

# Can Other-Derogation Be Beneficial? Seeing Others as Low in Agency Can Lead to an Agentic Reputation in Newly Formed Face-To-Face Groups

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Whenever groups form, members readily and intuitively judge each other's agentic characteristics (e.g., self-confidence or assertiveness). We tested the hypothesis that perceiving others as low in these characteristics triggers agentic interpersonal behavior among perceivers, which benefits their own reputation in terms of agency. We analyzed data from a longitudinal field study (Study 1,  $n = 109$ ), a multiwave laboratory study (Study 2,  $n = 311$ ), and a preregistered experimental laboratory study (Study 3,  $n = 206$ ). In Study 1, low other-perceptions of agency predicted agentic reputations at zero acquaintance and the reception of leadership nominations later in time. In Study 2, low other-perceptions of agency predicted within-person increases in agentic reputations over time. In both studies, effects of other-perceptions on reputations were mediated by hostile-dominant interpersonal behaviors. In Study 3, experimentally induced low other-perceptions of agency did not predict hostile-dominant behavior, which calls for more research on the proposed mechanism. By emphasizing the role of other-perceptions, the current research provides a new perspective on reputation formation and leadership emergence.

*Keywords:* agency, leadership, person perception, reputation, social status

To make a confident and assertive impression when giving a presentation, an often-quoted piece of advice suggests that speakers should picture the audience in their underwear. What lies at the heart of this saying is this: In a social situation that is consequential for one's reputation, viewing one's interaction partners in a way that downplays their authority can help one come across as confident and assertive.

As implied by this advice, are there indeed situations in which perceiving others as low in certain desirable characteristics might lead to positive social outcomes? More specifically, is it possible

that perceiving low confidence and assertiveness in others might help people behave in ways that promote their reputation? In the current research, we addressed this question in three studies on the getting-to-know-you process in newly formed social groups.

## Other-Perceptions in the Agentic Domain

We use the term *agency* to refer to attributes such as dominance, self-confidence, and assertiveness. In addition to *communion*, which refers to warmth, relatedness, intimacy, and morality, agency has been described as one of the two fundamental domains of social judgment (Abele et al., 2016; Abele & Wojciszke, 2007; Bakan, 1966; Wiggins, 1979). Ample evidence suggests that people readily and intuitively judge the agentic characteristics of others, no matter whether their judgments concern people they know (Rosenberg, Nelson, & Vivekananthan, 1968), vignettes of fictitious persons (Zanna & Hamilton, 1972), faces shown on photographs (Oosterhof & Todorov, 2008), or groups (Fiske, Cuddy, Glick, & Xu, 2002).<sup>1</sup>

Being seen as agentic has crucial benefits for the target person because it serves the ultimate goal of *getting ahead*. Socioanalytic

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<sup>1</sup> Across these different research contexts, different terms have been used to label the two fundamental dimensions of social judgment. For example, most interpersonal models allocate interaction behavior in a two-dimensional space to *dominance* and *affiliation* (Horowitz et al., 2006), stereotypes are often described as falling along the dimensions of *competence* and *warmth* (Fiske et al., 2002), personality meta-traits are called *beta* and *alpha* (Digman, 1997), and aspects of self-concept have been categorized into *power* and *intimacy* (McAdams, 1985). Despite their varying labels, these frameworks have intriguing conceptual overlap (Abele, Cuddy, Judd, & Yzerbyt, 2008; Gebauer et al., 2013; Judd, James-Hawkins, Yzerbyt, & Kashima, 2005).

theory (Hogan, Jones, & Cheek, 1985) describes getting ahead as the attainment of leading positions within social groups, which, besides *getting along* (building social ties), marks one of the two fundamental human motives. In line with the assumptions of socioanalytic theory, having an agentic reputation among one's peers (i.e., being seen as assertive) is indeed essential for attaining popularity (Küfner, Nestler, & Back, 2013; Leckelt, Küfner, Nestler, & Back, 2015) and leadership positions (Lord, DeVader, & Alliger, 1986).

### Who Becomes a Leader?

In virtually all forms of social organization, be they political, economic, or religious, few people in leading positions hold the power to affect the destinies of many. Because of the ubiquity and momentousness of such hierarchies, leadership has even been declared “perhaps the single most important issue in the human sciences” (Hogan & Kaiser, 2005, p. 169). Leadership is defined in terms of *social influence* (Bass, 1990; Chemers, 1997) and thus, by implication, resembles a limited resource that groups assign to their members in a zero-sum fashion (Berger, Cohen, & Zelditch, 1972; Blau, 1964; Hollander & Julian, 1969; Van Vugt, 2006).

In evolutionary game theory, leadership emergence is described as a social dilemma in which agents have the options to either aim to “lead” or to “follow” (Maynard Smith, 1982). Aiming to lead is the strategy that entails greater potential benefits, such as increased access to resources or mates. However, it is also the riskier strategy, because if other agents also aim to lead, costly conflict might emerge. Accordingly, the best outcome is achieved by *complementing* the strategies of coagents. If most coagents aim to follow, pursuing a leadership strategy is promising, but if many coagents aim to lead, pursuing a follower strategy is the better option. Correspondingly, social appraisals should be a crucially relevant factor: It is an adaptive strategy to estimate other agents' motivation and ability for attaining leadership and to act in accordance with one's estimation (Van Vugt, 2006). Agents who perceive others as low in agency (as a proxy for their motivation and ability for leadership) should reach for leadership themselves. In contrast, agents who perceive others as high in agency should avoid reaching for leadership.

The view that social appraisals play a crucial role in leadership emergence is also embraced in recent models of leadership in the organizational literature (for a review see Zaccaro, 2007). For instance, self-monitoring (Day, Shleicher, Unckless, & Hiller, 2002) and overconfidence in one's agentic qualities (Anderson, Brion, Moore, & Kennedy, 2012; Grijalva, Harms, Newman, Gaddis, & Fraley, 2015) have been identified as predictors of leadership emergence. However, what is missing thus far in this literature is research directly testing the role of *other-perceptions* in the leadership process. According to the game-theoretical logic described above, there should be a direct link between other-perceptions, social behavior, and leadership emergence. When people believe that few of their group members have the intention and ability to become a leader, this should minimize their perceived risk of choosing to be a leader. Hence, the people's decision to aim for leadership should be complementarily linked to the perception of others.

### Complementarity in Interpersonal Behavior

The concept of complementarity also occurs in the interpersonal relations and perception literature. It is a well-established notion that dyadic interactions are commonly characterized by a complementarity pattern in which an actor's dominance invites a partner's submissiveness and vice versa (Horowitz et al., 2006; Kiesler, 1983; Leary, 1957). As part of their socialization, people build cognitive structures (i.e., scripts) that contain information about prototypical interaction dynamics between the self and others, often referred to as *relational schemas* (Baldwin, 1992). Concerning the domain of agency, people's common relational schema is thought to involve complementary behavioral dynamics (Tiedens & Jimenez, 2003). That is, most people should share the belief that it is common to act agentially toward interaction partners who are low in agency. To the contrary, behaving agentially toward interaction partners who are high in agency should seem odd or even risky in the sense that unwarranted dominance might be socially sanctioned (Anderson, Srivastava, Beer, Spataro, & Chatman, 2006).

By *acting agentially*, we broadly refer to any behaviors that promote an actor's goal of getting ahead or becoming a leader. This goal is thought to be best met by behaviors that are located in the upper half of the interpersonal circumplex (cf. Figure 1). Among these behaviors are *dominant* behavior (i.e., a combination of high agency and medium communion), *hostile-dominant* behavior (i.e., a combination of high agency and low communion), and *friendly-dominant* behavior (i.e., a combination of high agency and high communion; (Schmidt, Wagner, & Kiesler, 1999).<sup>2</sup> On the basis of complementary relational schemas, people should consider such behaviors more appropriate when directed toward low-agency interaction partners compared with high agency interaction partners. In the following, we outline the behavioral consequences of such schemas in a getting-to-know-you group setting.

### Schematically Triggered Behavior in Newly Formed Groups

Over the course of life, there are many situations in which social groups are formed from scratch. In educational (e.g., school classes), professional (e.g., task forces), and leisure contexts (e.g., sports teams), groups are often made up of people who have no prior knowledge about one another. In these situations, there are no preexisting relational experiences to guide social behavior. Instead, people's behaviors will rely on what they generally consider appropriate in the given situation, that is, on schemas (Bartlett & Burt, 1933). If there is a universally shared relational schema according to which agentic behavior is appropriate when directed toward people who are low in agency, people should be more inclined to behave agentially when they perceive their interaction partners to be low in agency. Agentic behavior, in turn, should lead to a reputation of being high in agency (Anderson & Kilduff, 2009; Leckelt et al., 2015; Lee & Ofshe, 1981). Hence, people who view

<sup>2</sup> The conceptualization of dominance in the interpersonal circumplex model differs from the one used in evolutionary psychology, where dominance by definition involves noncommunal aspects (i.e., coercion and intimidation).

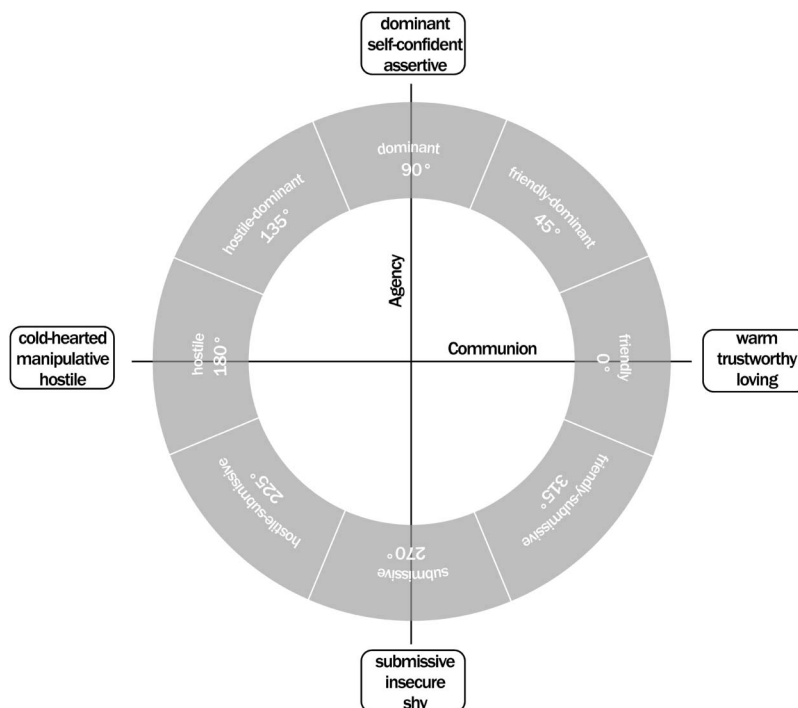


Figure 1. Interpersonal circumplex model with behavioral categories displayed as octants (cf. Schmidt et al., 1999) and person perception indicators displayed in boxes (cf. Jacobs & Scholl, 2005).

others as low in agency should display agentic interaction behavior and thereby develop an agentic reputation.

For example, imagine that Tim is new in class and introduces himself. If he perceives his new classmates to be low in agency (e.g., “These people are bashful”), he will likely also engage in schematic inferences about corresponding behavior (e.g., “I have nothing to fear here”) and act agentially. Conversely, if Tim perceives high agency in his classmates (e.g., “These people are very self-assured”), he will likely engage in contrary schematic inferences about corresponding behavior (e.g., “I should avoid confronting these people”) and act less agentially. In the first scenario, Tim will be deemed high in agency by his classmates due to his agentic behavior, and in the second scenario, Tim will be deemed low in agency because he does not show agentic behavior.

Among the most typical expressions of agentic behavior are assertiveness and dominance, which are located at the 90° angle of the interpersonal circumplex and reflect high agency and medium communion (Gifford & O’Connor, 1987; Horowitz et al., 2006; Wiggins, 1979). However, it is also conceivable that perceiving low agency in others will trigger interaction behavior that is located elsewhere in the upper half of the circumplex. For example, people might act in a more expressive and enthusiastic fashion (i.e., friendly-dominant behavior), a behavioral style located in the high agency/high communion octant of the circumplex (45°). Such a pattern would indicate that perceiving low agency in others triggers a general approach tendency. Further, perceiver effects of agency might also trigger arrogance or manipulateness (i.e., hostile-dominant behavior), a behavioral style that is located in the high agency/low communion octant of the interpersonal circumplex (135°). This pattern would indicate that people who perceive low agency in others display agentic behavior regardless of any

potential negative consequences with regard to the motive of getting along or so-called *unmitigated agency* (Ghaed & Gallo, 2006). Because no clear predictions concerning the specific coloration of agentic behaviors could be derived from the literature, we explored how other-perceptions of agency were related to the different circumplex octants.

### Correspondence Between Other-Perceptions and Reputations

How can people’s other-perceptions and reputations be quantified? Naturally, in social groups, perceiving others and being perceived by others happens simultaneously. That is, members of social groups are both *perceivers* who form judgments about others’ personalities and *targets* whose personalities are being judged by others. Such judgments are often studied in a research setting where every group member provides ratings about every other group member (i.e., a round-robin design; Kenny, 1994). Dyadic round-robin ratings are influenced by differences in both targets and perceivers: If Ann perceives Tim as assertive, this can be attributable to Ann’s *perceiver effect* (the average degree of assertiveness she perceives in others), Tim’s *target effect* (the average degree of assertiveness people perceive in Tim, i.e., his reputation), and the dyad’s *relationship effect* (the degree of assertiveness that Ann specifically perceives in Tim). The *Social Relations Model* (Kenny, 1994) accounts for the complexities of these interpersonal perceptions (for an accessible overview, see Back & Kenny, 2010). By decomposing perceiver variance, target variance, and relationship variance, the SRM provides estimates of individuals’ general other-perception (i.e., perceiver effect scores)

and their general reputation (i.e., target effect scores). If general other-perceptions were to indeed influence one's reputation, there should be an association between perceiver and target effects. Specifically, with regard to agency judgments, perceiver and target effects should be negatively correlated.

Early research on correlations between perceiver and target effects focused on judgments of the Big Five personality traits. Of these traits, *extraversion* and *openness* have shown some overlap with the construct of agency (McCrae & Costa, 1989; Paulhus & John, 1998) and therefore, these traits could be sensitive to the proposed complementarity mechanism. In his review, Kenny (1994) indeed reported negative correlations between perceiver and target effects of extraversion and openness in some but not all studies (see also Paulhus & Reynolds, 1995). It is possible that this inconsistency is based on the fact that extraversion and openness are not optimal indicators of agency (Depue & Collins, 1999; McCrae & Costa, 1989; Wiggins, 1979). Particularly when measured by only one or two items per trait, as is usual in round-robin studies, extraversion and openness are unlikely to reliably capture the core aspects of agency. To our knowledge, only one investigation to date explicitly used an agency and communion framework to examine the relations between other-perceptions and reputations: Dufner, Leising, and Gebauer (2016) analyzed trait judgments from two studies with respect to their perceiver-target associations and consistently found negative correlations for judgments of agency. Even though this pattern supports our line of argument, it cannot solve the question of causality. It was impossible to tell from their findings whether perceiver effects had an influence on target effects and whether this influence could indeed be attributed to observable agentic behavior.

There are two alternative mechanisms that might also yield correlations between perceiver and target effects: First, actual dispositional differences in terms of agency might account for the association. If Tim is a highly agentic person in general, this might lead him to see others as low in agency (e.g., as a result of a contrasting process; Campbell, Miller, Lubetsky, & O'Connell, 1964). At the same time, Tim's agency should be noticed by other people, which would be reflected in an agentic reputation. In this case, dispositional agency would be negatively correlated with perceiver effects (contrasting), and they would be positively correlated with target effects (target accuracy). Hence, it is possible that differences in dispositional agency are ultimately responsible for a negative association between perceiver and target effects of agency. To test whether this is the case, dispositional agency should be measured and included as an additional predictor of agency target effects.

Second, causality might run in the reverse direction. In this case, reputations might influence other-perceptions of agency. For example, group members might consider Tim to be low in agency (i.e., Tim would have a low reputation), and this might lead them to behave dominantly toward him. Tim would, in turn, (accurately) perceive his group members to be agentic. Note that this process requires at least a minimum level of group interaction because otherwise, target persons would not have been exposed to any of the group members' behaviors.<sup>3</sup> There are three ways to rule out this alternative explanation: (a) Correlations between perceiver and target effects could be studied at zero-acquaintance in a situation where people introduce themselves to their groups and where no group interactions exist whatsoever, (b) longitudinal effects of initial perceiver effects on

subsequent target effects could be studied, and (c) perceiver effects could be experimentally manipulated.

## Domain-Specificity

We propose that the hypothesized effects should be specific to other-perceptions in terms of agency. The described complementarity mechanism pertains to relational schemas only in the domain of agency, and therefore, we see no reason to believe that derogating others in terms of communion might be beneficial for attaining an agentic reputation. Thus, perceiver effects of communion should not predict target effects of agency.

Concerning reputational consequences, we described above that perceiver effects of agency should have an impact on target effects of agency. However, depending on the specific behavioral consequences, reputations of communion might also benefit or suffer from other-perceptions of agency. If low other-perceptions in terms of agency trigger high agency/high communion behavior, they might lead to favorable reputations in terms of communion. Conversely, if low other-perceptions in terms of agency trigger high agency/low communion behavior, they might be paired with unfavorable reputations in terms of communion. In fact, even if people who perceive others as low in agency do not show any revealing behavior with respect to communion, their reputation in terms of communion might still suffer from a display of agentic behavior as social judgments about agentic and communal characteristics are often contrasted against each other (Fiske et al., 2002; Kervyn, Yzerbyt, & Judd, 2010). Given our uncertainty about such potential side effects and their consequences for the domain-specificity of interpersonal outcomes, we investigated the links between perceiver effects of agency and target effects of communion in an exploratory manner.

## Study 1

The goal of Study 1 was to test whether low other-perceptions (i.e., perceiver effects) of agency would predict high reputations (i.e., target effects) of agency at zero acquaintance in a real-life social context. We also explored whether such an effect would be mediated by agentic behavior and whether it would have longer term consequences on social role ascriptions (leadership and friendship nominations) within a group. Finally, we tested the domain-specificity of the effects.

## Method

We analyzed first-impression ratings from a cohort of psychology freshmen in a round-robin paradigm. This zero-acquaintance session was part of the Connect study, a comprehensive longitudinal study for investigating processes of personality development and social relationships among university students. All procedures used in this study were approved by the Review Boards of the University of Münster and the University of Mainz (Title: "The Longitudinal Course of Narcissists' Reputations: A Developmental Social Interaction Ap-

<sup>3</sup> People might have knowledge about their reputations in general that is not based on actual group interactions. This knowledge, however, should be reflected in the self-reports of agentic dispositions. Therefore, and as argued before, self-reported disposition should be controlled for in any event.



proach”; No protocol number). We will focus on the procedures and measures that are relevant to our hypotheses. These were primarily drawn from the initial study phase. The material provided at the Open Science Framework (OSF) contains a full description of the Connect study and lists all publications that have used data from it (<https://osf.io/cjexy/>). None of these publications have examined complementarity in perceptions of agency.

**Sample.** The members of a complete cohort of 138 psychology freshmen at University of Münster were contacted via e-mail to participate in the study and to attend an introductory session one week before the start of the semester. A total of 109 (85 female) participants completed the measures relevant to this study. They were between the ages of 18 and 42 ( $M = 20.86$ ,  $SD = 3.70$ ), and most of them were German (93%). Participants received course credit, monetary compensation, lottery tickets for gift vouchers, and individualized feedback on their personality as compensation. Because the sample size was determined by the size of the cohort, sampling was not informed by an a priori power analysis. Assuming a population effect size of  $\rho = -.25$  for perceiver-target correlations in agency judgments (the smaller of the two effect sizes in Dufner et al., 2016) the power to detect such an effect with a two-sided test was 75%.

Participants rated the level of prior acquaintance with each coparticipant, and in most cases (93%), they indicated that they were unacquainted with the target person. In the remaining cases, participants indicated that they had seen the target once (2%), had exchanged a few words with the target (3%), talked for a while (2%), or had known the target for some time or were good friends with him or her (0.1%). Hence, most participants were strangers to each other at the beginning of the study.

**Procedure.** Upon arriving at the university campus, participants were welcomed by research assistants and told that they ought not to speak to each other until the start of the zero-acquaintance experiment. They were then guided to the lecture hall where the introductory session took place. Outside of the lecture hall, participants received an informed consent form, a pad of rating sheets, and a button with a randomly assigned participant number that they were asked to wear in a visible location throughout the session. In the lecture hall, seats were numbered according to the numbers on the buttons. After finding their designated seats, the students were welcomed by the experimenter. They received general information about the study and detailed instructions about the upcoming experiment. After participants had filled out their informed-consent forms, they were asked to individually step forward and, after being given a signal by the experimenter, briefly introduced themselves by stating their participant number, name, age, and place of origin. All self-introductions were videotaped and lasted between 5 and 21 seconds ( $M = 8.9$ ,  $SD = 2.6$ ). After each self-introduction, all other participants were then asked to rate the target person on several attributes. They were instructed that, to warrant anonymity, it would be important to keep their rating sheets covered during the self-introductions and to start with their ratings only after target persons had finished speaking and were on the way back to their seats. Further, they were instructed to remain quiet throughout the session to create constant conditions for everyone’s self-introduction and to avoid disturbances of the audio recordings made by the camera. The procedure was repeated until all students were rated. Thus, a full round-robin design was implemented so that each participant was both a perceiver (the person

making the evaluation) and a target (the person being evaluated). To prevent rating fatigue, a 10-min break was made after the first 50 self-introductions. The overall duration of the zero-acquaintance round-robin session was 90 min. On the following day, participants received an e-mail invitation to complete a battery of online personality questionnaires. Further, throughout the following months, participants were repeatedly asked to fill out brief personalized online diaries concerning their relationships with their fellow students.

**Interpersonal perception ratings at zero acquaintance.** For each participant, two ratings were relevant for the present research question as they covered personality impressions about agency and communion. The item stem was “This person is . . .” with agency being rated from 0 = *submissive/insecure* to 5 = *dominant/self-confident* and communion being rated from 0 = *cold-hearted/manipulative* to 5 = *loving/trustworthy*.

**Behavioral measures.** Seven trained coders rated the videotaped self-introductions on four global behavioral dimensions covering the octants of the interpersonal circumplex between 0° (medium agency/high communion) and 135° (high agency/low communion). Ratings were made on a 6-point scale (ranging from 1 = *not at all* to 6 = *very strong*) and achieved acceptable to good interrater reliability: *Friendly behavior* (i.e., offers explanations for a better understanding, behaves politely, kindly;  $ICC(2,k) = .78$ ), *expressive behavior* (i.e., shows positive emotions, speaks a lot, behaves actively, expressively;  $ICC(2,k) = .81$ ), *self-confident behavior* (i.e., behaves self-confidently, has a strong presence, behaves in a self-assured manner, powerful;  $ICC(2,k) = .78$ ), and *arrogant behavior* (i.e., shows cocky, bigheaded behavior, behaves in a braggy, arrogant way;  $ICC(2,k) = .55$ ).

**Leadership and friendship nominations.** In the personalized online diaries, participants were asked to answer several questions about their relationships with the other participants. For the present research, two of these social role indicators were relevant as they served as additional outcome variables, resembling distal measures of individuals’ success regarding the motives of getting ahead (agency) and getting along (communion). As an indicator of success regarding getting ahead, participants indicated whom they saw as leaders (*This person is a good leader*) and as an indicator of success regarding getting along, participants indicated whom they saw as friends (*This person is a good friend of mine*), each time with a binary response format (*yes* or *no*). Leadership and friendship nominations were assessed at five measurement occasions every two weeks during the first months of the semester.<sup>4</sup> Participants had the option to skip single targets by indicating that they have not met them before or could not remember them. However, this option was rarely used and, on average, participants rated 100 targets at the first, and 106 targets at the fifth time point. To obtain overall indices of the social role indicators, we calculated the proportion of yes responses each target received at each time point and aggregated these measures to form two overall indices ( $\alpha_{\text{leader}} = .97$ ;  $\alpha_{\text{friend}} = .92$ ). Aggregated leadership nominations ranged between 0 and .35 ( $M = .10$ ,  $SD =$

<sup>4</sup> In addition to these five measurement occasions, there were further follow-up assessments after the Christmas break and at the ends of the fourth and sixth semester. Including these time points in the composite index did not meaningfully alter the results of our analyses. However, for the results presented here, we did not include these time points in our index to preserve its temporal homogeneity.

.08), and friendship nominations ranged between .01 and .16 ( $M = .07$ ,  $SD = .03$ ).

**Dispositional agency and communion.** We operationalized dispositional agency and communion by constructing scales from an extended German version of the Self-Attributes Questionnaire (Pelham & Swann, 1989) that was included in the online questionnaire battery and incorporated items from the Interpersonal Adjective List (IAL; Jacobs & Scholl, 2005). A total of 23 items were rated on percentile rank rating scales that provided 10 response options (i.e., the lower or upper 50%, 30%, 20%, 10%, or 5% of a normal distribution), which were coded from 1 to 10, with low numbers indicating low rankings in the distribution. We selected the items “assertive,” “independent,” “dominant,” “leadership ability,” and “insecure” (reverse keyed) as indicators of agency. Averaging these ratings resulted in a scale with an acceptable level of internal consistency ( $\alpha = .75$ ). Correspondingly, we selected the items “helpful,” “sensitive,” “trustworthy,” “affectionate,” and “cold-hearted” (reverse keyed) as indicators of communion ( $\alpha = .84$ ). Operationalizing dispositional agency and communion via self-reports is standard practice (Abele et al., 2016; Gebauer, Paulhus, & Neberich, 2013; Jacobs & Scholl, 2005; Markey & Markey, 2009; Wiggins, Trapnell, & Phillips, 1988) and is based on the consideration that people likely have well accessible knowledge of their agentic and communal attributes. Crucial for the present work, this should particularly be true for the domain of agency as attributes such as dominance or assertiveness do not suffer from being overly evaluative and should thus be accurately reflected in self-views (John & Robins, 1993; Vazire, 2010).

**Data analytic approach.** We tested our hypotheses with a multiple regression approach. We first ran simple models in which outcomes were regressed on perceiver effects of agency. In a second step, we included the perceiver effect of communion as an additional predictor. Apart from allowing us to examine domain-specificity, this served a second purpose. Prior research has shown that perceiver effects of different domains typically share variance due to global evaluative bias (Srivastava, Guglielmo, & Beer, 2010; Wood, Harms, & Vazire, 2010). Consistent with this idea, the perceiver effect scores for agency and communion were substantially correlated ( $r = .45$ ). Thus, by including the perceiver effect of communion, we controlled for perceiver effect variance that could be attributable to shared, unspecific evaluative bias (cf. Srivastava et al., 2010, for a similar approach). Further, we included dispositional agency and communion as additional predictors to investigate whether perceiver effects had incremental va-

lidity above and beyond stable individual differences in these domains. Finally, as sex differences might be present in both perceiver and target effects of both agency and communion, we additionally included sex as a control variable. We tested our hypothesis concerning behavioral mediators in a path-analytical framework using bootstrapped confidence intervals. All significance tests were two-sided. The material at the OSF (<https://osf.io/cjexy/>) contain R (R Development Core Team, 2008) code showing further details about model specification. Because there were selectively missing data, the materials at the OSF also show the results that occurred when listwise deletion was applied. These results, however, were very similar to the results presented here that were based on the maximum available sample for each analysis. Please refer to Appendix A for descriptive statistics and to Appendix B for zero-order correlations of all variables involved in the analyses.

## Results

**Social relations analyses.** To decompose the sources of variation in the round-robin data, we ran *social relations analyses* (Kenny, 1988) using the R package *TripleR* (Schönbrodt, Back, & Schmukle, 2012). Table 1 provides standardized variance components and reliability estimates of perceiver and target effect scores.

Variance components can be considered substantial if they comprise at least 10% of the total variance (Kenny, 1994). Both agency and communion ratings met this criterion (see Table 1), indicating that impressions of agency and communion were substantially influenced by both perceivers (i.e., perceivers consistently differed in how they rated others in general) and targets (i.e., targets consistently differed in how they were rated by others in general). Estimated perceiver and target effect scores were highly reliable for both agentic and communal judgments (all reliabilities  $\geq .95$ ), which is unsurprising given the large group size.

**Predicting reputations of agency and leadership nominations.** Table 2 shows the results of all regression analyses. The top section displays the results of models predicting target effects of agency. As expected, perceiver and target effects of agency were inversely related. That is, participants who perceived others as relatively low in agency had a relatively high agency reputation themselves (top section, Model 1). This effect did not generalize to perceiver effects of communion (top section, Model 2). However, including perceiver effects of communion substantiated the effect of perceiver effects of agency. This suppression pattern emerged because variance shared between the two perceiver effect variables, suppos-

Table 1  
*Social Relations Analyses From Studies 1 and 2*

Measure	Study 1		Study 2					
			Session 1		Session 2		Session 3	
	Agy	Com	Agy	Com	Agy	Com	Agy	Com
Perceiver variance	.12	.18	.27	.52	.24	.47	.27	.52
Target variance	.22	.12	.23	.02	.30	.07	.35	.03
Relationship variance	.66	.71	.50	.46	.46	.62	.39	.45
PE reliability	.95	.96	.70	.84	.69	.81	.75	.83
TE reliability	.97	.95	.68	.17	.74	.31	.79	.20

*Note.* All estimates are standardized. Variances can be interpreted as proportions of the total variance in ratings. PE = Perceiver effect; TE = Target effect; Agy = Agency; Com = Communion.

Table 2  
 Study 1: Prediction of Interpersonal Outcomes by Other-Perceptions of Agency

Dependent variable	Predictors	Model 1		Model 2		Model 3		Model 4	
		$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>
Reputation of agency (immediate)	PE Agy	-.22	.020	-.30	.003	-.26	.009	-.26	.009
	PE Com			.19	.067	.19	.064	.19	.074
	Disp. Agy					.31	.001	.31	.001
	Disp. Com					-.07	.418	-.07	.421
	Sex							-.01	.959
	Model		$R^2 = .05$		$R^2 = .08$		$R^2 = .17$		$R^2 = .17$
Being seen as a leader (long-term)	PE Agy	-.20	.038	-.28	.007	-.23	.018	-.22	.023
	PE Com			.19	.064	.19	.062	.24	.017
	Disp. Agy					.33	<.001	.32	<.001
	Disp. Com					-.07	.445	-.08	.350
	Sex							.21	.028
	Model		$R^2 = .04$		$R^2 = .07$		$R^2 = .18$		$R^2 = .21$
Reputation of communion (immediate)	PE Agy	.22	.020	.18	.083	.18	.085	.16	.106
	PE Com			.08	.417	.09	.374	.01	.918
	Disp. Agy					-.04	.642	-.02	.813
	Disp. Com					-.04	.668	-.02	.830
	Sex							-.31	.001
	Model		$R^2 = .05$		$R^2 = .05$		$R^2 = .06$		$R^2 = .15$
Being seen as a friend (long-term)	PE Agy	-.11	.235	-.15	.146	-.15	.152	-.16	.144
	PE Com			.09	.384	.12	.282	.10	.354
	Disp. Agy					.07	.473	.07	.452
	Disp. Com					-.14	.140	-.14	.150
	Sex							-.05	.624
	Model		$R^2 = .01$		$R^2 = .02$		$R^2 = .04$		$R^2 = .05$

Note. PE = Perceiver effect; Agy = Agency; Com = Communion; Disp. = Self-reported disposition. Sex: female = 0, male = 1. Immediate reputations are target effects from the zero-acquaintance round-robin session. Long-term social role indicators are average proportions of leadership and friendship nominations in online diaries.  $N = 106$  to  $109$  (varying because of selectively missing data).

edly resembling trait-independent evaluative bias, was removed from the partial regression weights of Model 2. This pattern showed that specifically perceiving low agency in others predicted agentic reputations (as opposed to generally perceiving negative characteristics in others regardless of the content domain). Further, dispositional agency (but not communion) also predicted reputations of agency (Models 3 and 4). Importantly, taking dispositional variables into account in Models 3 and 4 did not substantially reduce the complementarity effect in agency impressions. This suggests that perceiver effects of agency have a unique effect on reputations of agency above and beyond dispositional agency, dispositional communion, and sex.

A similar pattern emerged when, instead of immediate reputations of agency, long-term leadership nominations were used as outcomes (second section in Table 2). Perceiver effects of agency negatively predicted leadership nominations above and beyond dispositional agency, dispositional communion, and sex. Interestingly, in Model 4 leadership nominations were also positively predicted by the perceiver effect of communion. This means that persons who perceived others as high in communion received more leadership nominations. Thus, even though perceiver effects of agency and communion were positively correlated, they predicted leadership nominations in opposite directions. However, the results concerning the perceiver effect of communion were somewhat ambiguous, as the effects did not reach significance in other models. In any case, the pattern of results supported our general proposal that derogating others in terms of agency, but not communion, leads to an agentic reputation and leadership nominations.

**Mediators.** We proposed that perceiver effects trigger agentic behavior, which then lead to a reputation of high agency. This, in turn, should be conducive to being nominated as a leader. To test this hypothesis, we first aimed to identify behaviors that might mediate the negative link between perceiver and target effects of agency. We did so by examining whether there was a behavioral indicator that was linked to both the perceiver and target effects of agency.

Table 3 shows the correlations of the four behavioral measures with the interpersonal perceptions of agency. The right column shows that the target effect of agency was correlated with all assessed behaviors. The correlations were particularly high for self-confidence, which is not surprising, given that this is a core feature of agency. What is more interesting, arrogance, which is located in the high agency/low communion octant of the interpersonal circumplex, was not only positively related to the target effect but was also negatively related to the perceiver effect.<sup>5</sup> That is, participants who perceived lower agency in others were more likely to act in a hostile-dominant (i.e., arrogant) manner.

<sup>5</sup> Given the exploratory nature of these analyses, we investigated how adjusting for multiple tests would influence our inferences. In Study 1 we considered friendly-dominant, dominant, and hostile-dominant behaviors as potential mediators, and in Study 2 we considered dominant, hostile-dominant, and hostile behaviors as potential mediators. Thus, *p* values should be judged significant when falling below an adjusted alpha level of  $.05/3 = .017$  which is the case for arrogance in Study 1 and for dominance, arrogance, and aggressiveness in Study 2.

Table 3  
 Study 1: Associations Between Behavioral Variables and Perceiver and Target Effects of Agency

Behavioral dimension	Interpersonal circumplex mapping	Perceiver effect		Target effect	
		<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Friendliness	0° (friendly)	.13	.170	.34	<.001
Expressiveness	45° (friendly-dominant)	.08	.433	.57	<.001
Self-confidence	90° (dominant)	-.12	.200	.73	<.001
Arrogance	135° (hostile-dominant)	-.24	.012	.33	<.001

We have argued that agentic reputations are beneficial for attaining leadership positions. Accordingly, we specified a path-analytical model in which the perceiver effect of agency (X) was used to predict leadership nominations (Y) through dominant-hostile behavior (i.e., arrogance, M1) and reputations of agency (M2) to test sequential mediation (Hayes, 2009). The results are displayed in Figure 2. The sequential indirect effect was significant ( $b_1 \cdot b_2 \cdot b_3 = -.026$ , 95% bootstrapped confidence interval:  $[-.057, -.005]$ ). This indicates that perceiving others as low in agency predicted arrogant behavior in the zero-acquaintance session. In turn, arrogant behavior was linked to reputations of high agency, and these reputations predicted leadership nominations in the follow-up online diaries. Yet, arrogance did not fully explain the association between the perceiver and target effects of agency, suggesting that our behavioral codings did not exhaustively capture the observational cues involved in the complementarity effect.

**Domain-specificity.** Above, we described how only perceiver effects of agency, and not of communion, predicted reputations of agency and leadership nominations. We also explored whether the consequences of perceiver effects of agency were specific to agency-related outcomes or whether they also influenced communion-related outcomes. As shown in the lower sections of Table 2, perceiver effects of agency were not consistently associated with reputations of communion and friendship nominations. In addition, the signs of the regression weights

were inconsistent across the two outcomes. Thus, perceiving low agency in others did not have a systematic impact on interpersonal outcomes concerning communion. It is noteworthy that perceiver effects of communion also did not significantly predict reputations of communion or being seen as a friend.

## Discussion

In Study 1, our goal was to test whether perceiving low agency in others would be linked to an agentic reputation in newly formed groups. We collected round-robin data from a single, very large group that was formed in a naturalistic real-life context, which resulted in highly reliable assessments of perceiver and target effects. The results support the hypothesis that perceiving low agency in others is instrumental for gaining an agentic reputation. After their self-introductions, persons who perceived others as relatively low in agency were seen as high in agency themselves. This effect could not be attributed to dispositional differences in agency or communion or to sex. Furthermore, because of the setting of the zero-acquaintance session, the alternative explanation that causality ran in the other direction with reputations influencing other-perceptions was unlikely. Participants had never interacted with each other prior to the study, and self-introductions were standardized to be very short and not to invoke behavioral feedback from the audience (i.e., they were “one-way” presenta-

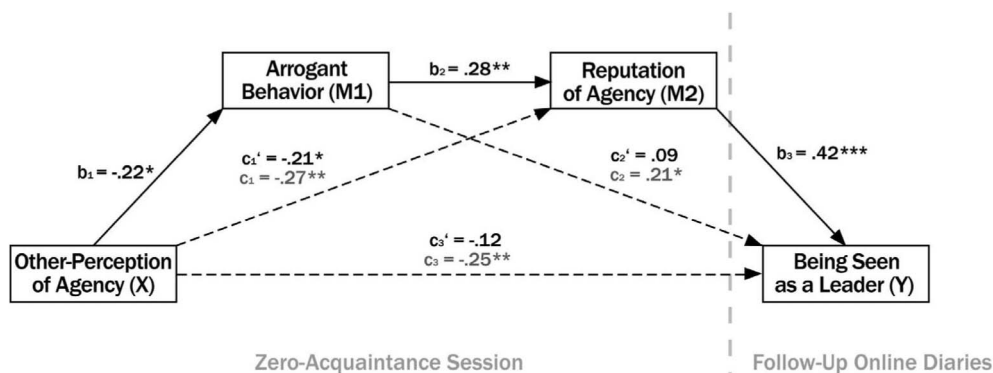


Figure 2. Sequentially mediated path analysis of the complementarity effect in agency judgments in Study 1. Standardized regression weights are presented above the respective paths. Total effects are presented in a gray font. The figure shows the estimates of a path model where the perceiver effect of communion had been partialled out of the perceiver effect of agency but where no further control variables were included. The results were very similar when raw perceiver effects were used ( $b_1 = -.24^*$ ,  $b_2 = .29^{**}$ ,  $b_3 = .43^{***}$ ,  $c_1 = -.15$ ,  $c_2 = .10$ ,  $c_3 = -.08$ ,  $b_1 \cdot b_2 \cdot b_3 = -.030$   $[-.062, -.007]$ ) and when dispositional agency, dispositional communion, and sex were controlled for ( $b_1 = -.19^*$ ,  $b_2 = .31^{**}$ ,  $b_3 = .37^{***}$ ,  $c_1 = -.18^*$ ,  $c_2 = .02$ ,  $c_3 = -.11$ ,  $b_1 \cdot b_2 \cdot b_3 = -.022$   $[-.051, -.004]$ ). \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .



tions rather than actual interactions). Therefore, it is doubtful that reputations were formed instantly, and even if this was the case, that targets correctly inferred these reputations and adjusted their behavior and other-perceptions in accordance with their inferences. We thus deemed causal influences from reputations to other-perceptions highly unlikely and negligible in size.

We expected that the association between other-perceptions and reputations of agency could be explained by agentic interaction behavior, but we had no hypothesis about the specific nature of this behavior. Our findings suggested that *arrogance*, reflecting a pattern of hostile-dominant interaction behavior, mediated the complementarity effect. That is, participants who saw others as relatively submissive and insecure introduced themselves in an arrogant manner and were consequently seen as self-confident and dominant. Moreover, agentic reputations based on other-derogation transferred to long-term social role attributions. Throughout the following months, people were more frequently nominated as leaders if they had perceived others as low in agency and had gained agentic reputations in the initial group meeting.

Finally, the suggested process was specific to the agentic domain. Other-perceptions of agency did not predict communal outcomes, nor did other-perceptions of communion predict agentic or communal outcomes.

## Study 2

Study 1 offered initial insights into the dynamics of interpersonal perceptions of agency in newly formed groups. In Study 2, our goal was to further test our hypothesis concerning the causal process underlying complementarity in agency judgments. We examined whether *changes* in a person's other-perceptions of agency would influence this person's behavior and thereby induce *changes* in reputations of agency. Further, we sought to confirm that these effects would be mediated by hostile-dominant interaction behavior. Study 2 incorporated small group interactions in a laboratory-based setting.

## Method

The study, PILS, was a large longitudinal investigation of personality and the development of social interactions during naturally unfolding getting-to-know-you processes. All procedures used in this study were approved by the Review Board of the University of Mainz (Title: "The longitudinal course of narcissists' reputations: A developmental social interaction approach"; No protocol number). As in Study 1, we used a selection of measures that were relevant for our hypotheses. Concerning the selection of materials and analyses, we aimed at using an approach that runs as parallel to the one from Study 1 as possible. A full description of the study and a list of all publications that have used data from it can be found at the OSF (<https://osf.io/cjexy/>). None of these publications have examined complementarity in perceptions of agency.

**Overview.** The study involved two stages of data collection. First, participants filled out an online questionnaire that included questions about demographic information and a battery of personality trait measures. Second, participants were invited to the laboratory to take part in three sessions involving a series of different group tasks. The sessions were each spaced exactly 1 week apart.

**Sample.** A total sample of 311 participants (171 female) took part in the study. They were assigned to 54 groups of four to six (two groups of four; nine groups of five; 43 groups of six) participants each. Some were same-sex groups and others were mixed-sex groups (21 same-sex female groups, 16 same-sex male groups, 17 mixed-sex groups). Some of the participants missed single sessions (Session 1: 24 missing; Session 2: 16 missing; Session 3: 17 missing) or did not complete the online questionnaire (14 missing) but the majority of participants completed the full procedure ( $N = 258$ ). All participants were students from various disciplines (7% studied psychology) mainly recruited via e-mail lists at a university in Germany. They participated in exchange for research participation credit or monetary compensation.

Because the study was not specifically designed to test the current research question, no a priori power analysis was computed in reference to a presumable effect size. Yet, a power analysis revealed that the probability of detecting the expected negative perceiver-target association, assuming  $\rho = -.25$  in a cross-sectional analysis, was 99%.

Participants were between the ages of 18 and 39 ( $M = 23.79$ ,  $SD = 3.93$ ), and the majority of them were German (89%). The average degree of acquaintance was low ( $M = 1.33$ ,  $SD = 0.95$ ; on the item "I know this person" scaled from 1 = *does not apply at all* to 6 = *applies perfectly*).

**Procedure.** To avoid conversations among the participants before the start of the study, they were guided to the laboratory by an experimenter and reminded not to speak to each other until instructed to do so. After arriving at the laboratory, participants were randomly assigned to seats (the only constraint being that males and females were alternately seated) and officially welcomed by the experimenter. Each session began with the collection of interpersonal perception ratings about every group member (i.e., round-robin ratings), followed by three (in Session 1) or two (in Sessions 2 and 3) social interaction tasks. After each of these tasks, participants again provided interpersonal perception ratings. This resulted in a total of 10 round-robin trials and seven interaction tasks across the three sessions. All the group's interactions were videotaped.

**Session 1 tasks.** The first session's goal was to guide the groups' initial getting-to-know-you experiences in a relatively standardized way. First, all participants completed a reading-aloud task (Task A), where they read aloud a composition of different texts (see Borkenau, Mauer, Riemann, Spinath, & Angleitner, 2004 for a related procedure). The second task (Task B) involved a short self-introduction ("Please introduce yourselves to the group, one after the other. Just say briefly who you are."). In the third task (Task C), participants were asked to provide more detailed self-introductions ("Now you are asked to introduce yourselves in more detail. Tell the others something about yourselves, about your leisure time activities and personal interests."). After these tasks, participants individually completed a set of cognitive ability measures, which are not relevant to the present research question.

**Session 2 tasks.** Session 2 was designed to stimulate task-related group interactions. First, participants engaged in the so-called "Lost On The Moon" task (Robins & Beer, 2001). Therein, participants have to correctly prioritize a list of items on the basis of how helpful the items would be for survival in a scenario in which the group has crash-landed on the moon in a space race. The

second task of Session 2 was “The Ticking Bomb” task (*Association for the Prevention of Torture, 2007*). The task involves a scenario-based group discussion about the (il-)legitimacy of torture.

**Session 3 tasks.** Session 3 was designed to create more personal and intimate social experiences in the groups. The first task in Session 3 involved discussing a complex social dilemma that was based on a scenario in which five protagonists are confronted with a series of incidents, leading them to break moral norms for various reasons. The group’s task was to agree on a ranking with respect to the protagonists’ morality (Task F). The last task was a personality game (Task G) where participants had to select and assign adjectives to describe themselves and the others in the group. The set-up creates a situation in which participants are encouraged to openly exchange their views about themselves and about one another. Detailed instructions for all group tasks can be retrieved from the materials at the OSF (<https://osf.io/cjexy/>).

**Interpersonal perception ratings.** Several items were assessed, covering interpersonal attraction, trait perceptions, and social role perceptions. For the present work, the trait perceptions *assertiveness* and *trustworthiness* served as indicators of agency and communion, respectively. Participants indicated how strongly they agreed with the statements “This person is assertive” and “This person is trustworthy” on a scale ranging from 1 (*does not apply at all*) to 6 (*applies perfectly*). To run parallel to the analyses from Study 1, the social role perceptions “I can imagine this person as a good leader” and “I can imagine this person as a good friend” were used as additional outcome variables, again serving as measures of individuals’ success regarding the motives of getting ahead (agency) and getting along (communion), respectively. The social role perceptions were rated on the same 6-point scale as the trait perceptions. It is important to note that these social role perceptions differed from the social role nominations in Study 1. In Study 1, leadership and friendship nominations were assessed over the course of the months following the zero-acquaintance session. During that time, participants were getting increasingly well acquainted, which is why social role nominations reflected the group’s social reality. In such a context, being nominated as a friend or a leader is what actually makes you a friend or a leader. In Study 2, by contrast, leadership and friendship perceptions were measured directly after the remaining interpersonal perceptions and thus resembled rather early expectations regarding relationship potential (i.e., being seen as a *potential* leader or as a *potential* friend).

Because equal time-lags are essential for our statistical models, we had to make a choice about whether to analyze macrolongitudinal development between the sessions or microlongitudinal development within the sessions. Theoretical models have emphasized slow and gradual changes in target effects as a function of acquaintance (*Kenny, 1991*), and empirical investigations of changes in peer perceptions commonly use rather long time-lags (*Denissen, Schönbrodt, van Zalk, Meeus, & van Aken, 2011; Dufner, Reitz, & Zander, 2015; Reitz, Motti-Stefanidi, & Asendorpf, 2016*), and therefore we decided to focus on the former. We aggregated all interpersonal perception ratings coming from the same session to obtain composite indices (all reliabilities between  $\alpha = .75$  and  $\alpha = .96$ ) covering three distinct stages during the getting-to-know-you process. As a reminder, impressions from Session 1 were based exclusively on noninteractive experiences

(i.e., reading aloud and self-introductions), impressions from Session 2 were additionally informed by how the group members had behaved in more dynamic, task-related group interactions, and impressions from the final session were additionally informed by more intimate and personal experiences.<sup>6</sup>

**Behavioral measures.** The video recordings were rated by trained coders on different global behavioral dimensions covering different octants of the interpersonal circumplex on a scale ranging from 1 (*not at all*) to 6 (*very strong*). *Table 4* provides an overview of the ratings and the respective reliabilities. Taken together, interrater reliability was satisfactory for the behavioral observations in the self-introductions (Tasks B and C, *ICCs* ranging from .62 to .77) and good for the group-interaction tasks (Tasks D to G, *ICCs* ranging from .71 to .94).

**Dispositional agency and communion.** As in Study 1, we operationalized dispositional agency and communion via self-report measures. The online questionnaire contained a shortened version of the set of items that was used in Study 1. The items *assertive*, *independent*, *ambitious*, and *leadership ability* served as indicators of agency, and the items *helpful*, *sensitive*, *honest*, and *trustworthy* served as indicators of communion. The two calculated scales showed acceptable internal consistencies (agency:  $\alpha = .72$ ; communion:  $\alpha = .79$ ).

**Data analytic approach.** In a first step, parallel to Study 1, we ran cross-sectional regression models and predicted target effects of agency from perceiver effects of agency in each of the three sessions. Subsequently, we analyzed within-subject effects in agency perceptions over the course of the three sessions by specifying a random-intercept cross-lagged panel model (*Hamaker, Kuiper, & Grasman, 2015*). In the random-intercept cross-lagged panel model, latent variables were modeled to explain stable differences between persons in their perceiver and target effects (i.e., random intercepts). Further, auto-regressive effects were modeled between subsequent measurements to account for within-person carryover effects in the perceiver and target effects. Residuals from the same sessions for perceiver and target effects were allowed to correlate to account for shared method variance. Most important, cross-lagged effects were modeled from perceiver to target effects of the subsequent session and viceversa to estimate the influence of within-person changes in one variable on subsequent within-person changes in the other variable. Model param-

<sup>6</sup> Our choice to average all ratings coming from the same session was based on the goal to reach a maximum level of aggregation and to obtain reliable estimates of the respective interpersonal perceptions. However, to replicate the cross-sectional findings from Study 1, the ratings following Task B are best suited, as they are most parallel to the interpersonal perceptions collected in Study 1. The analyses were very similar no matter whether we used the aggregated ratings from Session 1 or only the ratings that followed Task B. Regarding the longitudinal analyses, instead of averaging the ratings, one could argue that it is sufficient to only use each session’s final rating because these ratings capture what a perceiver thought of a target based on everything that had happened in the preceding tasks. Therefore, we ran the RI-CLPM with each session’s final ratings instead of the composite scores. These results are similar to those presented here and yield the same substantial conclusions. The results based on these single time point analyses can be retrieved from the materials at the OSF (<https://osf.io/cjexy/>).

Table 4  
Study 2: Interrater Reliabilities ICC(2,k) for the Coded Behavioral Dimensions

Behavioral dimension	Interpersonal circumplex mapping	Number of raters	Task					
			B	C	D	E	F	G
Friendliness/Cooperativeness	0° (friendly)	3	.77	.72	.71	.78	.74	.79
Expressiveness	45° (friendly-dominant)	6	.64	.76	.90	.91	.89	.89
Dominance	90° (dominant)	6	.70	.70	.91	.94	.92	.90
Arrogance	135° (hostile-dominant)	6	.66	.62	.84	.84	.84	.84
Aggressiveness	180° (hostile)	6	—	—	.83	.86	.84	.81

*Note.* Task B: Short self-introduction. Task C: Detailed self-introduction. Task D: Lost on the moon. Task E: Ticking bomb. Task E: Moral dilemma. Task F: Personality game. Friendliness (coded for Tasks B and C): Is polite, kind, considerate. Cooperativeness (coded for Tasks D to G): Is considerate, polite, supportive. Expressiveness: Shows positive affect, is talkative, outgoing, active. Dominance: Shows leadership, is confident, assertive. Arrogance: Is pretentious, conceited, stresses own performance. Aggressiveness: Is angry, annoyed, antisocial. — = not coded. The presented behavioral dimensions were not coded for Task A (reading aloud).

eters were estimated with the R package lavaan (Rosseel, 2012).<sup>7</sup> All significance tests were two-sided and full information maximum likelihood estimation was used to account for selectively missing data (Enders & Bandalos, 2001). As in Study 1, the perceiver effect of communion was partialled out of the perceiver effect of agency prior to our analyses to obtain a measure that was independent of trait-unspecific evaluative bias. However, we also report the results based on the raw scores. The material at the OSF (<https://osf.io/cjexy/>) contains R code that provides further details about model specification. Further, we present results based on listwise deletion at the OSF (instead of results based on the maximum available sample for each analysis which are presented here). In sum, listwise deletion yielded the same statistical inferences. Please refer to Appendix C for descriptive statistics and Appendix D for zero-order correlations of all variables involved in the analyses.

## Results

**Social relations analyses.** As in Study 1, we decomposed the round-robin ratings into perceiver, target, and relationship variance using TripleR (Schönbrodt et al., 2012). Standardized variance estimates and perceiver and target effect reliabilities are presented in Table 1.

Agency impressions were substantially influenced by both perceivers and targets in all three sessions (all standardized variances  $\geq .23$ ). Furthermore, all perceiver and target effect scores had acceptable reliabilities (all reliability estimates  $\geq .68$ ). In perceptions of leadership potential, target effects comprised between 23% and 30% of the total variation across the three sessions, yielding acceptable reliable estimates of who was seen as a good leader (all reliabilities  $\geq .67$ ). Despite being acceptable, the reliabilities were substantially lower than in Study 1, a finding that can be explained by the smaller group sizes. To control for potential differences between groups, we group-mean-centered the perceiver and target effect scores from TripleR. Moreover, target effects of agency were highly correlated with target effects of leadership potential ( $r = .93$  in Session 1 and 2,  $r = .94$  in Session 3). This was likely because, in contrast to Study 1, both variables were measured on the same scale and in the same social situation. As a result of this large overlap, our analyses yielded similar results no matter whether reputations of agency or leadership potential were used as the outcome variable. Thus, for the sake of brevity, we only present the results for reputations of agency in the

main article and the analogous results for leadership potential in the materials at the OSF (<https://osf.io/cjexy/>).

In the communal domain, the pattern looked different: In our primary communion item (i.e., trustworthiness), perceiver variance was high across the three sessions (all standardized variances  $\geq .47$ ), but target variance was very low (all standardized variances  $\leq .07$ ; see Table 1). This means that perceivers differed a great deal in how trustworthy they rated others in general, but at the same time, they did not agree much about which person appeared trustworthy and which person did not. In consequence, there were almost no differences in the mean trustworthiness ratings targets received from their group members. Similarly, target effects of friendship potential also comprised less than 10% of the relative variation in each session, indicating that no substantial variation in the extent to which participants were seen as potential friends was present in the data.<sup>8</sup> Because communion-related target effects did not meet the conventional criterion of a minimum relative variance of 10% (Kenny, 1994) in Study 2, no analyses could be run with these data. Note that the insufficient target variance was also reflected in the low reliabilities of target effect scores (see Table 1). As no specificity checks could be

<sup>7</sup> The maximum likelihood estimator did not converge when we used raw (instead of adjusted) perceiver effect scores in the RI-CLPM. However, constraining the variance parameters of the latent perceiver factors to be equal helped the estimator to converge. A similar respecification was needed when target effects of leadership (instead of agency) were used (see R-Code at the OSF for details; <https://osf.io/cjexy/>). In addition to the RI-CLPM, we specified a classic cross-lagged panel model (CLPM) in which between-person effects are accounted for by the autoregressive paths rather than by latent variables. Although some have questioned this model's ability to provide estimates of mere within-person effects (Hamaker et al., 2015), the CLPM converged normally and yielded the same substantive conclusions for the present research question (see materials at the OSF).

<sup>8</sup> Low target variance for communal traits is quite common in studies of short-term acquaintance (Kenny, Albright, Malloy, & Kashy, 1994). This can be explained by the fact that communal judgments are more affect-laden and evaluative (e.g., compared with agentic judgments), rendering them less objective (i.e., reducing consensus) and more idiosyncratic (i.e., enhancing relationship variance; Kenny, 1994). Hence, dyadic influences (e.g., two people sharing the same hobby) should predominate over person-level influences in shaping perceptions of trustworthiness or friendship potential. Note that by having participants speak to a passive audience in Study 1, most dyadic interpersonal processes were eliminated which made possible a more consensual perception of targets' communion (i.e., higher relative target variance).

performed with respect to communal outcomes, we focused on the agentic domain in the analyses of Study 2.

#### Predicting reputations of agency and leadership potential.

We first investigated cross-sectional relations between perceiver and target effects. Specifically, we regressed target effects of agency on perceiver effects of agency, perceiver effects of communion, dispositional agency, dispositional communion, and sex within each of the three sessions. Table 5 shows the results. Perceiver effects of agency did not predict target effects of agency in the first two sessions, but in the last session, the expected negative association of perceiver and target effects emerged. This effect held when we controlled for dispositional agency, dispositional communion, and sex (Models 3 and 4). As in Study 1, including perceiver effects of communion substantiated the predictive validity of perceiver effects of agency because we accounted for unspecific evaluative bias in perceiver effects in these models (Models 2, 3, and 4). This effect was particularly pronounced in Study 2 because perceiver effects of agency and communion were strongly correlated ( $r_{S1} = .70$ ;  $r_{S2} = .74$ ;  $r_{S3} = .73$ ).

The same pattern emerged when perceptions of leadership potential were used as the outcome in the same set of analyses (see materials at the OSF; <https://osf.io/cjexy/>). Perceiver effects of agency negatively predicted being seen as a potential leader in the last, but not in the first two sessions.

**Longitudinal effects in agency perception.** We next investigated whether perceiver effects of agency predicted within-person increases in target effects of agency over time. The results of the RI-CLPM are depicted in Figure 3. Crucially, the cross-lagged path from the perceiver effect in Session 2 to the target effect in Session 3 indicated a significant negative effect ( $b = -0.13$ ,  $p = .031$ ). This means that individuals who perceived low agency among their group members (relative to their personal

baseline) in Session 2 were likely to experience a subsequent upward shift in their reputation of agency. This finding is in line with our reasoning that the complementarity effect in agency judgments can be explained by a directional link between perceiver and target effects instead of being fully driven by stable between-person differences. In fact, the latent variables representing stable interindividual differences in perceiver and target effects were not substantially correlated,  $r = -.04$ ,  $p = .993$ . Interestingly, in addition to our proposed effect, an effect in the reverse direction was present: High agency target effects from Session 2 predicted decreases in perceiver effects in the subsequent session ( $b = -0.36$ ,  $p = .025$ ). Note that the descriptive differences in the size of the two cross-lagged parameters between Session 2 and 3 comes along with a respective difference in standard-errors (i.e., the cross-lagged paths have different effect size estimates but similar  $p$  values). Potentially, this goes back to the notable differences in the auto-regressive parameters from T2 to T3 (cf. Figure 3) suggesting that the variance in target effects of T3 might be somewhat restricted (compared with the variance in perceiver effects of T3). In any case, the descriptive difference in effect sizes was not statistically significant,  $\Delta\chi^2(1) = 2.08$ ,  $p = .149$ .

We also examined whether the cross-lagged effects were present when perceiver effects of agency were not adjusted for perceiver effects of communion prior to the analysis. Thus, we reran the models using the raw perceiver effects of agency, which yielded a significant cross-lagged path from perceiver effects of Session 2 to target effects of Session 3 ( $b = -0.10$ ,  $p = .032$ ), but no significant effect in the other direction (from Session 2 target effects to Session 3 perceiver effects;  $b = -0.18$ ,  $p = .116$ ). The same pattern also emerged when we used target effects of leadership potential instead of the target effects of agency (see materials at the OSF; <https://osf.io/cjexy/>).

Table 5  
Study 2: Predicting Reputations of Agency From Other-Perceptions of Agency

Session	Predictors	Model 1		Model 2		Model 3		Model 4	
		$\beta$	$p$	$\beta$	$p$	$\beta$	$P$	$\beta$	$p$
1	PE Agy	.05	.382	.06	.471	.05	.523	.06	.493
	PE Com			-.01	.894	.04	.676	.03	.702
	Disp. Agy					.20	.002	.20	.002
	Disp. Com					-.17	.007	-.17	.009
	Sex							.03	.631
	Model		$R^2 < .01$		$R^2 < .01$		$R^2 = .05$		$R^2 = .05$
2	PE Agy	-.03	.580	-.00	.960	-.02	.844	-.01	.915
	PE Com			-.04	.662	.01	.901	.01	.933
	Disp. Agy					.28	<.001	.27	<.001
	Disp. Com					-.21	.001	-.20	.002
	Sex							.08	.173
	Model		$R^2 < .01$		$R^2 < .01$		$R^2 = .08$		$R^2 = .09$
3	PE Agy	-.11	.070	-.18	.031	-.19	.024	-.18	.030
	PE Com			.11	.208	.16	.062	.16	.068
	Disp. Agy					.27	<.001	.27	<.001
	Disp. Com					-.17	.007	-.16	.010
	Sex							.06	.337
	Model		$R^2 = .01$		$R^2 = .02$		$R^2 = .08$		$R^2 = .09$

Note. PE = Perceiver effect; Agy = Agency; Com = Communion; Disp. = Self-reported disposition. Sex: female = 0, male = 1.  $N = 287$  to 310 (varying because of selectively missing data).



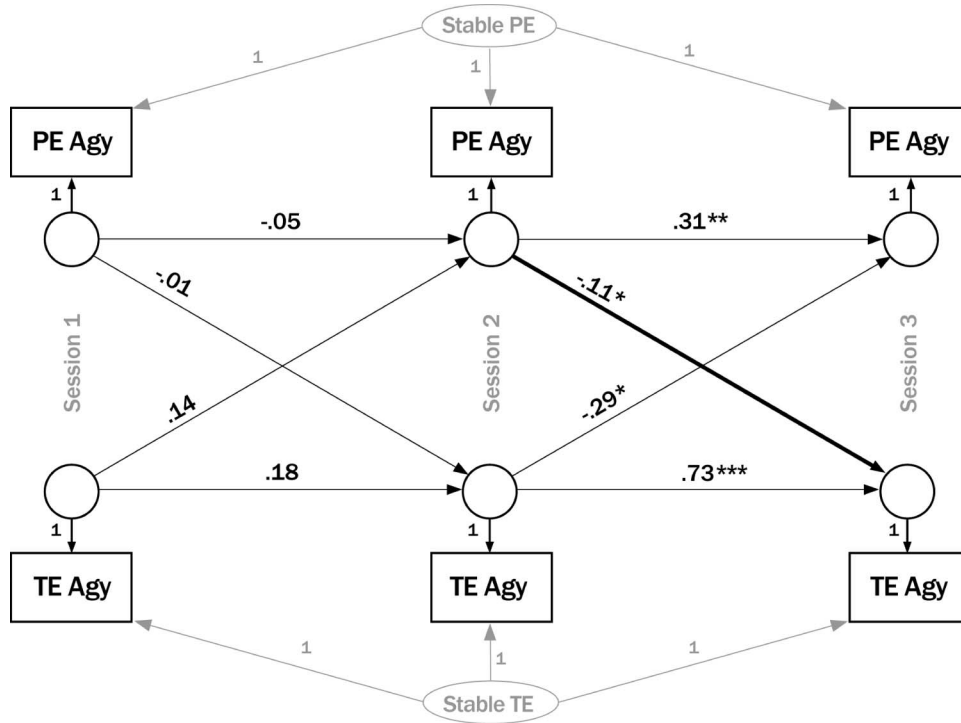


Figure 3. Random-intercept cross-lagged panel model of agency impressions in Study 2. The model showed good fit  $\chi^2(5) = 1.008, p = .962, CFI = 1.000, RMSEA = .000$ . The arrow printed in bold resembles the hypothesized negative effect of other-perceptions on reputations in the agentic domain. All estimates are standardized. PE = Perceiver effect; TE = Target effect; Agy = Agency. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

**Mediators.** Finally, we examined whether the negative longitudinal effect of perceiver effects of agency in Session 2 on target effects of agency in Session 3 would be mediated by observable agentic behavior. Table 6 shows the correlations of agency perceptions with all behavioral observations from Session 3.

Dominance, arrogance, and aggressiveness were negatively correlated with perceiver effects from Session 2 and positively correlated with target effects at the end of Session 3. Taken together, these behavioral indicators present a pattern of unmitigated agency, that is, highly agentic and noncommunal behavior. Because the three variables overlapped conceptually and empirically (all pairwise correlations:  $r_s \geq .78, p_s < .001$ ), we aggregated

them to form a composite indicator ( $\alpha = .94$ ) of the 135° circumplex octant capturing hostile-dominant behavior.

We examined whether being seen as assertive at the end of Session 3 could be explained by hostile-dominant interaction behavior (during Session 3) triggered by other-derogation (in Session 2). Thus, similar to Study 1, we specified a path-analytical model that used perceiver effects of agency (X) as the predictor, hostile-dominant behavior (M) as a mediator, and the target effect of agency (Y) as the outcome. Further, we controlled for baseline levels in the outcome by including the Session 2 target effect of agency as a covariate. The results are displayed in Figure 4. The indirect effect was significant ( $b_1 \cdot b_2 = -.027, 95\%$  bootstrapped

Table 6  
Study 2: Associations Between Behavioral Variables and Perceiver and Target Effects of Agency

Behavior during S3	Interpersonal circumplex mapping	Perceiver effect in S2		Target effect at the end of S3	
		r	p	r	p
Cooperativeness	0° (friendly)	.09	.120	.43	<.001
Expressiveness	45° (friendly-dominant)	-.07	.232	.65	<.001
Dominance	90° (dominant)	-.15	.012	.68	<.001
Arrogance	135° (hostile-dominant)	-.24	<.001	.50	<.001
Aggressiveness	180° (hostile)	-.21	<.001	.45	<.001

Note. S = Session. Behavioral observations were averaged across the two tasks from Session 3.  $N = 288$  to 293 (varying because of selectively missing data).

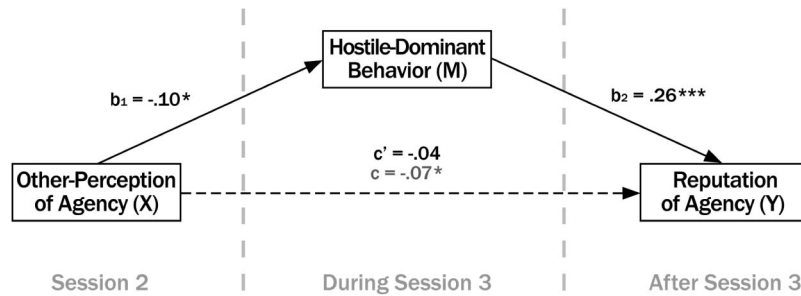


Figure 4. Mediated path analysis of the complementarity effect in agency judgments in Study 2. Standardized regression weights are presented above the respective paths. Baseline levels of reputations of agency from Session 2 were used as a covariate (not depicted in the diagram). The estimates in the figure refer to a model in which the perceiver effect of communion had been partialled out of the perceiver effect of agency but where no further control variables were included. The results were similar when raw perceiver effects were used ( $b_1 = -.13^{**}$ ,  $b_2 = .26^{***}$ ,  $c' = -.03$ ,  $b_1 \cdot b_2 = -.034$  [-.061, -.009]) and when dispositional agency, dispositional communion, and sex were controlled for ( $b_1 = -.11^*$ ,  $b_2 = .26^{***}$ ,  $c' = -.04$ ,  $b_1 \cdot b_2 = -.029$  [-.055, -.004]). \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

confidence interval [-.053, -.003]), indicating that participants who perceived their group members as relatively low in agency at the end of Session 2 were more likely to act in a hostile-dominant manner during Session 3 and were consequently seen as relatively high in agency (controlling for their baseline reputation of agency).

We reran the model with arrogance as the mediator to check whether the results held when a more specific but less reliable operationalization of hostile-dominant behavior was used. The results were very similar ( $b_1 = -.13^*$ ,  $b_2 = .13^{***}$ ,  $c = -.05$ ,  $b_1 \cdot b_2 = -.017$  [-.037, -.001]). Finally, the results were also virtually identical when target effects of leadership potential were used as the outcome (see materials at the OSF; <https://osf.io/cjxy/>).

## Discussion

In Study 2, our goal was to replicate the finding that perceiving low agency in others is linked to a reputation of high agency and to examine the directionality of this link in a longitudinal design. Therefore, we analyzed round-robin data from a multi-wave laboratory study of previously unacquainted members of task groups. The results partly replicated the findings from Study 1. In the first two sessions, perceiver effects were not linked to target effects but in the final session they were negatively related. This can likely be explained by the different social context compared with Study 1. In Study 1, the round-robin session marked the beginning of participants' university studies. In this real-life context, participants were facing more than 100 fellow students and several experimenters when introducing themselves. As this situation was indeed consequential in terms of making new friends, they were presumably considerably worried about making a good impression and thus, the situation involved a certain degree of social pressure for them. As such, this context was likely to result in diagnostically meaningful differences in agency judgments. By contrast, as groups in Study 2 were composed randomly and were much smaller, participants interacted in a more isolated and less threatening social context. Thus, for diagnostically meaningful differences in agency to emerge, more competence-related

group interactions and a higher level of acquaintance among the group members might have been required in Study 2.

With respect to longitudinal changes in agency perceptions, as hypothesized, other-perceptions negatively predicted changes in reputations of agency. This means that participants who perceived others to be low in agency in Session 2 (relative to their personal baseline) were more likely to experience upward shifts in their reputation of agency in the subsequent session. This effect was also present when, instead of trait perceptions of agency (i.e., assertiveness), social role perceptions (i.e., leadership potential) were used as target effects and when perceiver effects of agency were not adjusted for evaluative bias.

At the same time, there was some evidence for the notion that reputations of agency can also be negative longitudinal predictors of other-perceptions of agency. Potentially, participants who were deemed high in agency by their peers were confronted with relatively few agentic behaviors by these peers and, in turn, adjusted their views on others accordingly. However, this effect was not significant under alternative specifications (i.e., when using reputations of leadership potential, raw instead of adjusted perceiver effects) and therefore relatively unstable.

Finally, mirroring the findings from Study 1, being perceived as agentic at the end of the study was explained by a mediation process involving hostile-dominant behavior. Other-derogation in terms of agency in Session 2 predicted higher levels of aggressiveness, arrogance, and self-confidence in Session 3, which explained increases in agentic reputations. Once again, the same was true when being perceived as a potential leader was used as the outcome.

In sum, Study 2 corroborated that perceiving low agency in others in a newly formed social group can benefit one's reputation in terms of agency and leadership potential. Supporting the claimed directionality of the underlying mechanism, changes in people's agentic reputations occurred in response to changes in these people's views of others' agency. Further, Study 2 replicated the finding that a blend of agentic and noncommunal behavior (e.g., arrogance or hostile dominance) accounted for the comple-

mentarity effect in agency judgments. Yet, complementarity patterns were not found across all of the Study's sessions, which renders the overall evidence for the suggested mechanism somewhat inconclusive. Therefore, we sought to gain more certainty about our key claim in a third study.

### Study 3

Study 3 was designed to provide an experimental test of the key path of the hypothesized causal chain, namely the effect of other-perceptions on agentic behavior. Precisely, because of the results of Studies 1 and 2, we expected other-perceptions of agency to negatively predict hostile-dominant behavior. The main idea of the study was to induce low (vs. high) other-perceptions of agency in participants and to test whether this triggers more (vs. less) hostile-dominant behavior toward these others in a getting-to-know-you context.

Two major challenges come along with such a study. First, participants' *personality impressions* (i.e., seeing other group members as high vs. low in agency) rather than their *situational appraisals* (e.g., viewing the situation as competitive vs. noncompetitive) have to be manipulated. The second challenge lies at the end of the dependent variable. On the one hand, the target person displaying the interaction behavior of interest should not be exposed to verbal or nonverbal feedback from group members as any behavioral reactions to such feedback would interfere with the effect of the experimental manipulation. On the other hand, the target person's behavior needs to be displayed toward the group members (instead of toward some independent jury, for instance) as this is a key requirement of the supposed complementarity mechanism. To resolve this dilemma, Study 3 used a cover story according to which the members of newly formed groups were supposed to get to know each other via self-introduction videos and later work together face-to-face on a task. Before the recording of the videos, participants received false feedback concerning their group members' agency. Half of the participants learned that their group members are rather low in agency and the other half learned that the others are rather high in agency (between-subjects design). We hypothesized that participants who have learned that their group members are on average rather low in agency will display more hostile-dominant behavior toward them than participants who had learned that their group members are on average high in agency.

### Method

All procedures used in the study were approved by the ethics committee of the German Research Foundation (Title: "Dynamics in the Getting-to-Know-You-Process"; Protocol: RR 042018). The study's data collection and analysis plan were preregistered and peer-reviewed prior to data collection. The preregistration including a detailed documentation of the study's procedure, materials, analysis plan, and so forth can be retrieved from the materials at the OSF; <https://osf.io/cjexy/>.

**Cover story.** The study was advertised as a group interaction study. Participants first completed an online personality test and were then scheduled for a laboratory session. Upon arriving in the laboratory, three to four participants were placed in a room and instructed not to talk to each other. The experimenter explained

that the study's goal was to compare the dynamics of groups whose members communicate personally with groups whose members communicate indirectly during the stage of getting acquainted. After these initial interactions, all groups would supposedly complete a face-to-face group task. In fact, none of the groups got acquainted via personal communication and there was no group task.

Participants were told that in a first step they would see personality profiles of the other group members that were allegedly derived from the online personality test. Directly after participants had seen the personality profiles of their group members, they were requested to record a self-introduction video, on which they introduce themselves to the other group members. They were told that the video would be viewed by the group members and that they should directly address them. The study ended after each participant had recorded his or her video and, ultimately, with a careful debriefing.

**Online personality test.** As described above, the test's primary purpose was to create a credible basis for the bogus personality profiles. The test incorporated a compilation of explicit questions (e.g., an adapted version of the BFI-2; Danner et al., 2019; Soto & John, 2017), self-developed semitransparent questions (sample item: "Imagine you are in court. Which role would you prefer to have? Please indicate your priority for the following options from 1 to 6 and assign each number exactly once" with the options *prosecutor*, *reporter*, *judge*, *advocate*, *defendant*, and *spectator*.), and entirely nontransparent, implicit tasks (e.g., indicating one's preference for certain figural patterns). We implemented the test in the online survey framework *formr* (Arslan & Tata, 2017). The complete test can be found in the materials at the OSF (<https://osf.io/cjexy/>). The test was used to derive ratings of dispositional agency and communion, but all other test items were not analyzed.

**Laboratory session.** After the experimenter's introduction, participants provided informed consent and received a sticker with an ID letter, which they were asked to wear in a visible location throughout the experiment. The experimenter then took a photograph of each participant and imported the photographs to an online survey assessing the interpersonal perception ratings (see below). Meanwhile, participants worked on a series of Implicit Association Tests (Greenwald & Farnham, 2000; Slabbinck, de Houwer, & van Kenhove, 2011) on personal computers, separated by blinders, while wearing headphones playing lounge music. The sole purpose of this procedure was to prevent participants from interacting with each other. The experimenter asked one participant after the other to interrupt the IAT and follow her to the video laboratory next door.

In the video laboratory, participants were seated in front of a personal computer and asked to indicate their first impressions of the other group members. To offer a basis for their judgment, the group members' bogus personality profiles were presented along with their photographs. According to a short introductory text, the online personality test ascribed scores for each person on four dimensions (i.e., individual styles of thinking, perceiving, behaving, problem solving). One pair of profiles is displayed in Figure 5.

The first, second, and fourth dimensions were distractors and constant across conditions. The third dimension (behavior) was used for the manipulation and suggested either high or low

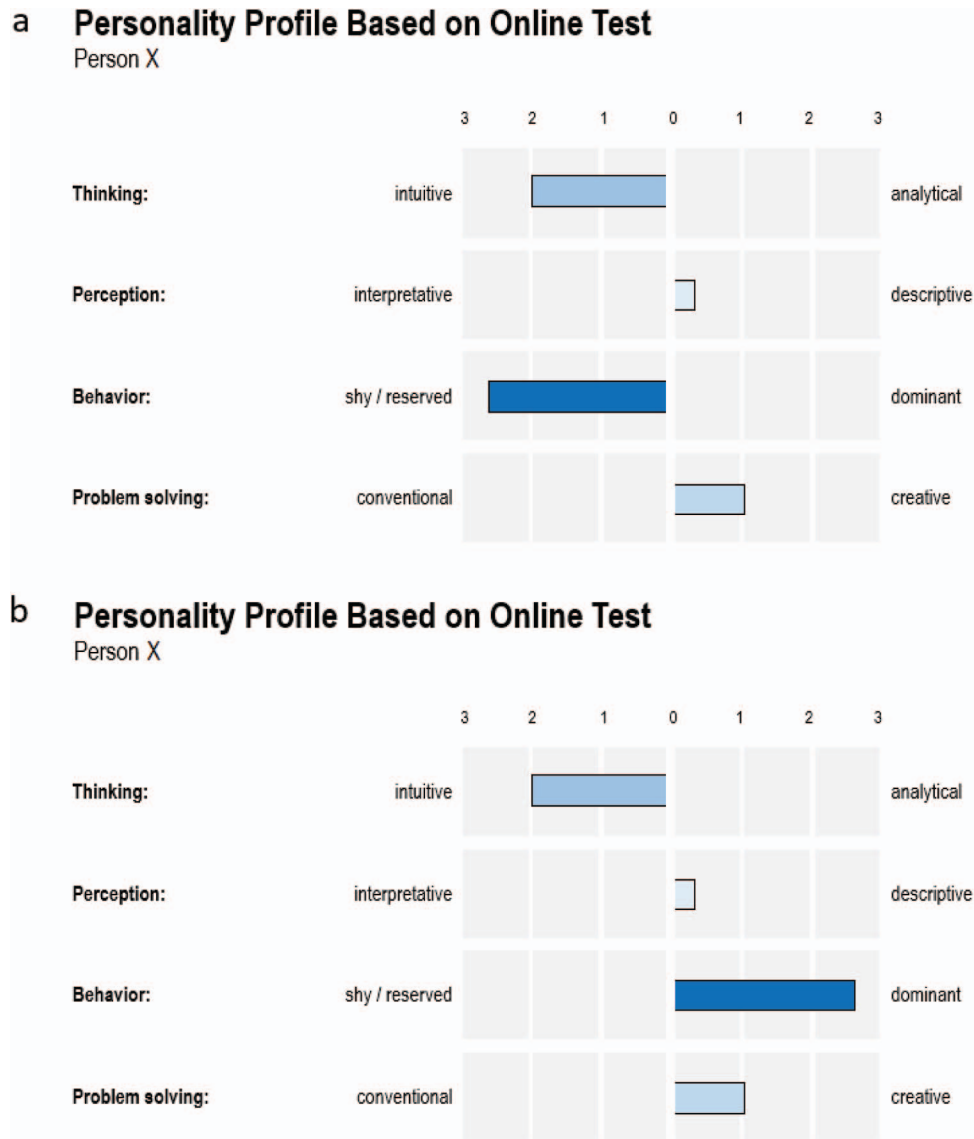


Figure 5. Sample profiles used to induce other-perceptions of low agency (a) or high agency (b) in Study 3. Scale descriptions are free translations of the original German version. See the online article for the color version of this figure.

agency, varying by condition. In the high agency other-perception condition the profiles displayed dominance levels of 2.7, 2.0, and 2.0 in groups of four and dominance levels of 2.5 and 2.1 in groups of three, respectively. In the low agency other-perception condition, dominance levels were reversed ( $-2.7$ ,  $-2.0$ , and  $-2.0$  in groups of four and  $-2.5$  and  $-2.1$  in groups of three, respectively). The assignment of participants to conditions was random. Warranting the experimenter's blindness to the condition, the experimenter was not able to see the computer screen.

**Interpersonal perception ratings.** Participants were asked to indicate their first impressions about each of the other group members on six rating scales (1 = *does not apply at all* to 6 = *applies perfectly*) and were reminded that the target person would

not receive feedback about their ratings. The item stem was "This person seems . . ." and items were *warm*, *self-confident*, *enthusiastic*, *trustworthy*, *open*, and *assertive*. We averaged other-perceptions of self-confidence and assertiveness ( $r = .83$ ) to form an index of *perceived agency* and other-perceptions of warmth and trustworthiness ( $r = .54$ ) to form an index of *perceived communion*.

**Baseline measures.** The experimenter (who was the same person for all participants) rated her impression of participants' friendliness, expressiveness, self-confidence, and arrogance prior to the recording of the video on the same scales as in Study 1. The goal was to capture participants' *baseline levels of arrogance* as a control variable. The remaining baseline ratings were assessed for exploratory purposes unrelated to the present research.



**Behavioral measures.** After starting the camera, the experimenter asked participants to introduce themselves to their group members by stating their name, age, and place of origin. Subsequently, the experimenter asked participants to answer the following personal questions, which were aimed to trigger individual differences in arrogant behavior: “Please recall your most recent personal success. Explain to your group members why it makes you proud,” “This study is about dynamics of unacquainted groups. Which positive characteristics can you contribute to newly formed groups? And what are your shortcomings in such a setting?,” “What drives you nuts about your fellow students?” The videos took 3.43 min on average ( $SD = 0.57$ ) and were later rated by four trained coders on the same global behavioral dimensions as in Study 1. All coders were blind to the experimental condition. The ratings achieved good interrater reliability ( $ICCs[2,k]$ : *friendly behavior* = .73, *expressive behavior* = .74, *self-confident behavior* = .83, and *arrogant behavior* = .79). Note that our hypothesis pertained only to the arrogance dimension, but we collected ratings for the other dimensions for exploratory purposes and report descriptive results for the sake of completeness and comparability to Studies 1 and 2.

**Dispositional agency and communion.** We assessed dispositional agency and communion via self-reports. We averaged the four BFI-2 items for assertiveness (sample item: “I am someone who is dominant, acts as a leader”) and compassion (sample item: “I am someone who is compassionate, has a soft heart”) to obtain measures of agency ( $\alpha = .79$ ) and communion ( $\alpha = .74$ ), respectively.

**Credibility check.** Before participants were debriefed about the study’s actual goal, they were asked in an open response format “To this point of the experiment, was there anything that seemed conspicuous or weird to you?” Later, two research assistants checked the responses for any signs of doubt about the genuineness of the personality profiles or about the study’s alleged further procedure (i.e., that group members would view each other’s videos and engage in a group task). Participants were excluded from the analyses when both research assistants detected such doubts (seven cases; e.g., one participant wrote that the others’ personality profiles indicated high dominance “strikingly often” and that “values seemed fake”). When the research assistants’ judgments did not converge, the first author inspected the respective answers and decided about whether or not the exclusion criteria were met (three of five cases excluded). In sum, 10 participants were excluded. To avoid bias, the self-introduction videos were coded for behavioral measures after decisions about exclusions had been made. Moreover, judges were blind to the experimental condition when inspecting the answers.

**Data analytic approach.** We tested the effect of the experimental condition on arrogant behavior in a series of multilevel regressions. Random intercepts were modeled to account for group level differences in the outcome. In the first step, we included the experimental condition as the only predictor and, running parallel to Studies 1 and 2, added perceived communion as a predictor in a second step. Finally, to control for potential confounding influences, we included dispositional agency, dispositional communion, sex, and the experimenter’s rating of baseline arrogance (as a proxy of premanipulation differences) in a third step.

**Sampling plan.** Our goal was to detect a significant effect of the experimental condition with high statistical power and a type-1 error rate of  $\alpha = .05$ . Given the lack of prior experience regarding the study’s manipulation and the resulting uncertainty about the

expected effect size, we used an adaptive sequential design in which a first hypothesis test is conducted after one part of the sample has been collected and, in case this test does not yield a significant result, a second test is conducted after the full sample has been collected (Lakens, 2014; Pocock, 1977). This has the advantage that, if the effect turns out to be larger than expected, data collection can likely be stopped at an early stage, which saves time and resources. To control the procedure’s overall type-1 error probability to be 5%, both tests have to be performed at  $\alpha = .0297$ . Assuming a condition effect of  $\rho = -.25$ , we ran multiple simulations to learn about the statistical power of this sequential design in different scenarios. Specifically, we varied the size of the joint effect that covariates have on the outcome (covering effect sizes conceivable based on Study 1 & 2:  $\rho_{cov} = .20$ ,  $\rho_{cov} = .30$ , and  $\rho_{cov} = .40$ ) and tested different combinations of overall and interim sample sizes. The simulation script can be found in the materials at the OSF (<https://osf.io/cjexy/>). We aimed for high power of at least 95% for the overall procedure and for reasonable power of 80% in the interim test. These requirements were met in all three scenarios by a sample size of  $n = 200$  with an interim test after collecting 60% of the sample.

**Final sample.** Participants were recruited via e-mail lists and postings on online social media platforms. The final sample consisted of 206 participants (160 female). Most were university students from various disciplines (participants who studied psychology were not allowed to participate in the study due to an increased risk of suspicion of the cover story). They were assigned to 61 groups (28 groups of three; 33 groups of four; 46 female groups and 15 male groups). Participants were between the ages of 18 and 35 ( $M = 23.6$ ,  $SD = 4.5$ ), and most were German (96%). They rated the level of prior acquaintance with each coparticipant, and in most cases (99%), they indicated they were unacquainted with the target person. In the remaining cases, participants indicated that they had seen the target once but never talked with each other (1%). One subject was excluded because they indicated a higher level of acquaintance with one of the group members. Participants received monetary compensation (10 to 15 €, depending on the duration of the sessions). Please refer to Appendix E for descriptive statistics and to Appendix F for zero-order correlations of all variables involved in the analyses.

## Results

**Manipulation check and baseline differences.** Perceived agency was indeed higher in the high agency other-perception condition compared with the low agency other-perception condition,  $t(204) = 12.84$ ,  $p < .001$ ,  $d = 1.79$ , suggesting that the experimental manipulation was successful. Moreover, despite the fact that information provided concerning communion was constant across conditions, less communion was perceived in others in the high agency other-perception condition than in the low agency other-perception condition (see Appendix F), a compensation effect well-known in social psychology (Kervyn et al., 2010). Further, there were significant premanipulation differences in baseline arrogance that ran contrary to the expected effect (i.e., participants in the high agency other-perception condition had a higher baseline than participants in the low agency other-perception condition; see Appendix F).

**Predicting interpersonal behavior.** Table 7 displays descriptive statistics and effects of the experimental condition on the four behavioral dimensions. Descriptively, participants in the high agency other-perception condition acted more expressively compared with participants in the low agency other-perception condition but there were few differences on the remaining behavioral dimensions, including arrogance.

Table 8 displays the results of the regression analyses. In contrast to our prediction, there was no significant effect of condition on arrogant behavior, suggesting that manipulating other-perceptions of agency to be low (vs. high) did not trigger participants to introduce themselves in a more (vs. less) arrogant fashion. Although the effect was in the hypothesized direction and became larger when confounders were included in the model, it unambiguously failed to reach significance. In contrast, dispositional agency and baseline arrogance significantly predicted arrogant behavior in self-introductions.

Furthermore, unlike in Studies 1 and 2, the perceiver effect of agency did not correlate with any of the behavioral indicators (see Appendix F).

## Discussion

The goal of Study 3 was to provide a stringent test of the suggested causal link from other-perceptions of agency to hostile-dominant interaction behavior. We therefore used bogus personality profiles to create the impression of either low or high agency in members of a newly formed group and tested whether participants would complement others' seemingly low (vs. high) agency by introducing themselves in a more (vs. less) arrogant fashion. The results did not support our hypothesis. Leading participants to believe that their group members were either low or high in agency did not induce significant differences with respect to hostile-dominant behavior. It is unlikely that the absence of this effect was attributable to a lack of internal validity given that the manipulation check and credibility check indicated that participants had indeed believed their group members to be more versus less agentic in the respective conditions. Concerning the dependent variable, ICCs indicated that arrogant behavior was reliably measured and associations to dispositional agency and communion indicated construct validity. Thus, three possible interpretations of the findings remain: First, Study 3 might have been a false-negative and the failure to demonstrate the effect was merely due to sampling error. Second, Studies 1 and 2 were false-positives and the results of Study 3 refute the claimed complementarity mechanism. Third, there were differences across studies that explain why a complementarity effect was found in Study 1 and 2, but not in Study 3. We consider these scenarios in the General Discussion.

## General Discussion

The present research focused on the effects of other-perceptions on interpersonal behavior and social reputations in newly formed groups. In doing so, it offers a novel perspective on reputation formation and leadership emergence. Previous approaches have mainly focused on the relations between self-views and reputations, either because they assumed that self-views are valid indicators of true personality characteristics (Funder, 2012) or because they assumed that self-views serve a social signaling function (Anderson et al., 2012; Dufner, Gebauer, Sedikides, & Denissen, 2019; von Hippel & Trivers, 2011; Swann, 1987; Swann & Bosson, 2008). In the current research, we shifted other-perceptions into the focus of attention and asked whether these perceptions could also be consequential for reputations. We argued that because the agentic domain is characterized by a zero-sum principle and complementary behavioral dynamics, perceiving low agency in others would be beneficial for the emergence of highly agentic behavior.

This hypothesis was supported in Studies 1 and 2, which featured naturalistic interactions in newly formed groups. The lower participants perceived others in terms of agentic attributes such as dominance, self-confidence, and assertiveness, the more they engaged in hostile-dominant behavior (e.g., arrogance). In turn, participants engaging in such behavior developed reputations of high agency and leadership potential. It is noteworthy that this three-step mechanism was found in data that came from three distinct sources: Perceiver effects were obtained from the ratings made by the *persons of interest themselves*, behavioral data were obtained from *independent coders* who rated the behaviors of the persons of interest on the basis of a video sequence, and target effects were obtained from the ratings made by *group members*. By using these sources of data, we avoided common-method artifacts and bias due to social desirability.

In Study 1, we also investigated whether the benefits of other-derogation in terms of agency would be visible only in short-term, intrasituational trait perceptions or whether they would also lead to long-lasting, tangible interpersonal benefits. The results showed that participants who had attained high agency reputations on the basis of perceiving low agency in others in the initial group meeting were in fact more often nominated as leaders much later in time. Accounting for the possibility that other-perceptions and reputations were only linked because of shared third variable influences, we controlled for dispositional agency, dispositional communion, and sex and still found the same effects. Although internal consistencies and correlations with other variables indicated that these control variables were reliably and validly measured, it is of course still possible that confounding influences were not entirely accounted for in Study 1. To close this inferential loophole, we used different methodologies in

Table 7

*Study 3: Descriptive Statistics and Effects of Experimental Condition for Behavioral Observations in Self-Introduction*

Behavior	Interpersonal circumplex mapping	<i>M</i> ( <i>SD</i> )	Effect of experimental condition [95% CI]
Friendliness	0° (friendly)	4.02 (0.81)	<i>d</i> = .03 [−.24; .31]
Expressiveness	45° (friendly-dominant)	3.31 (0.86)	<i>d</i> = .20 [−.08; .47]
Self-confidence	90° (dominant)	3.64 (0.99)	<i>d</i> = −.02 [−.29; .25]
Arrogance	135° (hostile-dominant)	2.57 (0.89)	<i>d</i> = −.05 [−.32; .23]

Table 8  
*Study 3: Predicting Arrogant Behavior in Self-Introduction by Experimental Condition*

Predictors	Model 1		Model 2		Model 3	
	<i>b</i>	<i>p</i>	<i>b</i>	<i>p</i>	<i>b</i>	<i>p</i>
Condition	-.03	.389	-.03	.399	-.08	.240
PE Com			.01	.947	.07	.464
Disp. Agy					.22	.006
Disp. Com					-.17	.080
Sex					.11	.491
Baseline arrogance					.17	.002
Model <sup>a</sup>	$R^2 < .01$		$R^2 < .01$		$R^2 = .15$	

*Note.* *b* = unstandardized multilevel regression weight (random intercept model). *p* values of condition pertain to one-sided tests and the remaining *p* values pertain to two-sided tests. Condition: 0 = induced low agency other-perception, 1 = induced high agency other-perception. PE = Averaged other-perception; Com = Communion; Agy = Agency; Disp. = Self-reported disposition. Sex: female = 0, male = 1. Baseline Arrogance: Premanipulation level of arrogance as rated by the experimenter.

<sup>a</sup> Nagelkerke's  $R^2$  (null model featuring random intercepts but no level-1 predictors).

Study 2 and 3. In Study 2, we modeled within-person changes in other-perceptions and reputations of agency over time and thereby eliminated stable between-person effects. Confirming our reasoning, low other-perceptions of agency were followed by subsequent increases in agentic reputations. In Study 3, we led participants to believe that their group members were either high or low in agency based on a random assignment to conditions. In contrast to our hypothesis, we found no significant differences in arrogant behavior between conditions.

### Interpretations of the Null Result From Study 3

There are at least three potential explanations for the inconsistent findings across studies. First, the claimed complementarity mechanism might exist in the population and was correctly detected in Study 1 and 2, whereas Study 3 was a false-negative. However, given that the a priori probability of a false-negative in Study 3 was  $1 - \text{power} = .05$  (using the most conservative power calculation), this explanation is unlikely. Second, the effect might not exist in the population and the findings from Studies 1 and 2 were false-positives. Given that the probability for two false-positives in Study 1 and 2 was  $.05^2 = .0025$ , this explanation is even more unlikely.

The remaining explanation is that the findings were discrepant not due to sampling error, but due to substantive differences between the studies. One possibility is that there were unassessed confounding influences in the nonexperimental Studies 1 and 2, which drove the effect of other-perceptions of agency on hostile-dominant behavior. Although this is conceivable on the level of stable personality differences in Study 1, there would need to be a time-varying confounding variable to account for the longitudinal effects in Study 2. Specifically, there would need to be a variable that caused within-person downward shifts in other-perceptions of agency and at a later point in time caused upward shifts in hostile-dominant behavior (and vice versa). Bringing to mind a particular example of such variable is quite challenging.

Another substantive explanation concerns the experimental setting of Study 3. Unlike Studies 1 and 2, Study 3 did not involve actual

group interactions. Instead, participants' self-introductions were recorded on video and they were told that these introductions were to be directed at their group members. Although the experimenter did her best to remind participants to address their group, this situation might nevertheless have failed to create the sense of a real interaction with one's group members. Thus, even though they believed that the other group members were all fairly dominant (vs. shy) and would later work with them, participants did not adapt to this belief by displaying less (vs. more) hostile-dominant behavior.

There is an important hint indicating that this explanation might be true. In Study 3, the perceiver effect of agency (which was used as a manipulation check) did not correlate with any of the behavioral indicators. These null correlations are not only inconsistent with the results of Studies 1 and 2, but also with the results of previous research in which agency perceiver effects were linked to social behavior (Dufner et al., 2016). It is likely that in the experimental situation, the other group members were not salient enough and, as such, perceptions of these group members did not affect behavior. Of course, this explanation is speculative and, to verify it, more research is required in which other-perceptions are experimentally manipulated. To create realistic group interactions while at the same time warranting constant behavior by group members, future studies might use confederates as bogus group members.

### Summary of the Evidence

In sum, the current findings suggest that individuals who perceive others as low in dominance, assertiveness, and confidence in newly formed social groups are themselves seen as high in these attributes by others. This converges with studies documenting complementarity in deference and perceptions of task contributions (Joshi & Knight, 2015) and in personality judgments (Dufner et al., 2016) among members of work groups.

Further, findings suggest that low other-perceptions in terms of agency are an antecedent of high agency reputations rather than being a mere consequence of dispositional or reputational differences. This conclusion was supported in both studies that assessed reputations (Studies 1 and 2).

Finally, the current findings point toward a behavioral mechanism that may underlie the complementarity effect: Seeing others as low in agency might facilitate the display of hostile-dominant behavior which then leads to the attainment of agentic reputations. Evidence for this mechanism was found in Studies 1 and 2, but not in Study 3. Even though the inconsistency can possibly be explained with the peculiarities in the setting of Study 3, one should nevertheless note that Study 3 was clearly the strongest test of the proposed mechanism due to the randomized and preregistered design. Its failure to produce the hypothesized effect poses a major problem for a causal interpretation of the complementarity effect and until behavioral responses to other-perceptions are successfully induced in an experiment, this interpretation still demands caution. Accordingly, also the following discussion of the implications must be regarded as preliminary.

### Implications

The results from Studies 1 and 2 are consistent with the view that leadership emergence is a social dilemma in which agents aim to lead (rather than follow) if the associated risks are perceived as low (Van



Vugt, 2006). The current research links this rather abstract principle to actual human experience. When agents believe their coagents are low in agentic attributes such as self-confidence and assertiveness, aiming to lead is associated with low subjective risks and therefore an attractive strategy.

Our behavioral observation data from Studies 1 and 2 suggested that, when people perceive coagents as low on agentic attributes, they tend to display a blend of high agency and low communion behavior or *unmitigated agency* (Ghaed & Gallo, 2006), pointing to an underlying motivation to *get ahead* in combination with reduced concerns about *getting along* (Hogan et al., 1985). Thus, we obtained preliminary support for the claim that seeing others as low in agency affords an opportunity to assert the self, but not a need for displaying warm and affiliative behavior. The finding that this behavioral pattern positively predicted agentic reputations in Studies 1 and 2 implies that at least in some contexts agents who blatantly self-promote might actually succeed in attaining leadership positions, potentially because they curtail others' claims for leadership. The results thus match well with the notion that the use of imposition and intimidation is a viable strategy for attaining social influence (Cheng, Tracy, Foulsham, Kingstone, & Henrich, 2013; Henrich & Gil-White, 2001; Maner & Case, 2016).

In Studies 1 and 2, we implemented naturalistic real-life settings and therefore, if the proposed causal mechanism will be supported in future studies, the results are readily relatable to applied research. Organizational psychology has a long history of identifying the personal skills, traits, values, and attributes of emerging leaders (Day et al., 2002; Ilies, Gerhardt, & Le, 2004; Judge, Bono, Ilies, & Gerhardt, 2002; Taggar, Hackew, & Saha, 1999; Zaccaro, 2007). We propose that other-perceptions are another important aspect to consider. The present work provides some evidence indicating that other-perceptions might affect social behavior and leadership emergence in novel and unfamiliar social environments. Thus, it might be worthwhile to examine their role in applied settings, such as organizational work teams.

Finally, the current research has implications for the conceptualization of perceiver effects. Our findings corroborate the notion that perceiver effects from round-robin data do not solely reflect idiosyncratic response sets or scale-use biases, but rather, they carry substantial psychological meaning (Kenny, 1994). In fact, other-perceptions are conceptualized as core features of various constructs in personality psychology and psychopathology (Back et al., 2013; Hopwood, 2018; Hopwood, Schade, Krueger, Wright, & Markon, 2013; Hopwood, Wright, Ansell, & Pincus, 2013). For instance, dependent personality disorder is characterized by viewing others as superior, narcissism involves seeing others as uninteresting, and paranoia often includes perceiving others as hostile (American Psychiatric Association, 2013). Surprisingly, it was not until 2010 that personality researchers stepped forward to examine the psychological meaning of perceiver effects from round-robin data (Srivastava et al., 2010; Wood et al., 2010) and the current research is the first to present evidence that perceiver effects may indeed be consequential for interpersonal outcomes. The present findings also contribute to a debate in the literature about how to conceptualize perceiver effects. Whereas Wood et al. (2010) suggested a model in which perceiver effects across different trait dimensions are described in terms of one global factor capturing how positively versus negatively others are seen in general, Srivastava et al. (2010) suggested that, in addition to global evaluative differences, trait-specific perceiver effects exist. According to the current findings,

trait-specificity is crucial when studying the social consequences of perceiver effects.

## Limitations and Future Directions

The most important limitation of the current research is that the proposed causal mechanism was not supported in the preregistered experimental study (Study 3). As we have mentioned above, even though we cannot rule out that this finding might be explained with our theoretical hypothesis being false, another potential explanation for the null effect is the experimental setting of Study 3. If this explanation holds, an important boundary condition of the effect would be that it only applies to social situations that involve direct interactions and high subjective importance for perceivers. In other words, only when people have reason to feel that their own agentic reputations are at stake might they act complementary to their perceptions of others' agency. Creating such situations in experimental laboratory studies will be a major challenge in future research. Further, our results concern the getting-to-know-you stadium and cannot speak to the dynamics of preexisting groups. However, recent findings in organizational research have indeed shown that members of existing work teams who perceive others' contributions as less valuable and who express less deference toward others are themselves seen more positively in these regards by their team (Joshi & Knight, 2015). Thus, understanding complementarity in perceptions of agency in applied settings is a promising avenue for future work.

One caveat of the current research concerns its generalizability to other samples of participants. Participants in our studies were mainly young, Western, and well-educated. These characteristics might moderate the complementarity effect in agency judgments. For instance, younger people are more sensitive to peer-evaluations (Harter, 2015), and therefore they might be particularly inclined to act in accordance with perceived situational demands and schemas. In this case, the complementarity effect might be weaker in older than in younger perceivers. Similarly, the effect might be less pronounced in collectivistic, as opposed to individualistic, cultures. In particular, because people in collectivistic cultures less frequently engage in trait attributions (Triandis, 2001), the link between observable behavior and reputations might be weaker.

Another limitation of the present work concerns cross-domain consequences of other-derogation in terms of agency. Whereas Study 1 did not suggest that seeing others as low in agency restrains people from coming across as communal or making friends, this question could not be examined in Studies 2 and 3. Thus, the evidence provided for the domain-specificity of the consequences of other-perceptions of agency was not particularly strong. It is still conceivable that seeing others as low in agency undermines communal outcomes, given that self-promotional behavior can reduce one's likability (O'Mara, Kunz, Receveur, & Corbin, 2018; Schall, Martiny, Goetz, & Hall, 2016). Moreover, even in the absence of valid cues, reputations of low communion can result merely from appearing highly agentic (Imhoff & Koch, 2017). Further investigations should unlock these cross-domain associations.

Another challenge is to identify the specific cognitive and motivational mechanisms behind the complementarity effect. Even though the findings of Studies 1 and 2 are consistent with the interpretation that other-perceptions trigger social behavior based on relational schemas, this interpretation was not directly tested. Future research could do so by quantifying the activation of schemas in response to other-



perceptions. Specifically, if other-perceptions triggered relational schemas, this should be detectable in priming procedures which use schema-related stimuli (Stroop, 1935).

Finally, building upon the literature on the interpersonal circumplex (Kiesler, 1983; Leary, 1957; Wiggins, 1979), the present work focused on mutual perceptions of dominance, self-confidence, and assertiveness. Yet, some authors have proposed to conceptualize agency more broadly, comprising the two major facets of *assertiveness* and *competence* (Abele et al., 2016). The present work focused on the first of these facets and future research would have to test if the same patterns occur in mutual perceptions of competence. Relatedly, it would be interesting to expand research on interpersonal consequences of perceiver effects to other trait frameworks. Possibly, for instance, people who come across as lacking conscientiousness in a group task might do so not because they are in fact low in trait-conscientiousness. Instead, they might happen to perceive the other group members as low in conscientiousness, and as a schematic behavioral response, they might act in a relatively unambitious and lazy manner.

## Conclusion

The current research suggests that perceiver effects from round-robin data carry meaningful psychological information that may genuinely predict interpersonal behavior and reputations. Potentially, viewing others as low in agency can boost one's agentic reputation, and viewing them as high in agency can undermine it. This notion can easily be related to real-life situations such as job interviews or presentations, as it implies that a lack of self-promotion in such contexts might, at least to some degree, result from perceiving one's interaction partners as highly agentic. Should a causal interpretation of this process receive further empirical support, the advice to picture one's audience in their underwear when giving a presentation might be warranted after all.

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## Appendix A

### Study 1: Descriptive Statistics of Dispositional Variables, Behavioral Observations, and Social-Role Perceptions

#### Behavior during self-introduction

Source	Variable	<i>N</i>	<i>M</i>	<i>SD</i>	Min	Max	Potential range
Online questionnaire	Dispositional agency	106	6.20	1.18	3.00	8.60	1 to 10
	Dispositional communion	106	7.62	1.03	4.40	9.80	1 to 10
	Sex (female = 0; male = 1)	109	0.22				0/1
Behavior during self-introduction	Friendliness	109	3.54	0.72	2.14	4.86	1 to 6
	Expressiveness	109	2.98	0.89	2.14	4.86	
	Self-confidence	109	3.42	0.88	1.14	5.43	
	Arrogance	109	1.58	0.46	1.00	3.57	
Follow-up online diaries	Leadership nominations	108	0.10	0.08	0.00	0.35	0 to 1
	Friendship nominations	108	0.07	0.03	0.01	0.16	

## Appendix B

### Study 1: Zero-Order Correlations of All Variables Involved in the Analyses

Source	#	Variable	1	2	3	4	5	6	7	8	9	10	11
Online questionnaire	1	Dispositional agency	1										
	2	Dispositional communion	.02	1									
	3	Sex (female = 0; male = 1)	.09	.03	1								
Zero-acquaintance session	4	TE agency	.34*	-.03	.02	1							
	5	TE communion	-.07	-.03	-.34*	-.17	1						
	6	PE agency	-.12	.00	-.19*	-.22*	.22*	1					
	7	PE communion	-.03	.16	-.30*	.05	.16	.45*	1				
	8	Specific PE agency	-.13	-.08	-.07	-.27*	.16	.89*	.00	1			
	9	Arrogant behavior	.13	.01	.40*	.33*	-.57*	-.24*	-.09	-.22*	1		
Follow-up online diaries	10	Leadership nominations	.36*	-.03	.19	.48*	-.02	-.20*	.07	-.25*	.26*	1	
	11	Friendship nominations	.08	-.12	-.06	.31*	.10	-.11	.02	-.14	-.02	.51*	1

Note. TE = Target effect; PE = Perceiver effect; Specific PE agency = PE communion partialled out. *N* = 106 to 109 (varying because of selectively missing data).

\* *p* < .05.

(Appendices continue)



Appendix C

Study 2: Descriptive Statistics of Dispositional Variables and Behavioral Observations in Session 3

Source	Variable	N	M	SD	Min	Max	Potential range
Online questionnaire	Dispositional agency	297	6.47	1.22	3.00	9.25	1 to 10
	Dispositional communion	297	7.69	1.13	3.75	10.00	1 to 10
	Sex (female = 0; male = 1)	310	0.45				0/1
Behavioral observations	Cooperativeness	298	3.03	0.69	1.17	4.75	1 to 6
	Expressiveness	298	3.14	0.98	1.08	5.33	
	Dominance	298	2.90	1.00	1.00	5.67	
	Arrogance	298	2.41	0.94	1.00	5.83	
	Aggressiveness	298	2.14	0.79	1.00	5.00	
	Composite: hostile-dominant behavior	298	2.48	0.85	1.00	5.19	

Appendix D

Study 2: Zero-Order Correlations of All Variables Involved in the Analyses

Session	#	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
	1	Sex (female = 0; male = 1)	1																				
	2	Dispositional Agy	.03	1																			
	3	Dispositional Com	-.11	.37*	1																		
Session 1	4	TE Agy	.04	.14*	-.09	1																	
	5	TE leader	.04	.12	-.10	.93*	1																
	6	PE Agy	-.08	-.05	.04	.05	.05	1															
	7	PE Com	-.01	-.06	.09	.03	.06	.70*	1														
	8	Specific PE Agy	-.10	-.02	-.03	.05	.02	.77*	.07	1													
Session 2	9	TE Agy	.10	.20*	-.11	.78*	.78*	-.07	-.05	-.05	1												
	10	TE leader	.09	.19*	-.10	.78*	.82*	-.04	.03	-.08	.93*	1											
	11	PE Agy	-.07	-.04	.04	-.01	.03	.75*	.62*	.48*	-.03	.00	1										
	12	PE Com	-.04	-.05	.09	.01	.05	.61*	.80*	.13*	-.04	.03	.74*	1									
	13	Specific PE Agy	-.06	.00	-.03	-.02	.00	.51*	.12*	.59*	-.01	-.03	.74*	.10	1								
Session 3	14	TE Agy	.09	.21*	-.07	.70*	.67*	-.09	-.05	-.08	.90*	.87*	-.09	-.04	-.10	1							
	15	TE leader	.11	.22*	-.06	.71*	.71*	-.07	-.01	-.08	.90*	.91*	-.06	.01	-.10	.94*	1						
	16	PE Agy	-.11	-.04	.07	-.05	-.03	.72*	.56*	.50*	-.12*	-.07	.85*	.66*	.60*	-.11	-.08	1					
	17	PE Com	-.06	-.09	.08	-.01	.02	.59*	.76*	.14*	-.02	.03	.71*	.88*	.20*	-.03	.01	.73*	1				
	18	Specific PE Agy	-.10	.02	.02	-.07	-.07	.46*	.06	.58*	-.15*	-.14*	.52*	.10	.68*	-.13*	-.13*	.74*	.08	1			
	19	TE Agy (final rating)	.09	.20*	-.08	.68*	.65*	-.09	-.05	-.08	.86*	.83*	-.10	-.04	-.10	.97*	.91*	-.10	-.03	-.12*	1		
	20	TE leader (final rating)	.10	.21*	-.05	.65*	.65*	-.11	-.05	-.11	.85*	.85*	-.11	-.03	-.12*	.92*	.97*	-.12*	-.02	-.16*	.91*	1	
	21	Hostile-dominant behavior	.10	.19*	-.10	.44*	.41*	-.23*	-.17*	-.16*	.54*	.48*	-.21*	-.17*	-.14*	.59*	.49*	-.24*	-.20*	-.15*	.59*	.48*	1

Note. Agy = Agency; Com = Communion; TE = Target effect; PE = Perceiver effect; Specific PE Agy = PE Com partialled out. N = 270 to 310 (varying because of selectively missing data).

\* p < .05.

(Appendices continue)

## Appendix E

## Study 3: Descriptive Statistics of All Involved Variables

Source	Variable	<i>M</i>	<i>SD</i>	Min	Max	Potential range
Online questionnaire	Dispositional agency	3.34	0.77	1.25	5.00	1 to 5
	Dispositional communion	4.14	0.66	1.00	5.00	1 to 5
	Sex (female = 0; male = 1)	1.22				0/1
Person perception ratings	Perceiver effect agency	3.92	1.01	1.67	6.00	1 to 6
	Perceiver effect communion	4.04	0.64	2.17	5.75	
Experimenter rating	Baseline arrogance	3.01	1.13	1.00	6.00	1 to 6
Behavior during self-introduction	Friendliness	4.02	0.81	1.00	5.75	1 to 6
	Expressiveness	3.31	0.86	1.00	5.50	
	Self-confidence	3.64	0.99	1.50	6.00	
	Arrogance	2.57	0.89	1.25	6.00	

## Appendix F

## Study 3: Zero-Order Correlations of All Involved Variables

#	Variable	1	2	3	4	5	6	7	8	9	10	11
1	Condition	1										
2	Dispositional agency	.02	1									
3	Dispositional communion	.05	-.06	1								
4	Sex (female = 0; male = 1)	.04	.13	-.33*	1							
5	PE agency	.67*	-.02	.09	-.08	1						
6	PE communion	-.19*	-.02	.13	-.27*	-.05	1					
7	Baseline arrogance	.17*	.27*	-.11	.14*	.01	-.09	1				
8	Friendliness	.02	.00	.10	-.02	-.06	.09	-.01	1			
9	Expressiveness	.10	.17*	.01	.03	.01	.02	.14*	.59*	1		
10	Self-confidence	-.01	.41*	-.19*	.23*	-.11	-.01	.26*	.09	.58*	1	
11	Arrogance	-.02	.27*	-.17*	.13	-.11	.01	.28*	-.38*	.22*	.64*	1

Note. Condition: 0 = induced low agency other-perception, 1 = induced high agency other-perception. PE = Perceiver effect.

\*  $p < .05$ .

(Appendices continue)

## Appendix G

### Overview of Additional Materials Retrievable from the Open Science Framework (<https://osf.io/cjexy/>)

Study	Material
Study 1	List of Publications Using Data from Connect (Study 1) List of Publications Using Data from PILS (Study 2) 1.1 Detailed Original Study Description and Codebook 1.2 Missing Values Robustness Check + Data and R-Code
Study 2	2.1 Detailed Original Study Description and Codebook 2.2 Focal Results with Leadership Potential as Outcome Variable 2.3 Missing Values Robustness Check 2.4 Focal Results with Single Time Points Instead of Session Aggregates 2.5 Classic Cross-Lagged Panel Model + Data and R-Code
Study 3	3.1 Study Description (README) 3.2 Experimenter Texts 3.3 Personality Test 3.4 Personality Profiles and First Impression Ratings 3.5 Credibility Check 3.6 Coding Instructions 3.7 Sampling and Analysis Plan 3.8 Included Measures Unrelated to Preregistration 3.9 Script for Power Simulation + Data and R-Code + Registration Form

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