequivocally established what *behaviours* promote it within groups. Some studies find that agentic (i.e., assured, assertive) behaviour promotes status (Anderson & Kilduff, 2009; Driskell, Olmstead, & Salas, 1993). But others find that agentic behaviour undermines status (Ridgeway, 1987) and that group members resist others' forcefulness (Boehm, 1999; Van Vugt, Jepson, Hart, & De Cremer, 2004). Furthermore, some studies find that communal (i.e., warm, agreeable) behaviour increases status (Flynn, Reagans, Amanatullah, & Ames, 2006; Hardy & Van Vugt, 2006). But others find that friendly behaviour does not affect status (Anderson, John, Keltner, & Kring, 2001), or even decreases status by conveying submission (Preuschoft & van Hooff, 1997).

Thus, findings to date are very mixed. In fact, two contrasting views regarding how status is attained can be distilled. First, the *conflict view* states that hierarchies arise based on conflicts between individuals with competing interests and varying resources (Mills,

*Correspondence should be addressed to Wendy de Waal-Andrews, Department of Social Psychology, Tilburg University, Warandelaan 2, Tilburg 5037 AB, The Netherlands (email: w.g.dewaal-andrews@uvt.nl).

1956). Accordingly, status results from the ability of some individuals to forcibly impose their will on others (Mazur, 1985). Second, the *functional view* states that hierarchies arise based on the differential value of individuals' roles in the pursuit of common goals (Davis & Moore, 1945). Accordingly, status results from the collective judgment by group members that some individuals contribute more to the group than others (Berger *et al.*, 1972).

Here, we attempt to synthesize these two views. We propose that the type of behaviour leading to status depends crucially on the *type* of hierarchy present in a group. In particular, we propose that group hierarchies can range from being more *dominance based* – where status is aggressively grabbed by few group members – to being more *prestige based* – where status is freely granted by many group members.[1] Thus, in line with the conflict view, group hierarchies may reflect the outcome of power struggles between members; but also, in line with the functional view, group hierarchies may reflect the collective recognition of social value.

The distinction between these two types of hierarchies derives from theorizing in human ethology (e.g., Henrich & Gil-White, 2001; Von Rueden, Gurven, & Kaplan, 2008, 2011) and evolutionary psychology (e.g., Buttermore & Kirkpatrick, 2009; Cheng, Tracy, & Henrich, 2010). The key idea is that the challenges to survival faced by a group shape the type of hierarchy that emerges (Kracke, 1978; Van Vugt, Hogan, & Kaiser, 2008). For example, early hunter–gatherers generally lived in prestige-based hierarchies, but the invention of agriculture led to the development of more dominance-based hierarchies due to increased intergroup conflict (Van Vugt *et al.*, 2008). Industrialization partially reinstated the prevalence of prestige-based hierarchies, perhaps because the rank-and-file had more freedom to switch groups if maltreated (Van Vugt *et al.*, 2004, 2008). Nonetheless, domineering leaders still thrive in times of crisis and intergroup conflict (Halevy, Chou, Cohen, & Livingston, 2012; Kracke, 1978; Schlessinger, 1986).

Hierarchy and status in face-to-face groups

In this study, we focus on *face-to-face groups*, defined as groups where status is mediated by proximate rather than formalized interactions (Anderson *et al.*, 2001). Face-to-face groups are ubiquitous: project teams, sportsmen, friends, or relatives. Moreover, across evolution, humans were generally organized in face-to-face groups, making this the natural habitat to which our psychology is adapted (Caporael, 1996).

A *group hierarchy* is defined here as the *informal* ranking of group members along one or more social dimensions (e.g., Gruenfeld & Tiedens, 2010; Magee & Galinsky, 2008). Informal status differences emerge in interactions between group members. Formal status differences, on the other hand, are established explicitly, either from within a group (e.g., via member-agreed rules) or from outside it (e.g., via the parent organization to which a group belongs). Formal and informal hierarchies often overlap but need not: informal leaders of a group may be held in high standing, whereas formally appointed bosses may not be taken seriously.

We use the term *status* to refer to a person's position in the informal hierarchy of a group (Berger *et al.*, 1972). Status differs conceptually from *power*. Power is often defined as control over scarce resources (Galinsky, Gruenfeld, & Magee, 2003; Thibaut &

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[1] Importantly, it is not admiration for an individual's forcefulness that is the basis of status in a dominance-based hierarchy, but rather other members' fear that this force will be directed at them (cf. Henrich & Gil-White, 2001). This is highlighted by characterizations of dominance striving as force (rather than persuasion: Kracke, 1978) or intimidation (rather than attraction: Gilbert, Price, & Allan, 1995).

Kelley, 1959; Weber, 1947). A hierarchy of power ranks individuals in terms of their (potential) control over valued resources (e.g., Fiske, 2010). This implies that power often goes beyond mere psychological influence and in such cases has an objective, rather than subjective basis. Moreover, power need not always be acted on: powerholders need not necessarily claim a prominent and influential position in a group, nor do the powerless necessarily grant them one. Status also differs conceptually from *leadership*. Definitions of leadership differ widely, but centre on the social contract between leaders who make decisions for the benefit of the group and followers who willingly agree to pursue the actions required of them (Van Vugt, 2006; Van Vugt *et al.*, 2008). Leadership is held to be essentially functional, in the sense that it allows a group to specialize according to functional demands and allows the group to coordinate its individual efforts (Bass & Bass, 2008). Thus, where status refers to a person's position in a hierarchy, leadership refers to reciprocal interactions between leaders and followers.

Although face-to-face status is essentially subjective, the presence of status differences in a group affects how people interact. Firstly, high-status group members are more *prominent* than low-status group members: they speak more, their opinion is sought more often, and their contributions receive more attention from others (Berger *et al.*, 1972; Chance, 1967). Secondly, high-status group members are more *influential* than low-status group members: their opinions carry more weight in group decisions and they are better able to get what they want (Berger *et al.*, 1972; Hawley, 1999; Mazur, 1985). Prominence and influence are so strongly intertwined with status that many definitions list them as defining features of status (Anderson *et al.*, 2001).

In keeping with perspectives in anthropology (e.g., Henrich & Gil-White, 2001) and evolutionary psychology (e.g., Buttermore & Kirkpatrick, 2009; Cheng *et al.*, 2010), we conceptualize status in terms of *both* dominance and prestige. As such our conceptualization incorporates the conflict perspective that defines status in terms of the aggressive dominance of one party over another (e.g., Mazur, 1985; Mills, 1956). More importantly, it is in keeping with the type of informal hierarchy that exists in the eyes of group members.

According to our conceptualization of status in terms of prominence and influence, people as diverse as street gang leaders and eminent academics qualify as examples of people with high status. However, the nature of their relations and interactions with fellow group members differs considerably. For example, violence is central to street gang life (Decker, 1996) and a prerequisite for gang leadership (Rodgers, 2007). Moreover, although violence is typically targeted at non-members, many gangs also use violence to induct new members or to discipline existing ones (Decker, 1996; Skolnick, Correl, Navarro, & Rabb, 1990). Furthermore, when challenged, gang leaders violently defend their position against within-group rivals (Short & Strodtbeck, 1963). In stark contrast, the more collegial norms of academia proscribe most forms of aggressive self-promotion and interpersonal abrasiveness. Rather, career advancement of an academic depends critically on the judgment of peers, who collectively review one's ongoing work and achievements (Bloch, 2002; Hagstrom, 1972). Such contrasting cases illustrate how, although all groups may be characterized by status relations between members, they differ widely in how status gets assigned to members – specifically, in whether and to what extent status is either assertively grabbed (e.g., by violent means) or amicably granted (through a peer-review system).

Hierarchy types

Dominance and prestige denote qualitatively different *processes* evoked by distinctly different stimuli (Henrich & Gil-White, 2001). Given that some of the prototypical

behaviours associated with dominance and prestige processes are diametric opposites (e.g., high-status individuals afforded prestige tend to be approached, whereas high-status individuals exerting dominance tend to be avoided: Cheng *et al.*, 2010; Henrich & Gil-White, 2001), dominance and prestige processes are liable to be negatively correlated at this level. In contrast, at the level of the *individual*, dominance and prestige represent largely orthogonal dimensions (Buttermore & Kirkpatrick, 2009; Cheng *et al.*, 2010). In other words, the same individual may be both respected by some people (prestige) and feared by others (dominance). In *groups* – the level of analysis with which we are here concerned – dominance and prestige processes often co-occur (cf. Anderson *et al.*, 2001), meaning that, rather than being either completely dominance based or completely prestige based, groups may be based on one or the other to different degrees. As such, the hierarchy type of some groups may be *primarily* dominance based, whereas the hierarchy type of others may be *primarily* prestige based. In what follows, we empirically rely on this 'trade-off' conceptualization.

Behavioural strategies in dominance and prestige hierarchies

To characterize interpersonal behaviour in groups, we employed the *interpersonal circumplex model* (Gurtman, 2009; Paulhus & John, 1998; Wiggins, 1979). This arranges behaviours circularly around two orthogonal axes: the vertical *agentic* axis and the horizontal *communal* axis. Based on our theoretical reasoning and applying the circumplex model to our dominance-prestige framework allowed us to derive two hypotheses:

First, we surmised that agentic behaviour would promote status irrespective of a group's hierarchy type. Agentic behaviour is liable to signal *forcefulness*, and so intimidate members of more dominance-based groups, deterring them from confronting a competitor. But agentic behaviour is also liable to signal *competence* (Anderson & Kilduff, 2009), and so help persuade members of more prestige-based groups that an individual is worthy of support. This led to Hypothesis 1.

> *Hypothesis 1:* Agentic behaviour will promote status both in more dominance-based and in more prestige-based hierarchies.

Second, we surmised that the effect of communal behaviour on status would be conditional upon a group's hierarchy type. On the one hand, communal behaviour is liable to signal *respectfulness*. This will tend to elicit clientele support in prestige-based groups, and thereby promoting status (e.g., politicians can get elected by promising to faithfully represent the interests of their constituencies). On the other hand, communal behaviour is also liable to signal *compliance*, and thereby implying reluctance to engage in competition. In the dog-eat-dog environment of relatively dominance-based groups, this would tend to connote weakness and invite exploitation (e.g., dictators can come to power by sidelining those who lack the resolve to challenge their ambitions). This led to Hypothesis 2.

> *Hypothesis 2:* Hierarchy type will moderate the effect of communal behaviour, such that communal behaviour will augment status in more prestige-based hierarchies, but diminish status in more dominance-based hierarchies.

We tested our main hypotheses in two studies with complementary designs, one conducted in a naturalistic setting (Study 1) and the other in the laboratory (Study 2).

STUDY 1

In Study 1, we assessed whether natural gradations in hierarchy type across groups moderate the behaviour-status link by testing our hypotheses in a *real-life setting*: classes of UK college students of around 16–17 years of age. We chose this sample because peer relations are very important to students of that age (Harter, 2003). Furthermore, we used students' *peer ratings* of their interpersonal behaviour and status, both because students of that age can make detailed estimations of each other's status (Coleman, 1961), and because face-to-face status is best rated by group members themselves rather than by some third party (Anderson *et al.*, 2001). Formally speaking, we employed an information-maximizing *round-robin design* within each class, such that, in assessing both interpersonal behaviour and status, each rater evaluated multiple targets, and each target was evaluated by multiple raters. Moreover, each class in our sample had existed for at least 3 months prior to the study, and students had taken part in at least two classes a week during that period. This ensured sufficient time to allow development of a stable hierarchy within each class (e.g., Anderson *et al.*, 2001) and for students to come to know one another's interpersonal style and status. However, to ensure ratings were based on stable interpersonal relations rather than fluctuating unstable interpersonal impressions, we assessed all the key measures at two points in time and assessed their test–retest reliability across those two measurement sessions.

Participants and procedure

College students (n = 182 in 10 school classes comprising 8–26 students each) were recruited to participate in two sessions as part of a psychology course. Participants completed the measures individually in class.

Demographic data were obtained in Session 1. Participants also rated the interpersonal behaviour and the status of each student in their class, and their school class' hierarchy type. All key measures were repeated 2 weeks later in Session 2.

Only participants who took part in both sessions were included in the analyses. One participant was removed after an outlier analysis revealed that this student's scores were minimally reliable over time, although deleting this participant did not meaningfully affect results. This left 135 participants (103 females, 31 males, 1 not reported M_{age} = 16.83, SD = 0.86).

Measures

To reduce common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), participants rated status on a 7-point scale, hierarchy type on a 6-point scale, and interpersonal behaviour on an 11-point grid-type measure. The measures were included in the study, in the order listed below.

Status

Given that status differences manifest themselves primarily in prominence and influence (Berger *et al.*, 1972; Chance, 1967; Mazur, 1985), we measured status by asking participants to rate each co-student on a single item: '*Thinking about each person in your*

class in turn, indicate how prominent (i.e., visible, attracts attention) and influential you feel they are in your class', between *not at all* (1) and *very much* (7).

Hierarchy type

Participants rated the hierarchy type of their school class on two items running from a *prestige pole* (1) to a *dominance pole* (6). The first item ran from '*status is willingly given to people by others who value them*' to '*status is assertively taken by people who have the ability or means to do so*'; the second from '*people with lower status go along with those with high status out of genuine respect*' to '*people with lower status go along with those with high status because they fear repercussions*'. These items were based on ethological descriptions of dominance and prestige hierarchies (e.g., Henrich & Gil-White, 2001; Von Rueden *et al.*, 2008).

Interpersonal behaviour

We measured interpersonal behaviour with the interpersonal grid (Moskowitz & Zuroff, 2005). This circumplex-like measure features a square grid with two main axes and is particularly well suited for research in which many ratings must be made briskly (Moskowitz & Zuroff, 2005). Participants placed a single 'X' in the grid to simultaneously rate agentic and communal behaviour for each student in their school class. To expedite the familiarization process, participants were given a full explanation of the grid, illustrated by examples.

Results

Our analysis of the data was designed to take into account both the sociometric nature of our round-robin data and the hierarchical nesting of the participants in school classes. To do so, we first calculated composite peer ratings from the sociometric data using Kenny and La Voie's (1984) social relations model and the associated *SOREMO* software (Kenny, 1994). To take into account the nesting of data within classes, we tested our hypotheses with the mixed models option in SPSS and included class as a random effect in our model.

Assessing temporal stability

To test the reliability of the key measures, we assessed their stability across the two data collection sessions. For the hierarchy-type measure, we first created hierarchy-type composites by averaging participant scores on the two items for the first, $r_1(135) = .27$, as well as the second session, $r_2(133) = .39$, and assessed the correlation between these two composites. This correlation was substantial, $r(131) = .68$, $p < .001$.

For the round-robin measures (agentic behaviour, communal behaviour, and status), we calculated the correlation between each participant's ratings of the targets in the first session and that same participant's ratings of the targets in the second session. Thus, for a given student, we calculated three between-session correlations: one for their ratings of their class members' agentic behaviour, another for communal behaviour, and a third for status. Next, for each measure, we normalized the resulting correlations using a Fisher r to z' transformation, averaged the resulting values across participants, and finally back-transformed that average. Having followed this procedure, agentic behaviour ($r = .76$),

communal behaviour ($r = .65$), and status ($r = .78$) all emerged as substantially correlated across sessions.

Merging the data

Having found adequate test–retest reliability, we averaged the data across the two data collection sessions for agentic behaviour ($M = 7.30$, $SD = 0.92$), communal behaviour ($M = 7.93$, $SD = 1.17$), status ($M = 4.41$, $SD = 0.59$), and hierarchy type ($M = 2.72$, $SD = 0.87$).

SOREMO analysis

We used SOREMO (Kenny, 1994) to compute composite peer ratings from the round-robin measures. SOREMO prohibits missing data. Therefore, for each missing datum, we inserted the average peer ratings for that participant and measure, before computing composite peer ratings of agentic behaviour ($M = 7.28$, $SD = 1.90$), communal behaviour ($M = 7.92$, $SD = 1.35$), and status ($M = 4.41$, $SD = 1.06$).[2] After that, relative target variances confirmed above-chance agreement (all ps $< .05$) between students on each other's agentic behaviour (relative variance = .54), communal behaviour (relative variance = .26), and status (relative variance = .52), demonstrating adequate quality of the round-robin data.

Multilevel analysis

The r_{WG} values of the hierarchy type composite (median $r_{WG} = .76$) suggested that these ratings were sufficiently homogenous for within-group aggregation (James, Demaree, & Wolf, 1984, 1993; LeBreton & Senter, 2008). Therefore, we first calculated class-level hierarchy-type scores by averaging ratings per school class ($M = 2.69$, $SD = 0.39$). One-sample t-tests on individual hierarchy-type scores revealed that these class means were all on or below the implicit mid-point of the scale (i.e., 3.5), suggesting that the school classes included in the sample were all relatively prestige based.

Then, following the procedure outlined by Baron and Kenny (1986), as well as taking into account the nesting of our data in classes, we used the SPSS mixed models function to test our hypotheses in a series of maximum likelihood models (Table 1). The models each build on a base model (Model 0) including only the random effect of class to take into account the nesting of the data in classes.

In Model 1, we included composite peer ratings of agentic behaviour and communal behaviour, as well as individual ratings (control variable) and class-level averages of group hierarchy type, as predictors of students' status in their school class. Including these main effects significantly improved the model, $\chi^2_{change} = -326.61$, $p < .001$, and both the within and between effect sizes of the model were substantial (see Table 1; Tabachnick & Fidell, 2007). Moreover, as predicted, we found that agentic behaviour predicted status, $F(1, 126.61) = 1,162.15$, $p < .001$: the more agentic a participant's behaviour, the higher was their status. Communal behaviour also predicted status, $F(1, 132.24) = 6.25$, $p = .014$: the more communal a participant's behaviour, the higher was their status.

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[2] *Six status ratings (0.31% of the total number of status rating) were missing in the data set and five ratings each of agentic and communal behaviour (0.26% of the total number).*

Table 1. Study 1: Fixed effects estimates (top) and variance–covariance estimates (bottom) for models predicting group members' status

Parameter	Model 0	Model 1	Model 2
		Fixed effects	
Intercept		4.42 (.05)**	4.40 (.04)**
Agentic behaviour		.97 (.03)**	.97 (.03)**
Communal behaviour		.08 (.03)*	.10 (.03)*
Hierarchy type (individual rating)		.02 (.03)	.02 (.03)
Hierarchy type (group average)		−.04 (.05)	−.03 (.04)
Agentic behaviour × Hierarchy type (group average)			−.02 (.03)
Communal behaviour × Hierarchy type (group average)			−.06 (.02)*
Agentic behaviour × Communal behaviour			.01 (.03)
		Random parameters	
Residual	.11 (.14)**	.09 (.01)**	.08 (.01)**
Class	.02 (.06)	.02 (.01)	.01 (.01)
−2*log likelihood	390.98	64.37	55.31

Note. $N = 135$. Standard errors are in parentheses.

Although we did not explicitly predict this relation between communal behaviour and status, it is in line with the classes being relatively prestige based; in such classes, we predicted a positive relation between communal behaviour and status. Finally, neither individual ratings of hierarchy type, $F(1, 123.83) = 0.59$, $p = .444$, nor class hierarchy type predicted status, $F(1, 10.84) = 0.77$, $p = .399$.

In Model 2, we included all two-way interactions between agentic behaviour, communal behaviour and class-level hierarchy type as independent variables. Including these interaction effects significantly improved the model, $\chi^2_{change} = -9.06$, $p = .029$, and both the within-group ($\Delta\eta^2_{within} < .01$) and the between-group ($\Delta\eta^2_{between} = .06$) effect sizes of this model were higher than those of Model 1. Moreover, as predicted, the interaction between communal behaviour and hierarchy type significantly predicted status, $F(1, 129.33) = 5.47$, $p = .021$. The other two interactions were not significant (Fs < 1).

For completeness, we also ran a final analysis including the three-way interaction among agentic behaviour, communal behaviour and hierarchy type. Including the three-way interaction did not significantly improve the model ($\chi^2_{change} = -.80$, $p = .371$), nor did the three-way interaction yield a significant result, $F(1, 128.52) = 0.82$, $p = .368$. For these reasons, this analysis is not included in Table 1.

To plot the interaction between communal behaviour and class hierarchy type for interpretative purposes, we used the unstandardized coefficients from a hierarchical regression to calculate slopes one standard deviation above and below the mean (Aiken & West, 1991). As Figure 1 illustrates, communal behaviour predicted higher status in more prestige-based hierarchies, $t(128) = 4.28$, $p < .001$, but not in less prestige-based hierarchies, $t(128) = 0.94$, $p = .176$. Thus, as hypothesized, we found a positive relation between communal behaviour and status in relatively prestige-based hierarchies. Moreover, we found that this positive relation diminished as the hierarchy type neared the mid-point of the dominance-prestige scale. Therefore, the pattern of findings is in line with our hypotheses.
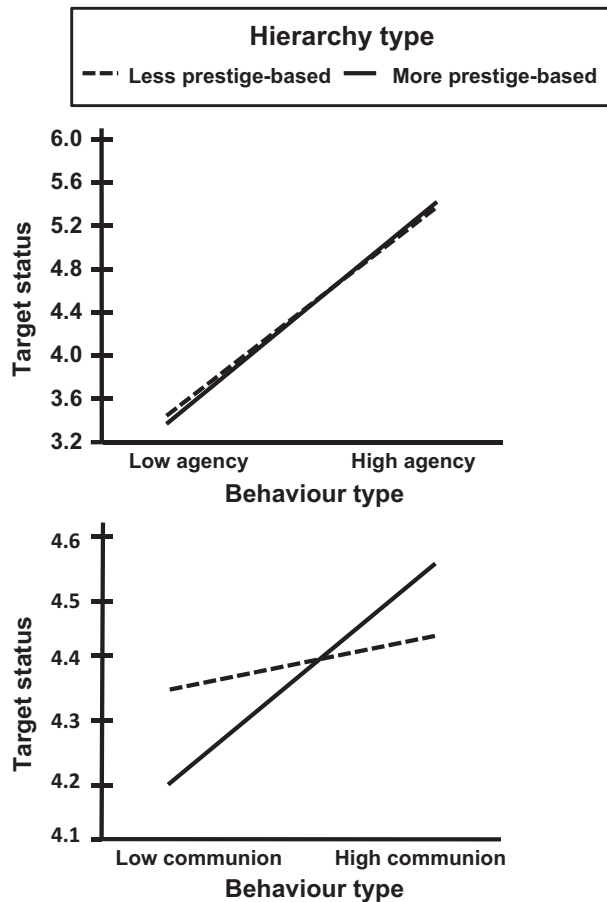
Figure 1. Target status in Study 1 as a function of behaviour exhibited by the target, plotted for hierarchy types of college classes calculated one standard deviation below and above the mean.

Discussion

Study 1 confirmed the importance of group hierarchy type as a moderator of the behaviour-status link. Agentic behaviour predicted status across hierarchy types, supporting Hypothesis 1. Communal behaviour predicted status only depending on hierarchy type, supporting Hypothesis 2. As predicted, it positively predicted status in relatively prestige-based hierarchies and was unrelated to status in relatively dominance-based hierarchies.

STUDY 2

Study 1 generally supported our two hypotheses in a natural setting. Yet, Study 1 suffered from a number of shortcomings. First, given the correlational nature of the study, we cannot exclude the possibility of a reverse causal effect, where status promotes the relevant behaviours in the two hierarchy types. Therefore, Study 2 aims to test the direction of our hypothesized causal relations, using an experimental design. Second, given that our student populations were embedded within the higher organizational

structure of their schools, it is possible that teachers influenced the status hierarchies that emerged. To also rule out this possibility, Study 2 focused on fictional student societies – a context in which the population was not embedded in a larger formal hierarchy. This approach fits with existing experimental research that used fictional societies to untangle causal pathways (Mitchell & Tetlock, 2009). Third, we aimed to cleanly orthogonalize levels of interpersonal behaviour and levels of group hierarchy. Given the substantial difficulty of manipulating group hierarchies, and the interpersonal behaviour within them, we focused in Study 2 on *perceptions* of group hierarchies, and of the interpersonal behaviour within them. We assumed that such perceptions would reflect the actual dynamics of status attainment accurately enough to add meaningfully to the findings of real-life Study 1.

Our rationale assumes that described orthogonal behaviours in the circumplex will generate different dispositional inferences. Although there is already some evidence for this general premise (e.g., Anderson & Kilduff, 2009; Moskowitz, 1994), this is not yet the case for the *specific* dispositional inferences that underlie our hypotheses. Therefore, we first sought to validate these specific inferences in a pilot study and thus create a solid foundation for our hypotheses before testing them experimentally in the main study.

STUDY 2: PILOT

We exposed participants ($n = 79$) to an individual who engaged (vs. did not engage) in either agentic or communal behaviour, and then assessed relevant dispositional inferences made about them on scales running from *not at all* (-3) to *very much* (3). The results empirically validated a key premise underlying our hypotheses, namely, that an individual who engages in agentic behaviour is seen as both more forceful ($M = 1.45$, $SD = 0.81$ vs. $M = -2.52$, $SD = 1.36$, $p < .001$) and more competent ($M = 1.84$, $SD = 0.67$ vs. $M = -2.29$, $SD = 1.36$, $p < .001$) than an individual who does not, while one who engages in communal behaviour is seen as both more compliant ($M = 1.24$, $SD = 1.20$ vs. $M = -1.44$, $SD = 1.01$, $p < .001$) and more respectful ($M = 2.36$, $SD = 1.01$ vs. $M = -1.47$, $SD = 1.05$, $p < .001$) than an individual who does not. The results also revealed that an individual who engages in agentic behaviour is seen as less compliant ($M = 0.16$, $SD = 1.20$ vs. $M = 2.52$, $SD = 0.95$, $p < .001$), whereas an individual who engages in communal behaviour is seen as less forceful ($M = -2.14$, $SD = 1.10$ vs. $M = 2.08$, $SD = 0.55$, $p < .001$).

MAIN STUDY

Participants and procedure

Undergraduate students ($n = 183$; 141 females, 38 males, 4 unknown; $M_{age} = 19.43$, $SD = 2.19$) were randomly assigned to one condition of a 2 (Hierarchy Type: dominance-based, prestige-based) $\times$ 2 (Agentic Behaviour: low, high) $\times$ 2 (Communal Behaviour: low, high) between participants design.

Hierarchy-type manipulation

Participants read a description of a fictional student society 'Vincentus' (see Appendix S2). In the dominance-based hierarchy condition, the society was described as one where 'dominant personalities claim a leading role for themselves' and 'people can achieve

something by suppressing and dominating others'. In the prestige-based hierarchy condition, it was described as a society in which 'credible personalities are given a leading role' and 'people can achieve something if others respect and trust you'.

Target behaviour manipulation

Participants then read one of four target descriptions of a Vincentus member, Kim (an androgynous name; see Appendix S3). Depending on condition, Kim performed behaviours that were either high or low in agency, and either high or low in communion. These behaviours were randomly selected from relevant scales of the Social Behaviour Inventory (Moskowitz, 1994) and combined to form descriptions. For example, the high-agentic behaviour, high-communal behaviour condition described Kim as 'someone who speaks with a firm, clear voice' and as someone who 'compliments or praises others'.

Measures

Participants rated Kim's behaviour from *not at all* (1) to *very much* (7) on four items, two assessing agentic (*assertive* and *submissive* [reversed-scored]) behaviour, $M = 4.06$, $SD = 2.04$, $r(187) = .81$, and two communal (*friendly* and *unkind* [reversed-scored]) behaviour, $M = 4.91$, $SD = 1.56$, $r(187) = .85$.

Participants then rated Kim's status within Vincentus from *not at all* (1) to *very much* (7) on two items – $M = 3.73$, $SD = 1.86$, $r(187) = .95$: '*Kim is someone who has high status*' and '*Kim is someone who is highly regarded*'.

Finally, participants rated Vincentus' hierarchy type on the two-item measure used in Study 1 – $M = 4.49$, $SD = 1.95$, $r(187) = .74$.

Results and discussion

Manipulation checks

The hierarchy-type manipulation was successful. A three-way Hierarchy type $\times$ Agentic behaviour $\times$ Communal behaviour ANOVA on the hierarchy type measure revealed that participants in the prestige-based condition perceived Vincentus as more prestige-based (i.e., less dominance-based; $M = 2.96$, $SD = 1.51$) than participants in the dominance-based condition ($M = 5.99$, $SD = 0.84$), $F(1, 179) = 288.61$, $p < .001$, $\eta^2 = .62$. No other effects were significant.

A three-way ANOVA on the behaviour measures revealed that participants rated Kim's behaviour as more agentic in the high agentic behaviour condition ($M = 5.80$, $SD = 0.97$) than in the low agentic behaviour condition ($M = 2.30$, $SD = 1.11$), $F(1, 179) = 728.12$, $p < .001$, $\eta^2 = .80$, and as more communal in the high communal behaviour condition ($M = 6.12$, $SD = 0.69$) than in the low communal behaviour condition ($M = 3.72$, $SD = 1.24$), $F(1, 179) = 273.02$, $p < .001$, $\eta^2 = .60$. Thus, our manipulation worked as intended.

There was also a modest cross-over effect, such that participants rated Kim's behaviour as less communal in the high agentic behaviour condition ($M = 4.66$, $SD = 1.53$) than in the low agentic behaviour condition ($M = 5.17$, $SD = 1.56$), $F(1, 179) = 10.79$, $p = .001$, $\eta^2 = .06$, and less agentic in the high communal behaviour condition ($M = 3.47$, $SD = 1.85$) than in the low communal behaviour condition ($M = 4.64$, $SD = 2.06$), $F(1, 179) = 74.44$, $p < .001$, $\eta^2 = .29$. So, like in the pilot study, perceptions of agentic and

communal behaviours were not completely orthogonal. However, no other effects reached significance, including – and crucial for our findings – all interaction effects.

Status attainment

As predicted, a three-way ANOVA on the status measure (Figure 2) yielded a main effect of agentic behaviour on status, $F(1, 179) = 208.18$, $p < .001$, $\eta^2 = .54$, such that status was higher in the high agentic behaviour condition ($M = 4.98$, $SD = 1.49$) than in the low agentic behaviour condition ($M = 2.47$, $SD = 1.24$). A two-way interaction between hierarchy type and agentic behaviour also emerged, $F(1, 179) = 7.72$, $p = .006$, $\eta^2 = .04$. Simple effects analysis revealed that agentic behaviour promoted status more strongly in the dominance-based condition, $F(1, 179) = 148.77$, $p < .001$, $\eta^2 = .45$, than in the prestige-based condition, $F(1, 179) = 67.53$, $p < .001$, $\eta^2 = .27$. However, as predicted, both effects were significant.

   Communal behaviour had no direct effect on status, $F(1, 179) = 2.00$, $p = .159$, $\eta^2 = .01$, but, again as predicted, hierarchy type and communal behaviour interacted to predict status, $F(1, 179) = 43.54$, $p < .001$, $\eta^2 = .20$. Simple effects analysis revealed that, in the dominance-based condition, status was higher in the low communal behaviour condition ($M = 4.18$, $SD = 1.88$) than in the high communal behaviour condition ($M = 3.21$, $SD = 1.67$), $F(1, 179) = 13.51$, $p < .001$, $\eta^2 = .07$, whereas in the prestige-based condition, status was lower in the low communal behaviour condition ($M = 3.08$, $SD = 1.72$) than in the high communal behaviour condition ($M = 4.44$, $SD = 1.83$), $F(1, 179) = 31.95$, $p < .001$, $\eta^2 = .15$. Thus, Hypothesis 2 was also supported.

   A three-way interaction on status also unexpectedly emerged, $F(1, 179) = 13.38$, $p < .001$, $\eta^2 = .07$. Simple effects analysis revealed that agentic behaviour predicted status in both the dominance-based and the prestige-based conditions, and at both high and low levels of communal behaviour ($ps \leq .001$). However, in both hierarchy types,
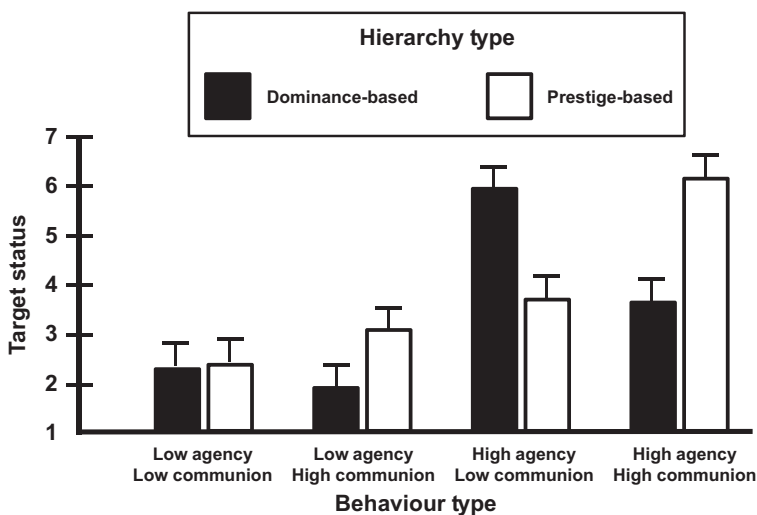

Figure 2. Mean differences in target status in Study 2 as a function of the hierarchy type of student group (either dominance based or prestige based) and of the type of behaviour exhibited by one of its members (either high or low in agency, and high or low in communion). Bars represent standard errors.

communal behaviour predicted status when agentic behaviour was high (ps < .001), but not when it was low (ps ≥ .134), possibly because agentic behaviour, because of its active nature, multiplies the impact of communal behaviour.

In Study 1, the same three-way interaction had no significant effect on status. The many differences between the studies offer multiple reasons why the three-way interaction may have emerged in Study 2, but not in Study 1. Possibly the manipulations used in Study 2 yielded more extreme hierarchy types than those naturally present in the relatively prestige-based classes included in Study 1. Consequently, the three-way interaction may have been more pronounced in Study 2. Moreover, the sample size in Study 2 (n = 183) considerably exceeded the effective sample size in Study 1 (n_{eff} = 14.39; Tabachnick & Fidell, 2007). Consequently, enhanced power may have aided the three-way interaction to emerge as significant in Study 2.

Despite these differences, the overall pattern mirrored those of Study 1. Overall, agentic behaviour increased status in both hierarchy types, supporting Hypothesis 1. Moreover, hierarchy type moderated the effect of communal behaviour on status, supporting Hypothesis 2, for whereas in prestige-based hierarchies it augmented status, in dominance-based hierarchies it diminished status.

GENERAL DISCUSSION

Can agentic (i.e., assured, assertive) behaviour and communal (i.e., warm, agreeable) behaviour both increase status, and if so, when? The current research tested the moderating role played by the type of hierarchy present in groups. Group hierarchies vary from being more dominance based – where status is grabbed by the few – to being more prestige based – where status is granted by the many. We found in two studies – one correlational, featuring naturally occurring groups, and the other experimental, featuring manipulated groups – that agentic behaviour promoted status in both types of hierarchies, whereas communal behaviour augmented it in more prestige-based hierarchies, but diminished it in more dominance-based hierarchies. Thus, our findings suggest that, although agentic behaviour goes some way in helping one get to the top in any type of hierarchy, it alone is not always enough to get there. Only when agentic behaviour is teamed with the right level of communal behaviour for the hierarchy type of a group – a low level if the hierarchy is primarily dominance based or a high level if it is primarily prestige based – will it allow one to reach the top of the hierarchy.

Implications

We believe these findings advance theory in several ways. In particular, distinguishing between hierarchy types may help to clarify why some research finds that high-status or powerful individuals engage in angry and quarrelsome behaviour (Fournier, Moskowitz, & Zuroff, 2002; Tiedens, 2001), show little interpersonal sensitivity (Galinsky, Magee, Ines, & Gruenfeld, 2006) or compassion (Van Kleef *et al.*, 2008), whereas other research finds the opposite – that high-status or powerful individuals are highly interested in other people (Overbeck & Park, 2001), engage in generous and friendly behaviour (Flynn *et al.*, 2006), and show sensitivity to other people's emotions (Schmid Mast, Jonas, & Hall, 2009). In the former cases, the participants and their groups may have been characterized by more dominance-based hierarchies, whereas in the latter cases, the participants and their groups may have been characterized by more prestige-based hierarchies.

For example, fitting a conflict view of status, Fournier *et al.* (2002) studied situations in which high-status individuals felt threatened by individuals with lower status. They found that the more the threatening situation was, the more aggressively the higher status individuals would react. In contrast, and fitting a functional view of status, Overbeck and Park (2001) found that participants assigned to a high-status role (teacher or judge) reacted more to requests by lower status individuals. It seems likely that they did so, because they took the role of someone high in a prestige-based hierarchy. More generally, research findings seem to reflect a dominance-based hierarchy when status was studied in threatening situations (Tiedens, 2001) or when it was associated with having power over others (e.g., Galinsky *et al.*, 2006; Van Kleef *et al.*, 2008; but see Schmid Mast *et al.*, 2009, Studies 2 and 3). In contrast, research findings seem to reflect a prestige-based hierarchy when status was associated with having responsibility over others (Overbeck & Park, 2001; Schmid Mast *et al.*, 2009, Study 1), with being sought out for support and affiliation (Flynn *et al.*, 2006), or with exercising empathic leadership (Schmid Mast *et al.*, 2009, Studies 3 and 4).

In addition to the independent effects of agentic and communal behaviour on status in the two hierarchy types, Study 2 revealed an interaction effect between the two types of behaviour. More specifically, Study 2 found that, in both hierarchy types, agentic behaviour promoted status whether that behaviour was communal or not, but that communal behaviour promoted status only when agentic behaviour was high. Possibly, the active nature of agentic behaviour amplifies the impact of communal behaviour. Most people feel more appreciated when someone openly compliments them than when someone quietly values them; likewise, people might feel more spurned when someone openly faults them than when someone quietly criticizes them. Agentic behaviour, it seems, may not only affect status directly, it may also increase both the benefits and the pitfalls for status of communal behaviour.

Our work builds on theorizing in evolutionary psychology suggesting that contextual factors shape the emergence of different types of hierarchies (e.g., Henrich & Gil-White, 2001) and leader–follower relations (Spisak, Homan, Grabo, & Van Vugt, 2012; Van Vugt *et al.*, 2008). Moreover, our distinction between dominance and prestige hierarchies is in line with the intragroup relations described by this work. However, rather than focusing only on the contingencies of the emergence of these hierarchy types, our findings extend this work by increasing our understanding of the socio-cognitive processes associated with them. Our distinction between dominance-based and prestige-based hierarchies is also in keeping with a current trend in social psychology which recognizes that dominance and prestige offer alternative routes to status (e.g., Cheng *et al.*, 2010) and that the success of these routes depends on context (Anderson, Spataro, & Flynn, 2008; Fragale, 2006; Halevy *et al.*, 2012). However, our approach also diverges from earlier work. First, we identified a conceptual dimension – hierarchy type – that allows us to logically distinguish between groups and predict the best strategy for attaining status in each. We demonstrated that natural differences on this dimension have meaningful empirical consequences. Second, we systematically assessed the behaviours that predict status in groups with the use of the interpersonal circumplex model (e.g., Gurtman, 2009; Wiggins, 1979). As this framework broadly captures all behaviours with meaningful interpersonal consequences, we were thus able to comprehensively assess the types of behaviours promoting status, their relative importance for achieving status, and the way they interact in furthering status across different groups.

We focused on small face-to-face groups, mainly to keep with the evolutionary psychology that our theorizing is largely rooted in. However, we expect that similar status

differentiation processes may occur in larger psychological groups, where the distance between members is also larger, such as organizations, companies or even nations. Turning to the largest of these – nations – some suggestive support of our claim comes from the Global Leadership and Organizational Behaviour Effectiveness research programme, an extensive research effort involving 170 scholars from 61 cultures around the world (House *et al.*, 1999). Findings from this programme revealed that individuals in some nations believe that leaders should be independent and individualistic (e.g., in Eastern Europe and Germanic European countries), whereas in other nations such characteristics are thought to impede effective leadership (e.g., in Latin America and Sub-Saharan Africa; Javidan, Dorfman, Sully de Luque, & House, 2006). Moreover, preference for individualistic leadership correlated with scores on 'assertiveness', a cultural dimension reflecting the degree to which individuals are confrontational and aggressive in social relationships (Javidan *et al.*, 2006), suggesting that these countries are more dominance-based than prestige-based hierarchies.

The overall aim of this study was to systematically assess the behaviours leading to status in different kinds of hierarchies, and we did not focus on the underlying processes. Future research may try to use literature on leader selection to provide a more detailed understanding of the different processes of status differentiation in dominance and prestige hierarchies. It seems plausible that transactional leadership theory (Hollander, 1958, 1992) can help to better understand the processes involved in dominance-based hierarchies. There, aggressive people attain prominence and influence because they instil fear in others. In essence, the yielding of followers to leaders might be understood as a social exchange in which followers calculate the costs and the benefits of following the leader and behave accordingly. When making their calculation, followers might conclude that the cost of crossing a forceful leader is too large, that following such a leader may bring benefits, or both. The latter may be especially likely to occur in times of crisis (Schlessinger, 1986), when the greater power wielded by a leader in a dominance hierarchy permits external threats to be parried. Such circumstances may allow a forceful leader to acquire 'idiosyncrasy credits' (Hollander, 1958, 1992) that the leader may subsequently use to realize unpopular decisions. In contrast, social identity theory (e.g., Haslam, Reicher, & Platow, 2011; Hogg, 2001) or self-categorization theory (Turner, 1982) may better model the cognitive processes underlying behaviour in relatively prestige-based hierarchies. These theories would posit that people select leaders who embody their own representation of the group and its identity (Haslam *et al.*, 2011). A leader arising under such conditions may well-wield considerable influence, but only if the leader is perceived to serve the group. As such this theory foreshadows our finding that agentic leaders fare less well in prestige-based hierarchies when their behaviour is low rather than high in communion.

Our findings illustrate how the type of group hierarchy – dominance-based or prestige-based – can determine which behavioural strategy will afford status to aspiring leaders. Nonetheless, such group hierarchies are not set in stone, even if socio-political inertia conspires to make them stable for long periods. For example, and as noted earlier, more dominance-based hierarchies ruled by tyrants may be tolerated in times of crisis (Schlessinger, 1986). Once established, however, such tyrants may create conditions and build structures to reinforce their position (cf. Pfeffer, 1992), making them hard to dispose of. As the wave of Middle East uprisings in 2011 illustrated, persistent domination may ultimately spark resistance from lower ranking group members. Continued dominance, then, may deplete a tyrant's idiosyncrasy credits, prompting attempts to implement a more prestige-based hierarchy (Boehm, 1999; Van Vugt *et al.*, 2004). However, those

lower in rank may need to make substantial efforts and take considerable personal risks to overthrow a hierarchy rooted in dominance and replace it with one rooted in prestige. When they do, the opportunity arises for status to be based on collectively recognized merit, rather than on brute force.

Acknowledgements

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Supporting Information

The following supporting information may be found in the online edition of the article:

Appendix S1. Behaviour type manipulation materials for pilot study.
Appendix S2. Group hierarchy type manipulation materials for Study 2.
Appendix S3. Behaviour type manipulation materials for Study 2.