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THINKING UP AND TALKING UP

Restoring control through mindreading

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Suppose you are fundraising for a good cause, and you know somebody with a lot of money, who might or might not be sympathetic. As you approach this interaction, you are likely to think hard about this other person's motives, predisposition, history, and mood. All these attempts at mindreading are efforts to seek prediction, and perhaps avenues for influence and control, in service of your worthy goals. Outcome dependency is the key feature of this relationship in this context. People function in hierarchies, among other types of relationships. Status and power differences appear between rich and poor, famous and obscure, boss and subordinate, parent and child, majority and minority. Our program of research investigates some social cognitive dynamics that cut across these specific instances to what we hope are more general principles of responses to uncontrollability from occupying lower social ranks.

To preview: status and power create outcome dependency in subordinates, who lack control over prestige and resources. As reviewed next, prior research showed that outcome dependency motivates attempts at mindreading: people attend upward, make individuating dispositional inferences, and form individuating impressions, using unexpected information, in the hope of restoring control or at least prediction. More recent work, also to be reviewed, shows that these types of social cognition under outcome dependency appear in neural signatures of mindreading. Turning from interpersonal perception – thinking upward – to interpersonal interaction – talking upward – current work shows some interpersonal strategies subordinates use when interacting up the hierarchy to convey unexpected information, contradicting stereotypes of them as warm but incompetent.

Background: What it means to be subordinate

Social psychology generally, and social cognition specifically, have not typically addressed subordination as much as (for example) sociologists have. Their term, *stratification*, usefully describes the larger context of ranking people vertically by their social categories (Fiske, 2010). Stratification creates unequal access to scarce resources. The hopeful fundraiser and the prospective donor represent different strata. For present purposes, stratification combines status and power, which are often otherwise conceptually important to separate: *Status* entails social respect, importance, and prestige at upper levels of the hierarchy; hierarchies usually have societal endorsement, and ultimately status is conferred by others. *Power* controls socially valued resources, regardless of resource type (e.g., money, food, promotions) and power's basis (e.g., information, punishment; French & Raven, 1959). High power and high status, in practice, are often correlated.

Subordination sits lower within the hierarchy, correlated with less status and power. It relates to oppression and stigma, which have received attention in social psychology, under the topics of stigmatized impression management (Goffman, 1963; Jones et al., 1984), stigma's attributional ambiguity for negative outcomes (Crocker & Major, 1989), stereotype threat (Steele & Aronson, 1995), and system justification by subordinates (Jost & Banaji, 1994). Each of these analyses touches on uncontrollability, respectively: managing a spoiled impression, explaining ambiguous negative feedback, performing under pressure of negative expectations, coping with system instability. However, controllability is our central explanatory focus here.

To summarize a mammoth literature (in species that include primates and human society; Fiske, 2010), all hierarchical positions confer advantages and disadvantages, raising challenges to individual control over outcomes. Specifically, group-based status carries immediate benefits, opening doors and providing access. In the long term, status may generate risky, lifelong ambivalence across the strata created by gender, age, race, or class. (For example, in each case, the higher status group reaps advantages, but also responsibility, guilt, and threat.) Interpersonal power also has mixed effects, with debates over whether it liberates, corrupts, or constrains (respectively, Fiske, 1993; Guinote, 2007; Keltner, Gruenfeld, & Anderson, 2003). Certainly, power orients the powerful to their own higher-level goals, for better or worse (Fiske & Berdahl, 2007).

Subordination too has its pros and cons. As the literature below indicates, subordination both encourages short-term vigilance and carries long-term risks. Beginning with vigilance, depending on others motivates subordinates' immediate goal to be accurate, to afford prediction and maybe control. As the next section indicates, interpersonal outcome dependency makes subordinates attend, individuate, and often be accurate about those who control resources. Possible benefits include being more accurate and detail oriented (Guinote, 2007), but perhaps at the cost of losing the big picture.

Subordination has other immediate costs (see Fiske, 2010, for references). Subordinates disproportionately suffer (and try to avoid) their higher-strata tormenters'

hassling, harassing, and aggressing. They must cope with reputational threat, and they may understandably envy those with more power and status. In the long term, these disadvantages can create stigma and attributional ambiguity, self-verification as inferior, and even disidentification with their group. Although it is less obvious, subordinates also can enjoy deniability (less responsibility), higher moral credibility, conflict avoidance, knowledge gained through vigilance, and the potential power of subordinates as a collective.

Seen from this broad-brush perspective, subordination is a mixed bag. The next sections explore the interpersonal social cognitive processes that result from outcome dependency, as people think upward, as well as the interpersonal dynamics they engage, as people talk upward.

Outcome dependency, uncontrollability, and vigilance: Social cognitive processes of thinking upward

People are fundamentally interdependent, so we routinely need each other in order to survive and thrive. Social cognition operates in the service of understanding others, particularly what they are going to do next, as that impacts our own actions. To coordinate, we must mind-read. A series of studies from our lab over the decades shows that outcome dependency motivates individuating social cognitive processes directed upward, in the service of prediction and perhaps control; recent data show the neural substrates of these processes.

The research program examines control deprivation in the form of outcome dependency, someone else having at least partial control over what happens to another. When people are not completely autonomous, they seek information about those who help determine their fates. We do not ask participants directly whether they feel less control, but instead we observe control-seeking behavior in regard to learning about the other person: attention to the most diagnostic information, interpretations about stable features of the other person (disposition) that presumably will predict future behavior, and other evidence of trying to read the other person's intentions. Some studies also separate people or experimental conditions by whether they expect or allow control, given outcome dependency.

Our first foray was informed by the hypothesis that default processes allow lazy social cognizers to rely on information that fits their expectations and stereotypes, neglecting inconsistencies. However, when motivated by outcome dependency, people work harder, trying to individuate the other, using more diagnostic information that goes beyond their initial, superficial expectations (Erber & Fiske, 1984). We predicted that they would selectively attend to inconsistency, to make sense of it. And we predicted that they would draw dispositional inferences from inconsistency because inferring a stable, coherent predisposition implies potential predictability, influence strategies, and possible control over the person who controls resources. Our experimental methods bring home these processes.

Student participants arrived for a study of how people collaborate in pairs; in the lab were a table with two chairs and a set of colorful, engaging windup toys.

Participants' job was to design educational games for children, first brainstorming ideas alone and then talking to their partner, who happened to be an education major. Half the time, they could win a prize for their solo ideas, in comparison to other non-education majors. Half the time, they could win the prize for their joint solution with their partner, making them outcome dependent. Crossed with outcome dependency, the partner (our confederate) wrote that she either expected to do well or not so well at this task, setting up a positive or negative expectancy. The partner also provided postcards with her peers' decidedly mixed comments about her teaching, creating expectancy-consistent and expectancy-inconsistent information.

After she left the room, the participant read the postcards, while the experimenter surreptitiously timed attention to cards written in blue or black ink (signaling positive and negative, hence consistent or inconsistent information, depending on expectancy). In what seems now a quaint technique, the experimenter had a stopwatch in each pocket of his jacket, but he was blind to expectancy and hence to which ink color signaled consistency in that particular session.

When participants were outcome independent – when they could win the prize alone – they attended equally to consistent and inconsistent information, but under outcome dependency, their attention to inconsistent teaching evaluations increased significantly. A second study replicated these effects of outcome dependency on attention to the most diagnostic, least redundant information, that is, expectancy-inconsistent cues.

What's more, in the second study, half the participants thought aloud into a tape recorder as they flipped through the cards. Judges blind to condition then coded dispositional statements (specific traits; e.g., "My first impression is that she would be a conscientious person.") and several other kinds less relevant here. Dispositional comments increased significantly under outcome dependency. And these comments correlated .61 with attention in that condition (other comments did not). These studies thus suggest that outcome dependency – and perhaps its attendant uncontrollability – increases attention to and dispositional inferences about the most diagnostic (unexpected) information. Outcome dependency makes people vigilant, perhaps to increase control.

Nevertheless, these studies leave several questions unanswered. First, the outcome-dependency manipulation confounded the partners' correlated outcomes (winning the prize together) with their potentially positive cooperation. Second, the results do not really demonstrate that control is the mechanism at work. Subsequent studies addressed these issues.

People are interdependent when they compete as well as when they cooperate. Negative interdependence should have similar effects on social cognition (Ruscher & Fiske, 1990): People need to know what the other person will do, in order to determine their own actions. Competition is negative interdependence, but it is still outcome dependency, just without the positivity. If diminished control is key, then, like cooperators, competitors should attend to unexpected information, infer dispositions from it, and perhaps end up with more idiosyncratic impressions

because of their variable strategies for reconciling the inconsistencies into a coherent overall impression.

Using much the same procedure, except for placing the participant and confederate in competitive outcome dependency (or not), a new experiment showed that inconsistency received both increased attention and dispositional inferences under outcome dependency. Impressions were also reliably more varied, as predicted. However, these effects held only for participants who reported they had some confidence in their ability to do the task; those who felt utterly incompetent did not make the cognitive effort to use the diagnostic information. This then implicated the mechanism of control; participants who felt unable to do the task did not bother attempting to increase predictability and control. A second study, which made all participants sufficiently confident, replicated the earlier study and showed that the inconsistency effect on attention and dispositional inferences held only for task-relevant (i.e., diagnostic) information.

Again, this fits the interpretation of these processes (attention and dispositional inferences) as efforts to enhance control. A more direct investigation of the role of control manipulated participants' accuracy goals in a similar paradigm and found conceptually similar results (Neuberg & Fiske, 1987).

So far, the research all had examined symmetrical interdependence, but in the interest of understanding stratification other studies examined whether asymmetrical outcome dependency likewise focuses attention and dispositional inference on inconsistency. The earlier results with symmetrical (cooperative) interdependence could be due to concern for the partner's outcomes, rather than trying to control their own outcomes. One study closely followed the previous paradigm's independent and interdependent conditions but included asymmetrical outcome dependency as well (Stevens & Fiske, 2000, Study 1). In both dependency conditions, participants attended more to inconsistency than did independent participants; consistent information showed no differences as a function of interdependence.

A new paradigm (Dépret & Fiske, 1999) further tested asymmetrical dependency: Participants signed up for "how to study with noisy housemates," and learned that their job would be to attempt a task requiring concentration, while others tried to distract them. The distractors would have either low power, with limited means for disruption, or high power, with unlimited means for disruption and the ability to make the participant restart the task. In the interpersonal condition (most relevant here), participants learned about one of the distractors, either an art major or a math major, presenting a profile of mixed expectancy-consistent and expectancy-inconsistent traits. Attention was measured by tape-recording and later timing the sound of turning the pages. Dispositional inferences were measured by participants listing additional personality traits to describe the individual distractor. As predicted, distractor power increased both attention to inconsistent information and dispositional inferences.

Another condition, the intergroup condition, also crossed power and consistency, but was designed to show that these effects do not occur when participants have no hope of control. The interpersonal condition, just described, entailed an aggregate

of distractors from a variety of majors. Therefore, we predicted that participants would expect to be able to predict and possibly control their own outcomes in the face of an aggregate of individuals by learning about them. In the intergroup condition, the participant (always a psychology major) faced a uniform monolith of distractors, either all math majors or all art majors. We predicted that, faced with a powerful, unified outgroup, they would not expect any potential control, so they would give up. Indeed, in this intergroup condition, neither the attentional nor dispositional inference results emerged.

In still other circumstances, social cognizers also might expect uncontrollability. All the interdependence operationalizations so far involve outcome dependency for task performance. We hypothesized that outcome dependency for more global evaluations of the self would test the limits of people's expected control, so two separate papers respectively examined evaluative dependency and romantic dependency, cases in which we expected people to experience even more uncontrollability.

The evaluative dependency research (Steven & Fiske, 2000) explicitly compared asymmetrical task outcomes (Study 1) and evaluative outcomes (Study 2) in the same paradigm. Evaluative outcomes were manipulated by eligibility for a prize, based not on working with a partner, but on the partner's evaluation of their performance at the wind-up toy, creative games task. Instead of focusing on inconsistency, as in task outcome dependency, evaluatively outcome-dependent participants attended selectively to negative information about their evaluator, which negative information they then discounted in their think-aloud protocols. This pattern of wishful thinking contrasts with the reliable task-dependency focus on dispositional inferences; wishful thinking contrasts as well with Study 1's findings, which showed that task dependency *reduced* discounting, making the task-outcome-dependent perceivers potentially more accurate. Under evaluative-outcome dependency, however, discounting appeared in statements that denied negative information about their evaluator's competence.

This verbal discounting carried over to their evaluations of the person's probable competence: evaluation-dependency made people inflate judgments of the incompetent evaluator to equivalence with the competent-expectancy evaluator. Nondependent participants in contrast recognized the difference between competent and incompetent evaluators. Thus, evaluative dependency produced wishful thinking (attention to negativity, discounting it, and inflated ratings of incompetent evaluators), in contrast to the accuracy orientation of task dependency (attention to inconsistency, dispositional inferences to it, lack of discounting negativity, the ability to recognize incompetence).

In another series of studies, romantic dependency showed similar patterns to evaluative dependency, perhaps because in both cases, one is subject to overall, open-ended evaluation – less controllable – instead of evaluation on a specific, concrete task – potentially more controllable. Four experiments (Goodwin, Fiske, Rosen, & Rosenthal, 2002) tested the hypotheses that romantic goals encourage positivity biases on relationship-irrelevant dimensions such as task competence (clouded judgment) and on relationship-relevant dimensions in the absence of

information (default positivity). Selective accuracy was expected, given relationship-relevant information. Men and women who had signed up for a dating study showed wishful thinking (clouded judgment and default positivity) when a prospective romantic partner displayed task incompetence. But they showed selective accuracy when the prospective partner displayed social incompetence.

A common theme across evaluative and task outcome dependency is adaptive efforts to use available diagnostic information, but wishful positivity when such potential paths to control are unavailable. In the earlier task-dependency studies, when control was plausible, selective attention to and dispositional processing of inconsistency had been the focal routes to mindreading in efforts to restore control.

Outcome dependency, uncontrollability, and vigilance: Neural substrates of thinking upward

The advent of functional neuroimaging in social psychology allowed us to test this logic by other means. In social cognitive neuroscience generally, the role of the medial prefrontal cortex (MPFC) in thinking about other people, especially their minds, rapidly became evident (Amodio & Frith, 2006; Mitchell, Banaji, & Macrae, 2005). Our lab's contribution to this shared insight came in a preliminary study that varied the established dimensions of dispositional inference – consistency, consensus, distinctiveness (McArthur, 1972) – and observed their neural correlates (Harris, Todorov, & Fiske, 2005). We hypothesized that an action performed consistently and mainly by one actor, regardless of target, would not only be attributed to that actor's disposition, but also activate the MPFC.

Participants read sentences describing behavior (John laughed at the comedian), which had low or high consistency, consensus, and distinctiveness. Of the eight conditions, the predicted combination (high consistency, low consensus, low distinctiveness) elicited both dispositional attributions and MPFC activation. If only John always laughs at this and all comedians, this suggests something about John, rather than the comedian or the circumstances: Both conscious inferences and brain activity respond accordingly.

We followed up these findings about dispositional inference and the MPFC with an outcome-dependency study in the scanner (Ames & Fiske, 2013). The same wind-up toys were enlisted in a within-subjects version of the original outcome-dependency paradigm. Participants met two education-major confederates from a neighboring school, expecting to work with only one on the educational games task. They also received positive expectations about one and negative expectations about the other (counter-balanced with outcome dependency). Then they were scanned as they read teaching evaluations consistent and inconsistent with their expectations about each confederate. This neuroimaging design held constant their timed exposure to this information, but the predicted three-way interaction emerged on the neural area hypothetically focused on dispositional inference. MPFC activation to inconsistent information was indeed lower under outcome

independence and higher under outcome dependency. Consistent information showed the reverse pattern.

In short, when people's goals depend on another person, and they have a chance to control their outcomes by learning about that person's unexpected attributes, they show selective vigilance in attention, attributions, and neural activations. All these patterns fit the idea of people trying to attain control, or at least predictability, when they depend on another person because of interdependence.

Outcome dependency, uncontrollability, and vigilance: Talking up the social status hierarchy

People also depend on other people because of societal ranking that makes lower-status groups generally dependent on higher-status groups, because status and power are often correlated. Status carries expectations of competence, so high-status people are thought to have higher knowledge and ability, while lower-status people are expected to have fewer such resources. The Stereotype Content Model (Fiske, 2015; Fiske et al., 2002) finds these meritocratic beliefs around the world (Cuddy et al., 2009; Durante et al., 2013). This means that subordinates must either depend on the alleged competence of those of higher status – or contest it. Our series of studies suggests they do both, but not always in the most obvious ways. When subordinates interact with higher-status others, their own competence is in question, so they might well seek respect in that interaction, more so than the higher-status person, who can assume respect for their presumed competence.

But there's more. When people attempt to convey competence, they may not only emphasize it by self-promoting (Jones & Pittman, 1982). They also emphasize competence by *downplaying* the other major dimension of social cognition, namely warmth (Holoien & Fiske, 2013). Participants instructed to be competent to an unknown audience in an online chat room not only chose more sophisticated (competent) vocabulary but also chose colder, more negative words, a tradeoff compared both to a neutral control and those instructed to convey warmth. Diminishing the opposite, irrelevant dimension (here, warmth) reflects the compensation effect whereby groups and individuals who rate high on either warmth or competence are expected to rate low on the other (Yzerbyt, Kervyn, & Judd, 2008): Warmth and competence trade off, in people's minds. Hence, one can convey either dimension by downplaying the other, relative to the focal dimension (Kervyn, Bergsieker, & Fiske, 2012).

Subordinates trying to be competent also not surprisingly emphasize their own competent traits and – more subtly – de-emphasize their own warm traits (Swencionis & Fiske, under review). Upon learning that an interviewer wants efficient workers (rather than team players), online adults role-playing the interviewees not only choose to convey more competence (the obvious strategy), but also choose to convey less warmth (the tradeoff strategy). Social goals shape how people talk upward about themselves when they depend on another.

Mere status creates this talking-up pattern. Told to imagine a workplace initiative in which they are paired with a higher-ranked employee (versus a neutral or lower-ranked one), on-line adults seek to convey both more competence and less warmth about themselves in describing what they would want their partner to know. (Higher-ranked people talking down choose the opposite strategy.)

Subordinates' choice to emphasize their own competence could come either from trying to match the higher-ranked person's supposed competence or from trying to remedy their own supposed lack of competence. Either way, learning that the higher-status person is unexpectedly incompetent (or unexpectedly warm) eliminates the talking-up strategy.

These effects replicate when students come into the lab and learn that they are assigned – based on a bogus test – to be the (lower-ranked) responder to their partner, who will lead the joint task.

Outcome dependency, uncontrollability, and vigilance: Talking up the racial status hierarchy

Race imitates status in some respects. For example, in our research (Dupree, Obioha, & Fiske, under review), online adults and students show implicit associations between white faces and higher status jobs, as well as black faces and lower-status jobs.

This implicit status hierarchy appears in the interpersonal concerns of black students interacting with white ones (Bergsieker, Shelton, & Richeson, 2010). Black students are concerned with being respected for their competence (whereas whites are concerned with being liked for their nonracist morality). Self-reported goals show these concerns. So do verbal and nonverbal behavior when minorities are talking up to whites, whether in existing relationships or getting-acquainted conversations. Black students talking to whites report wanting to be respected and seen as competent more than wanting to be liked and seen as moral, when these goals appear as choices (endpoints of a single continuum or warmth-competence difference scores). Their verbal and nonverbal behavior likewise reflects self-promotion of competence – mentioning accomplishments, conveying confidence – more than when talking to other minorities. (Whites' verbal and nonverbal behavior talking down to minorities reflects more talking down: ingratiation.) In general, these talking-up effects required the black participants to be engaged in the interaction, but talking up correlated with negative affect.

Further, a related set of studies (Dupree & Fiske, unpublished) separated warmth and competence goals and examined political views as a moderator, on the grounds that conservatives would support existing status hierarchies and show the talking-up effects most strongly. Indeed, very conservative blacks present more competence to a white partner (talking up), compared to their self-presentation to a black partner. Liberal blacks do not differentiate by race of partner.

Conclusion: Inequality threatens subordinates' well-being

Subordinates carry a burden of vigilance linked to their relative loss of control. Outcome dependency requires subordinates to think harder and to fight for respect in their encounters with higher-status others. These interpersonal encounters fit evidence not only from our lab, but also evidence showing that working-class people's encounters with higher-class others make them experience less control, be more vigilant to threat, develop more communal (less agentic) self-concepts, and show more empathic accuracy (Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner, 2012). All these hypotheses fit the framework developed here, including the role of uncontrollability over resources as an upstream cause of these patterns showing efforts to mind-read, in order to increase control.

This vigilance is a burden. Social-class subordinates carry greater health risks, in part because they have fewer reserves for coping with life events, and the inevitable negative emotions undermine their health (Gallo & Matthews, 2003). The psychophysiology of threat (versus challenge) specifically plays a role in the cardiovascular response to difficult upward comparison (Mendes, Blascovich, Major, & Seery, 2001). Thus, understanding subordinates' efforts to restore a sense of control through mindreading matters for their physical and mental health.

Treating subordinates as passive recipients of their control-deprived situation would be a mistake. Although sometimes subordinates justify the system that disadvantages them (Jost & Banaji, 1994), sometimes they resist as individuals (for example by strategically conveying images of themselves as competent and worthy of respect, as in some of our research). Sometimes subordinates resist collectively, as social identity theory predicts under particular conditions (Ellemers et al., 2002). Some of our work suggests that the possibility of control over the collective that controls one's fate will predict when subordinates bother gathering the information that would prepare for trying to exert control. And of course, even subordinates vary in accepting the social dominance of some groups over others (Sidanius & Pratto, 1999).

In opening, we argued that both high and low status are mixed bags, with advantages and disadvantages in the short- and long-term. The operational mechanism is uncontrollability, which afflicts subordinates the most, requiring vigilance, but also bestowing the gift of potential sensitivity and accuracy in their social cognitions. Being on the bottom can be costly, but it is not all bad.

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