American Psychological Association

Journal of Experimental Psychology: Applied

1076-898X/18/$12.00

2018, Vol. 24, No. 4, 578–599
http://dx.doi.org/10.1037/xap0000181

Disadvantaged But Not Dissatisfied: How Agency Ameliorates Negative Reactions to Unequal Pay

Shoham Choshen-Hillel
The Hebrew University of Jerusalem

Alex Shaw and Eugene M. Caruso
University of Chicago

Workers tend to be dissatisfied when their peers receive more than them for doing the same work. The fear of creating such dissatisfaction may cause leaders in organizations to waste resources that cannot be allocated equally between their workers. Here we explore the effectiveness of a procedure designed to reduce such waste by empowering workers with the agency to decide whether or not to pay other workers more. We predict that workers' sense of agency reduces their dissatisfaction with others' better outcomes. Seven studies supported this prediction by demonstrating that agentic participants, who were involved in creating allocations, tended to be more satisfied with others' better outcomes than nonagentic participants, who were not involved in creating allocations. Longitudinal lab studies, measuring real behavior, showed that agentic participants remained more satisfied than nonagentic ones even five weeks after their initial decision. The findings provided evidence for two mechanisms underlying the effect: increased feelings of generosity, and reduced perception of unfairness. We found that the agency procedure was comparable with other fair procedures in its ability to improve worker satisfaction. We discuss our findings in relation to the literatures on social preference, fairness, and voice, and highlight the implications for organizational efficiency.

Public Significance Statement
This research examines a procedure designed to reduce employees' dissatisfaction in cases where others receive benefits that they do not. We hypothesize and find that giving potentially disadvantaged employees some agency or involvement in the decision about the other employees' benefits can reduce their dissatisfaction with a resulting unequal allocation. This may allow organizations to give out extra resources to some employees, without hurting others, thereby increasing overall welfare.

Keywords: decision-making, efficiency, equity, fairness, time

Supplemental materials: http://dx.doi.org/10.1037/xap0000181.supp

Workers dislike inequity. Organizational contexts in which employees are paid unequal amounts for equal work (or equal amounts for unequal work) foster dissatisfaction and reduce employee motivation and productivity (Pritchard, Dunnette, & Gorgenson, 1972; Sweeney & McFarlin, 2004). Workers prefer to avoid inequity, even when doing so would increase the total amount of benefits that are distributed (Choshen-Hillel, Shaw, & Caruso, 2015; Gordon-Hecker, Rosensaft-Eshel, Pittarello, Shalvi, & Bereby-Meyer, 2017; Shaw & Knobe, 2013). Consider a decision that Walmart faced about how to compensate its employees. In the summer of 2015, Walmart gave a pay raise to around 500,000 minimum-wage workers—presumably expecting this initiative to receive broad support from employees. Although the workers who received the raise were undoubtedly pleased, not all employees celebrated this decision. In particular, even though no employees received a pay cut, many of Walmart's longtime employees were unhappy to find out that they were now earning the same amount as (or only a little more than) newly hired, less experienced employees. The new initiative was regarded as largely unfair, triggered widespread dissatisfaction, and reduced company morale (Pettypiece, 2015). Are initiatives that increase benefits to some workers but not others doomed to fail because of an inevitable link between inequity and dissatisfaction?

This article was published Online First July 19, 2018.

Shoham Choshen-Hillel, School of Business Administration and the Federmann Center for the Study of Rationality, The Hebrew University of Jerusalem; Alex Shaw, Department of Psychology, University of Chicago; Eugene M. Caruso, Booth School of Business, University of Chicago.

Shoham Choshen-Hillel and Alex Shaw contributed equally to the work. They tried, in vain, to give each other agency over the order of authorship decision, and ended up choosing the equal option.

This work was partially supported by a research grant from the Social Enterprise Initiative at The University of Chicago Booth School of Business. We thank Meir Barneron, Yochanan E. Bigman, and Itay Sisso for their assistance with statistical analysis.

Correspondence concerning this article should be addressed to Shoham Choshen-Hillel, School of Business Administration & Federmann Center for the Study of Rationality, The Hebrew University of Jerusalem, Jerusalem 9190501, Israel. E-mail: shoham@huji.ac.il

Recent research has demonstrated that organizations can encourage workers to opt for allocations that give others more than them by giving workers a sense of agency or control over the decision process (Choshen-Hillel & Yaniv, 2011, 2012). Assume, for example, that Walmart asked its longtime employees to vote on raising the minimum wage (while keeping their own wages constant). The previous findings imply that the workers would tend to *vote* in favor of the pay raise. But would such an allocation procedure solve Walmart's problem? That is, would it reduce worker dissatisfaction? The answer to this question, which is critical for applying an agency-based procedure, is not straightforward. It is possible that Walmart workers vote for giving other employees a pay raise because they feel social pressure to be generous (e.g., Dana, Cain, & Dawes, 2006). Indeed, previous research suggests that people make more generous decisions when being publicly observed by others (Andreoni & Bernheim, 2009; Levitt & List, 2007). If this is the case, then the workers would become frustrated and dissatisfied that less experienced workers make the same as them, and the agency-based allocation procedure would not be useful because the efficient distribution of resources would be offset by the costs to worker satisfaction. However, contrary to this account, we suggest that giving workers agency can actually reduce their dissatisfaction with others' better outcomes because they find it fair and enjoyable to give them more. If our account is correct, then agency-based procedures may be useful for organizations looking to give extra resources to some employees, without hurting the satisfaction of others for whom they cannot give the same extra resources. In this paper we set out to test whether agency-based procedures may indeed provide a useful organizational tool.

The Inequity-Dissatisfaction Link

Organizations strive to take advantage of all the resources available to them; however, to avoid inequity, organizations often have to forgo efficiency (Gordon-Hecker, Choshen-Hillel, Shalvi, & Bereby-Meyer, 2017; Mitchell, Tetlock, Mellers, & Ordonez, 1993). For example, a manager may have a limited budget that allows her to give bonuses to only some of her equally deserving workers. Using the money efficiently would create inequity among the workers. Previous research finds that, when faced with such choices, decision-makers generally choose to preserve equity rather than maximize efficiency (Camerer, 2003; Dawes, Fowler, Johnson, McElreath, & Smirnov, 2007; Güth, Schmittberger, & Schwarze, 1982; Kahneman, Knetsch, & Thaler, 1986; Shaw & Olson, 2012; Weg & Zwick, 1994). For example, participants in the role of managers frequently choose not to give a bonus to any employee rather than allocate the bonus inequitably (Choshen-Hillel et al., 2015; Gordon-Hecker, Rosensaft-Eshel, et al., 2017; Shaw & Knobe, 2013).

Managers' approach to the equity-efficiency tradeoff is understandable, given the negative impact of inequity on workers (Clark & Oswald, 1996; Pritchard et al., 1972; Sweeney, McFarlin, & Inderrieden, 1990). Individuals have been said to exhibit "inequity aversion"—dissatisfaction with allocations that favor one party over another (Fehr & Schmidt, 1999). They are particularly dissatisfied with a given outcome when they know that someone else receives a better outcome than they do for the same work (i.e., disadvantageous inequity; Boyce, Brown, & Moore, 2010; Brickman & Bulman, 1977; Goodman & Friedman, 1971; Hook & Cook, 1979; Lawler, 1968; Messick & Sentis, 1985). People's dissatisfaction with inequitable outcomes and unfavorable comparisons has been repeatedly documented in controlled lab studies and in the field (Kogut, 2012; Loewenstein, Thompson, & Bazerman, 1989; Luttmer, 2005; Moran & Schweitzer, 2008). Workers are averse to inequitable allocations even when they do not come at any cost to them and even when such outcomes provide more resources overall. For example, a worker would typically be more satisfied if she found out that she and her equally hardworking coworker each received $12/hr than she would be if she found out that she received $13/hr but her coworker received $14/hr (Bazerman, Blount White, & Loewenstein, 1995; Loewenstein et al., 1989; Sweeney et al., 1990).

Hurting worker satisfaction is problematic in and of itself, but it can also negatively affect worker productivity, motivation, and retention (Boyce et al., 2010; Dunn, Ruedy, & Schweitzer, 2012; Judge, Thoresen, Bono, & Patton, 2001; Sweeney & McFarlin, 2004; Sweeney et al., 1990). Therefore, developing interventions that simultaneously promote efficiency and reduce dissatisfaction would be of great practical benefit to organizations and the employees that comprise them.

The Psychological Effect of Agency

We suggest that an allocation procedure focused on increasing workers' agency can allow for a more efficient allocation of resources without negatively impacting worker satisfaction. Agency has been defined as "the human capability to exert influence over one's functioning and the course of events by one's actions" (Bandura, 2009), and has generally been shown to have positive effects on people's motivation (Deci & Ryan, 1985). In social contexts, agency is related to power, a person's ability to influence and control other parties (e.g., Galinsky, Magee, Inesi, & Gruenfeld, 2006). Our studies do not focus on power per se, but we consider the relationship between agency, power, and resource distribution in the general discussion.

Recent work has suggested that organizations can increase efficiency by handing over decisions (i.e., giving away agency) from management to those workers who might be disadvantaged by the resulting inequity (Choshen-Hillel et al., 2015; Hideg, Michela, & Ferris, 2011). Consider a manager who has only one new computer that she could allocate to an employee, but two equally deserving employees. She can decide to give the computer to one of the two employees or let the computer go unused. In this situation, the manager might decide not to give the computer to either of the employees because she is worried about appearing biased, and does not wish to be responsible for creating inequity (Gordon-Hecker, Rosensaft-Eshel, et al., 2017). Yet instead of deciding on the allocation, the manager could ask one of the employees to do so—empowering the employee with a sense of agency, a feeling of control over the resource allocation process. Indeed, when faced with this hypothetical resource allocation dilemma, participants in the role of employee were more likely than those in the role of manager to let the coworker have the new computer. Thus, employees were more likely than managers to create inequity, even though it placed them (rather than others) at a relative disadvantage (Choshen-Hillel et al., 2015, Study 1).

Additional evidence reveals that it is the sense of agency in the decision process that makes people more favorable toward efficient allocations that create unfavorable comparisons to them (Choshen-Hillel & Yaniv, 2011, 2012; Shaw, Choshen-Hillel, & Caruso, 2016). Participants were more likely to support inequitable outcomes that disadvantaged themselves when they were given agency over the decision than when the experimenter determined the payment and they were nonagentic (Choshen-Hillel & Yaniv, 2011). Individuals who experienced agency by voicing their opinions were also more likely to support affirmative action policies that benefited others and had no positive effects for themselves (Hideg et al., 2011).

Previous research clearly demonstrates that agency-based allocation procedures can make people more likely to *choose* inequitable outcomes that benefit others (Choshen-Hillel & Yaniv, 2011; Hideg et al., 2011; Shaw et al., 2016). However, this research has not investigated people's *satisfaction* with the inequity—both immediately following their decision, or later on. Understanding people's post decision satisfaction is critical for determining whether it is actually wise to implement an agency-based procedure. That is, if people opt for inequity but end up being dissatisfied with it, then giving workers agency will be counterproductive, because in the long run they will be unhappy and look for opportunities to redress the inequity they created. Indeed, because people tend to avoid inequity, it could be that agency merely induces them to publicly accept inequity that they do not genuinely want. Thus, one could imagine that agentic workers make self-disadvantaging choices begrudgingly—because they fear that others will judge them harshly for being envious or for failing to be generous to others (when doing so does not come at their own expense; Heider, 1958; Shaw & Choshen-Hillel, 2017; Silver & Sabini, 1978; Smith & Kim, 2007). For example, imagine that a worker is asked to decide whether or not to give a new computer to his coworker. When forced to decide, the worker may let his coworker have the computer. Still, it is possible that he finds the allocation unfair, and complains about it to his family or friends outside of work or lodges an anonymous complaint to Human Resources. He might therefore be dissatisfied with his peer's better computer. Moreover, as time goes by, he might become more and more frustrated by his inferior computer.

Although this view seems plausible, we suggest that it is incorrect. Instead, we predict that giving people a sense of agency will not only induce them to opt for policies that benefit others more than them, but will actually reduce their negative reactions to unfavorable inequity in the short and the long run. We base this prediction on two complementary psychological mechanisms: that agency increases the positive feelings associated with benefiting other people, and that it reduces the negative feelings often associated with inequity.

First, an employee who chooses to reward her coworker more should gain satisfaction because she has chosen to actively benefit her coworker. People generally experience empathy toward others and feel happy when others are happy (Batson, Fultz, & Schoenrade, 1987; Batson et al., 1991). The good feeling about others' good outcomes is enhanced when people are personally responsible for the good outcomes of others, a phenomenon referred to as "warm glow" (e.g., Andreoni & Miller, 2002; Anik, Aknin, Norton, Dunn, & Quoidbach, 2013; Chernyak & Kushnir, 2014; Dunn, Aknin, & Norton, 2008). For example, choosing to give someone a reward is more gratifying than seeing the same person receive the same reward independent of one's choice (Harbaugh, Mayr, & Burghart, 2007). Even when forced to give up money that can benefit others (such as when paying taxes), people derive more satisfaction from giving when they have voice or a feeling of participation than when they do not (Lamberton, 2013; Lamberton, De Neve, & Norton, 2017). This feeling of satisfaction is related to a good feeling of being generous and kind to others and may be reinforced by self-perception. If people have made an initial generous decision, then self-perception will prompt them to stick to these favorable attitudes toward others, and they will keep feeling good about being generous (Bem, 1972).

Second, choosing to reward a coworker more should reduce dissatisfaction from the coworker's better outcome because agency has the potential to reduce the unfairness that is often associated with inequity (Choshen-Hillel et al., 2015; Shaw et al., 2016). A *manager's* decision to reward one worker more than another for the same work could signal favoritism and reflect badly on the disfavored worker (Shaw, DeScioli, & Olson, 2012; Waytz, Dungan, & Young, 2013). However, a *worker's* decision to reward his coworker more than himself is unlikely to signal favoritism or unfairness; as a result, the worker should not find the allocation unfair or disturbing (Choshen-Hillel & Yaniv, 2011, 2012).

This prediction about fairness and satisfaction is also supported by a large body of literature on the organizational effects of participation and voice. Participation and voice—expressing one's opinions in the decision process—have been generally connected to greater work satisfaction and reduced reactance to undesirable outcomes (Alexander & Ruderman, 1987; Folger, 1977; Lawler, 1968; McFarlin & Sweeney, 1996; Miller & Monge, 1986). For example, workers react more positively to performance evaluation in their organization when they are given the opportunity to express their opinions in the evaluation process (Greenberg, 1986; Greenberg & Tyler, 1987). Such effects have been explained by people's concern with procedural justice (Lind, Kanfer, & Earley, 1990; Thibaut & Walker, 1975; Tyler & Lind, 1992). Namely, people judge the fairness of a given allocation not only by the outcomes distributed to the parties (i.e., distributive justice), but also by the procedure or the mechanisms used to determine the allocation (Greenberg, 1986; Leventhal, Popp, & Sawyer, 1973; Tyler, 2000; Tyler, Casper, & Fisher, 1989; van den Bos, Vermunt, & Wilke, 1997). When people find the procedure to be more fair, such as when they have voice in the process, they are more likely to accept decisions that they would otherwise find unfair (e.g., negative performance evaluations). In our general discussion, we return to the procedural justice literature to delineate the ways in which our findings can qualify previous work on voice and extend it by demonstrating how agency can ameliorate people's dissatisfaction with cases where equally deserving others receive more than them.

We theorize that agency affects people's feelings of generosity and their negative reactions to unfairness, which results in less negative reactions to unequal allocations. Just as giving myself the small piece of the pie is much more acceptable than someone else giving me the small piece, we predict that people will be less dissatisfied with inequity they helped create than with inequity that was imposed on them. Further, we expect that both mechanisms triggered by agency—generosity and fairness—should persist over time. Thus, we further predict that agency will make people more

satisfied when they consider the resulting inequity not only at the moment of decision, but also long after the decision has been made. If these predictions are supported, then our findings will reveal that inequity must not necessarily be linked to dissatisfaction, and that agency can be used as a viable organizational tool to allow works to be generous to their colleagues without the negative reactions that might normally accompany the resulting inequity.

Overview of Studies

To test our hypotheses, we designed a series of studies that elicit participants' satisfaction with inequitable allocations that benefit others while placing themselves at a disadvantage. We measured participants' satisfaction in response to actual payments for work conducted by participants in the lab and to scenarios describing realistic organizational contexts (similar to our opening Walmart example). In a typical study, participants were faced with a case in which an extra resource (e.g., a financial bonus) was given to an equally deserving person but not to the participant. We manipulated participants' agency; that is, whether or not they took part in the allocation decision (e.g., by voting). We then measured participants' satisfaction with the unequal allocation. We predicted that participants would be less dissatisfied with inequitable outcomes when they were agentic in bringing them about than when they were not.

The first studies tested the agency prediction in the lab, by paying participants for real work. We used a longitudinal design to track participants' satisfaction over time (five weeks). We predicted that the effect of the procedure would be sustainable over time (Studies 1–2). The next studies used scenarios that mimicked real workplace dilemmas (Studies 3–7). These studies also compared the effects of an agency-based procedure to procedures involving no agency, for example, having management maintain equity rather than giving the extra resource or creating inequity by using an impartial device such as a coin flip to assign the extra resource (Studies 4–6). According to our account, an agency-based procedure should be at least as useful as these comparable no-agency procedures.

Study 1

Study 1 investigated the basic effect of agency on people's satisfaction with inequitable allocations in which others received more than them. To test this idea, Study 1 manipulated participants' agency; participants were either asked to make a decision on the actual pay of another participant in the study (agency condition), or they were told that the experimenter had already made this decision (no-agency condition). The decision was presented as a real decision on whether to pay the other participant the same, or more than, the participant for completing the same task in the lab. Upon making the decision, we examined how agency influenced participants' satisfaction with this allocation. We predicted that participants would be more satisfied with an allocation that gives another person a better outcome (while placing them at a relative disadvantage) when they were agentic rather than nonagentic. We also measured participants' evaluation of the fairness of the eventual allocation. We predicted that agentic participants would find the inequitable allocation less unfair than nonagentic participants.

Study 1 was designed also to test a temporal aspect of the agency hypothesis, by tracking participants' satisfaction over five weeks. That is, in the first week, participants made a decision on whether or not to pay the other participant more than them each week (agency condition), or the experimenter made this decision (no-agency condition). In the following four weeks, we tracked how satisfied participants were with the outcome and the process every week. If agency merely increases satisfaction due to an immediate reward based on a feeling of control, or a good mood, then its effect should quickly dissolve (Eitam, Kennedy, & Tory Higgins, 2013; Karsh & Eitam, 2015). If, however, as we theorized, agency changes how people think about this instance of inequity so they are less concerned about what it signals, and are genuinely happier about others' good outcomes, then this difference in satisfaction should persist over time. Our account makes no specific predictions about the overall level of satisfaction over time, but it does suggest that the beneficial effect of agency on satisfaction should persist beyond the initial decision to give more.

Method

Participants. One hundred twenty-two undergraduate students participated in the first session of a marketing study in the lab (63 in the agency condition and 59 in the no-agency condition). They were told that the study will include five sessions, with one session each week. They were promised a payment of $3 for each session, and a bonus of $8 for completing all five sessions (i.e., a total payment of $23). Ninety-six participants completed all five sessions (48 in the agency condition and 48 in the no-agency condition, 60% females, age ranged from 18 to 33, $M = 20.06$, $SD = 2.66$). To ensure complete anonymity, we matched participants' answers in the different sessions using personal codes. Participants who failed to provide the correct code in any of the sessions resulted in unmatched data. Consequently, we have the full data for all five sessions for 76 participants (35 in the agency condition and 41 in the no-agency condition), and partial data for the rest. We conducted a post hoc power analysis (Faul, Erdfelder, Lang, & Buchner, 2007), based on the 0.26 obtained effect size for satisfaction with the other person's pay (see below). The achieved power was 0.61.

Procedure. This study and all the following studies were approved by the university's ethics committee. At the beginning of the first session, participants were told that every week they would evaluate the prices of different products and be paid $3 for their work. Before they began the first evaluation session, participants were told they were being matched with another participant who would evaluate the prices of the same set of products. The identity of this participant was not revealed to them, and they were told that their identity would not be revealed either. The participants then completed the evaluation task; they estimated the prices of 10 products (e.g., a vacuum cleaner, an optical mouse) and answered some questions about their shopping habits. Following the evaluation task, participants read:

> To remind you, you will be paid $3 for this session, as well as for the next four sessions in the following weeks. However, we have some extra budget for this study, so we can pay one participant in each pair an additional dollar bonus for each session. We selected which participant in each pair could potentially receive an extra bonus. You were unfortunately not selected for this extra bonus.

The participants were randomly assigned to an agency or a no-agency condition. In the agency condition, they were asked to choose the pay per session for the other participant, who could potentially receive a bonus. Specifically, they had to choose between paying the other participant $3 (the same as they received) or $4 ($1 more than they received). They knew that their choice would directly determine the other participant's bonus. Participants in the no-agency condition were told instead that it was up to the experimenter to choose between paying the other participant $3 or $4 per session, and that the experimenter is about to make this decision. They were told that their preference would not affect the experimenter's decision in any way. Participants were then informed about the experimenter's decision. This decision was matched to a decision made by a participant in the agency condition. Thus, if a participant in the agency condition chose to pay the other participant $4, then a participant in the no-agency condition was informed that the experimenter chose to pay the other participant $4. The matching served to equalize the payments in the two conditions, to allow comparison between them.

Finally, all participants were told that we were interested in how they felt about the payment in this study, and were asked four questions on a 1 (*not at all*) to 7 (*very much*) scale. Participants were first asked about their satisfaction with their own outcomes: "How satisfied are you with your payment for this session?" They were then asked two questions that assessed their satisfaction with the other participant's payment, both "How satisfied are you with the payment to the other participant for this session?" and "How upset are you with the payment to the other participant for this session?" Finally, we assessed how fair they found the payments: "How fair do you find the payments in this session to be?" At the end of the session, the survey program generated a personal code for each participant as an anonymous identifier for the following weeks.

A week after the first session, in Week 2, each participant received by e-mail a link for participation in the next session. Participants had to login using their personal code and complete online the same type of evaluation task. Importantly, after finishing the evaluation task, participants were reminded of their own pay for the session ($3) and of the pay for the matched participant that was determined by them (agency condition) or by the experimenter (no-agency condition) in Week 1. The participants were then asked the same four questions about satisfaction and fairness that we detailed above. This procedure was repeated in Weeks 3 and 4. In Week 5, participants had to come back to the lab, complete some general questions about the evaluation task, and then report their satisfaction with the pay in the final session. They were also asked the same satisfaction questions regarding the pay for all five sessions. In addition, participants were asked how much control they felt they had over the payments in the study. They were also asked how happy they were, how much they enjoyed taking the study, and to report their sex and age. These questions also used a 1 (*not at all*) to 7 (*very much*) scale. We included these measures to test whether our manipulation would impact people's overall enjoyment and happiness ratings (we did not expect that it would). Finally, participants were told that we had one more question for them. Specifically, we told them that we had some extra budget left, and that we were considering paying the final 12 participants in the study a few dollars more than we paid the rest of the participants. We asked them to vote to help us determine whether we should pay the next participants a few dollars more than previous participants, or the same amount. We did this to test whether the initial agency manipulation would have a spillover effect on participants' final vote (in which they all had agency).

Our main prediction was that participants would be more satisfied, and find the allocation more fair, in the agency as compared with the no-agency condition. We further predicted that this pattern would persist across five weeks (we made no prediction for changes in satisfaction over time).

Results

Manipulation check. Confirming the agency manipulation, participants reported feeling more control over the outcomes when they could determine their matched participant's bonus for the study (agency condition, $M = 3.15$, $SD = 2.16$) than when the experimenter made this decision (no-agency condition, $M = 1.29$, $SD = 0.58$), $t(94) = 5.73$, $p < .001$, $d = 1.18$. Note that even in the agency condition, participants did not report a high level of control over the outcomes. This might be because they could not pick the level of the outcomes and were limited to choosing from only two options (e.g., they could not take the money to themselves, or give others a higher amount).

Satisfaction. In the agency condition, 84% (53/63) of the participants chose in the first session for the other participant to be paid more than they were ($4 rather than $3). Accordingly, in the no-agency condition, 85% of the participants (50/59) were told that the experimenter chose to pay the other participants more than them ($4 rather than $3). Thus, an inequitable allocation was carried out in most cases. To investigate whether participants in the agency condition were more satisfied with this allocation than those in the no-agency condition, we conducted a mixed-model analysis of variance (ANOVA) with condition (agency or no-agency) as a between-participants factor and time (week 1–5) as a within-participant factor. We ran a separate analysis for satisfaction with one's own pay and satisfaction with the other's pay. We included all participants in these analyses. See the ratings in Figure 1.

Supporting our hypothesis, participants who had agency were more satisfied with their own pay ($M = 5.36$, $SD = 1.03$) than participants who had no agency ($M = 4.74$, $SD = 1.32$), $F(1, 74) = 5.18$, $p = .026$, $\eta_p^2 = 0.07$. Over time, participants' satisfaction with their own pay changed, $F(4, 296) = 3.45$, $p = .009$, $\eta_p^2 = 0.05$, but, importantly, there was no significant interaction between agency and time, $F(4, 296) = 1.02$, $p = .396$. This suggests that agency increased satisfaction with one's own pay over and above the effect of time.

Next, we averaged participants' responses to the questions about how satisfied they would be with the other participant's pay, and how upset they would be with it (after reverse coding the latter; the correlation between these factors ranged from $r = .55$ to $r = .60$ in the different weeks). Participants who had agency were more satisfied with the other participant's pay ($M = 5.49$, $SD = 1.27$) than participants who had no agency ($M = 4.00$, $SD = 1.27$), $F(1, 69) = 24.21$, $p < .001$, $\eta_p^2 = 0.26$. Time did not significantly affect satisfaction with the other person's pay, $F(4, 276) = 1.96$, $p = .101$, and did not significantly interact with agency, $F(4, 276) = 0.71$, $p = .585$.

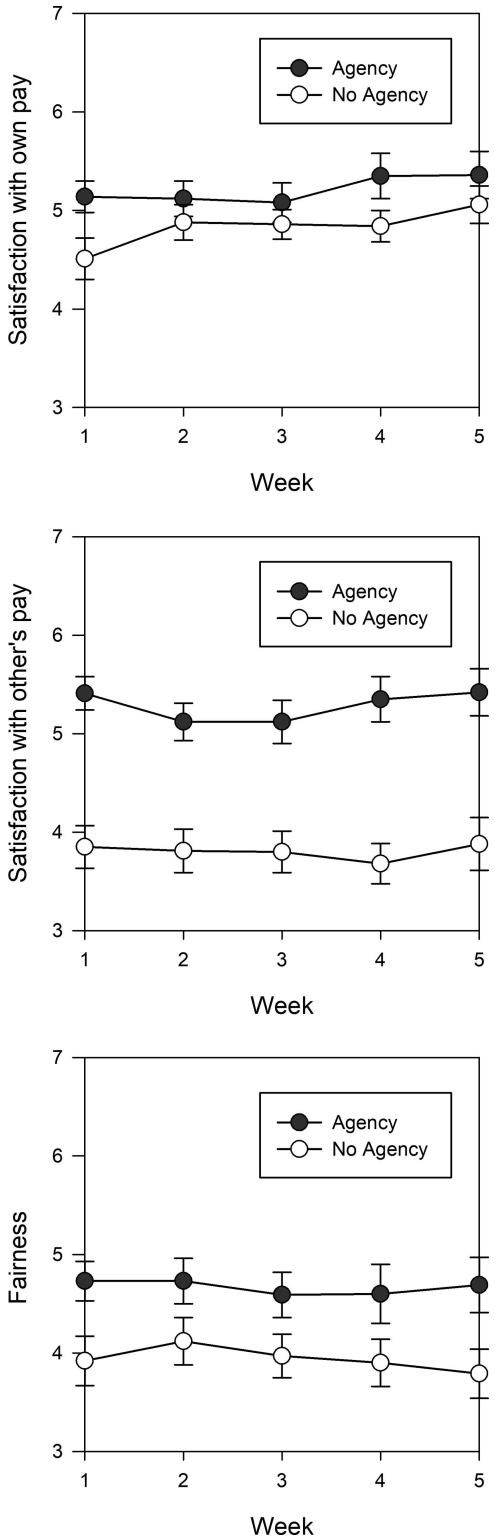

Figure 1. Mean ratings and standard errors of satisfaction and fairness ratings in Study 1.

We examined the results in both conditions also taking into account the pay that was determined for the other participant ($3 or $4). Because the sample sizes were very small in some of the conditions, we report the means and standard deviations in each condition in the supplemental materials.

Participants who had agency did not rate their enjoyment in taking the study ($M = 4.48$, $SD = 1.25$) as higher than participants who had no agency ($M = 4.37$, $SD = 1.20$), $F(1, 74) = 0.14$, $p = .706$. Participants who had agency also did not rate their happiness on the day ($M = 4.90$, $SD = 1.12$ as higher than participants who had no agency ($M = 4.68$, $SD = 0.98$), $F(1, 74) = 0.82$, $p = .367$. This is in line with our argument that agency affects people's view of resource allocations, rather than their overall mood.

Finally, we tested whether participants' original assignment to an agency or no-agency condition affected their vote on a different question that was presented to them at the final week: whether or not to pay future 12 participants more for the same study. Note that all participants had agency in answering this question, as they were asked to make a consequential vote. We did not find a significant difference between the conditions, although participants in the agency condition were directionally more likely to vote in favor of giving an extra bonus to future participants in this study (65%) than participants in the no-agency condition (46%), $\chi^2(N = 96) = 3.41$, $p = .065$, $\varphi = 0.19$.

Fairness. According to our account, agency affects satisfaction by increasing the perceived fairness of the allocation (and by increasing warm glow). Thus, we expected agency to affect fairness as well. Participants' ratings of the fairness of the payments were indeed higher in the agency ($M = 4.95$, $SD = 1.64$) than in the no agency condition ($M = 3.68$, $SD = 1.53$), $F(1, 74) = 12.19$, $p = .001$, $\eta^2 = 0.14$. Time did not significantly affect fairness perceptions, $F(4, 296) = 0.66$, $p = .620$, and did not significantly interact with agency, $F(4, 296) = 0.22$, $p = .930$. See correlations between the fairness measure and the satisfaction measures in Table 1.

Discussion

Taken together, the results of Study 1 demonstrate a robust effect of agency on participants' satisfaction with inequitable payments for real work. Participants who could choose the outcomes of another fellow worker not only tended to choose a higher payment for them, but also reported being more satisfied with this payment than workers who had no influence over the pay. Compared with nonagentic participants, agentic participants were also more satisfied with their own pay, and they thought the distribution was more fair. These effects of agency emerged immediately after

Table 1
Correlations Between Main Variables by Condition in Study 1, Averaged Across 5 Weeks

	Agency			No agency		
Variable	1	2	3	1	2	3
1. Satisfaction with own pay	—			—		
2. Satisfaction with other's pay	.72	—		.59	—	
3. Perception of fairness	.72	.55	—	.43	.62	—

Note. $N = 76$.

the decision and persisted for five weeks. When participants had agency, the allocation also seemed more fair to them. According to our theory, this increased participants' satisfaction with the outcome.

Study 2

The results of Study 1 are consistent with our primary hypothesis whereby agency increases people's long-run satisfaction with allocations in which others receive more than they do. According to our account, agency affects satisfaction because it reduces people's concern about others' better outcomes. However, these results could have been driven by an alternative process. Namely, although we matched the overall ratio of pay levels ($3 or $4) in the no-agency condition to the agency condition, the outcome matched the participant's preference in the agency condition (because he or she chose it), but did not necessarily match the participant's preference in the no-agency condition (because it was externally assigned in a random manner). Study 2 was designed to rule out the possibility that this difference in matching preference and outcomes between conditions explains the different levels of satisfaction we observed.

Study 2 used the longitudinal lab paradigm of Study 1, paying undergraduate students $3 for each session they completed over five weeks. To eliminate the matching problem, the pay to the other participant was now independent of the participant's choice in both conditions: we always ended up paying the other participant more. To achieve this, in the agency condition we told participants that the pay of the other participant was determined by a vote of three people: the participant and two other participants. We set up this condition in this way so that, even if the participant voted to pay the other participant less, we could still pay the other person more ($4) because this person's vote could be overruled by the other two (hypothetical) participants. The outcome in the no-agency condition was the same ($4), because of the experimenter's decision. We measured ratings of satisfaction and fairness over five weeks, as in Study 1. If the matching explanation accounts for the effect observed in Study 1, then there should be no differences between the agency and no-agency conditions in Study 2. However, we predicted that participants should be more satisfied with the outcomes in the agency than in the no-agency condition, because they would be less concerned about the other person receiving more than them.

Method

Participants. One hundred twenty undergraduate students participated in the first session of a marketing study in the lab (60 in the agency condition and 60 in the no-agency condition). One hundred seven participants completed all five sessions (56 in the agency condition and 51 in the no-agency condition; 65% females, age ranged from 18 to 45, $M = 20.21$, $SD = 3.88$). Four of the participants did not provide their personal code consistently, so we have only partial data from them (of the 103 participants for whom we had complete data, 52 were in the agency condition and 51 were in the no-agency condition). Participants were each paid a total of $23 for completing all five sessions. We conducted a post hoc power analysis, based on the 0.13 obtained effect size for satisfaction with the other person's pay (see below). The achieved power was 0.26. To ensure that our studies are sufficiently powered, we use larger sample sizes in Studies 4–7.

Procedure. The procedure of Study 2 was identical to that of Study 1, with the exception of the bonus allocation process. As in Study 1, participants completed five price evaluation sessions over five weeks, and were paid $3 per session. However, in Study 2, participants in the agency condition were asked to *vote* (rather than simply decide) on the pay per session for the participant matched to them: either $3 (the same as they received) or $4 (more than they received). Participants were told that two other participants were also going to vote on this participant's pay, and that the votes of the three of them would determine the pay (by majority rule). Participants in the no-agency condition were told, as in Study 1, that it was up to the experimenter to decide whether the other participant would be paid $3 or $4 per session. Importantly, participants in both conditions were all informed that it had been decided that their matched participant would be paid $4. This was either determined by the outcome of the participants' vote or by the experimenter's choice, depending on the condition. Note that this design eliminated any selection effects, as all participants were presented with the same outcome to the other participant. Finally, all participants were asked to answer the same set of questions as in Study 1. Participants completed the evaluation task, and answered the same set of questions, in the four additional sessions. We predicted that participants would be more satisfied, and find the allocation more fair, in the agency as compared with the no-agency condition.

Results

Manipulation check. Confirming the agency manipulation, participants reported feeling more control over the outcomes when they took part in the vote (agency condition, $M = 2.32$, $SD = 1.55$) than when the experimenter made the decision (no-agency condition, $M = 1.18$, $SD = 0.48$), $t(105) = 5.06$, $p < .001$, $d = 0.99$.

Satisfaction. In the agency condition, 89% of the participants voted in favor of paying the other participant more than they were paid ($4 rather than $3). A binominal sign test revealed that this percentage was greater than chance, $p < .001$. Note that in this study, all participants, regardless of their vote, were informed that it was decided to pay the other participant more than them. Unsurprisingly, the six agentic participants who voted against paying the other participant more were less satisfied with the other's pay ($M = 3.70$, $SD = 1.12$) than the 46 participants who voted for it ($M = 5.49$, $SD = 1.22$), $t(50) = 3.40$, $p = .001$, $d = 0.96$. The participants who voted against the higher pay were also less satisfied with their own pay ($M = 4.13$, $SD = 1.55$) than the participants who voted for it ($M = 5.39$, $SD = 1.26$), $t(50) = 2.24$, $p = .030$, $d = 0.63$. The dissatisfaction of these 6 people could be driven by their initial aversion toward unequal outcomes, and also by the fact that their vote has been overturned. Note that because we wanted to test the overall effect of the agency-based allocation procedure, we included in the following analyses the ratings made by *all* participants in the agency condition—those who initially voted in favor of paying more, and those who voted against. This creates a conservative comparison between conditions, as we include in the agency condition participants who were confronted with a decision that was not in line with their initial preferences.

To assess the effect of agency on participants' satisfaction with their own pay and their satisfaction with the matched participant's pay, we conducted two mixed-model analyses of variance (ANOVA) with condition (agency or no-agency) as a between-participants factor, and time (week 1–5) as a within-participant factor (see Figure 2). Supporting our hypothesis, participants who had agency were more satisfied with their own pay across the five weeks ($M = 5.25$, $SD = 1.34$) than participants who had no agency ($M = 4.73$, $SD = 1.21$), $F(1, 101) = 4.13$, $p = .045$, $\eta_p^2 = 0.04$. Over time, participants' satisfaction with their own pay changed, $F(4, 404) = 4.28$, $p = .002$, $\eta_p^2 = 0.41$, but, importantly, there was no significant interaction between agency and time, $F(4, 404) = 0.89$, $p = .468$. This suggests that agency increased satisfaction with one's own pay over and above the effect of time.

Next, we averaged participants' responses to the questions of how satisfied they would be with the other participant's pay and how upset they would be with it (after reverse coding the latter; the correlation between these factors ranged from $r = .66$ to $r = .74$ in the different weeks). Participants who had agency were more satisfied with the other participant's pay ($M = 5.28$, $SD = 1.33$) than participants who had no agency ($M = 4.27$, $SD = 1.38$), $F(1, 101) = 14.48$, $p < .001$, $\eta_p^2 = 0.13$. Time affected satisfaction with the other person's pay, $F(4, 404) = 2.67$, $p = .032$, $\eta_p^2 = 0.03$, but, importantly, time did not significantly interact with agency, $F(4, 404) = 0.25$, $p = .912$.

Participants who had agency did not rate their enjoyment from taking the study ($M = 4.52$, $SD = 1.14$) any higher than participants who had no agency ($M = 4.33$, $SD = 1.07$), $F(1, 99) = 0.14$, $p = .405$. The agentic participants also did not rate their happiness on that day as higher ($M = 4.58$, $SD = 0.89$) than participants who had no agency ($M = 4.70$, $SD = 1.05$), $F(1, 99) = 0.37$, $p = .546$. This is in line with our idea that agency affects people's view of resource allocations, rather than their overall mood.

Finally, the agency condition did not have a significant effect on participants' final vote on giving an extra bonus to future participants in this study; 66% voted in favor of the bonus in the agency condition and 57% in the no-agency condition, $\chi^2(N = 107) = 0.96$, $p = .328$.

Fairness. Unlike in Study 1, in Study 2, participants who had agency did not rate the fairness of the payments as significantly higher ($M = 4.42$, $SD = 1.46$) than participants who had no agency ($M = 3.95$, $SD = 1.69$), $F(1, 100) = 2.27$, $p = .135$. Time did not affect fairness evaluations, $F(4, 400) = 0.91$, $p = .456$, and did not significantly interact with agency, $F(4, 400) = 1.53$, $p = .193$. See correlations between the fairness measure and the satisfaction measures in Table 2.

Discussion

The findings of Study 2 extended the findings from Study 1. Even though the pay for the other participant was always better than the participant's own pay, we found once again that participants who had a sense of agency were more satisfied with the allocation than those without a sense of agency. Specifically, participants who could vote on the outcomes of another fellow worker reported being more satisfied with this payment than participants who had no influence over the pay. The agentic participants were also more satisfied with their own pay and thought the distribution was more fair than the nonagentic partic-

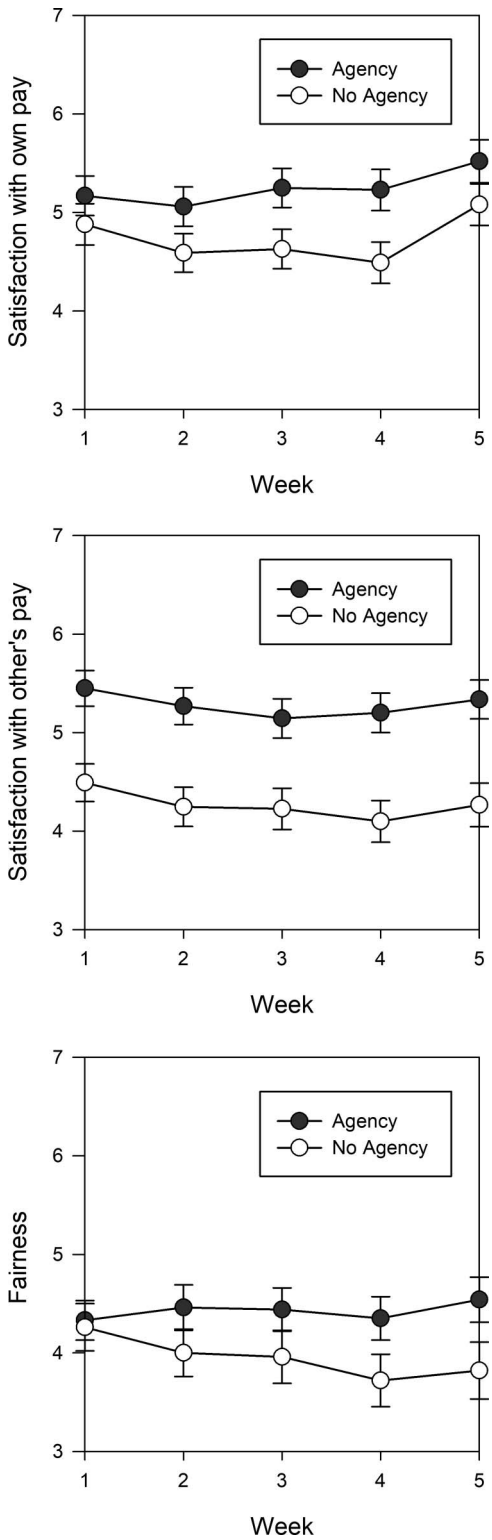

Figure 2. Mean ratings and standard errors of satisfaction and fairness ratings in Study 2.

Table 2
Correlations Between Main Variables by Condition in Study 2, Averaged Across 5 Weeks

Variable	Agency			No agency		
	1	2	3	1	2	3
1. Satisfaction with own pay	—			—		
2. Satisfaction with other's pay	.69	—		.62	—	
3. Perception of fairness	.57	.50	—	.65	.73	—

Note. $N = 103$.

ipants. These effects of agency on satisfaction persisted for five weeks. Unlike in Study 1, and in contrast to our theory, agency did not increase the perceived fairness of the allocation. We test fairness perceptions in the following studies, and ensure that the effect from Study 1 is robust.

Study 3

Studies 1 and 2 tested the agency effect by measuring the satisfaction of participants in lab studies, in cases where other participants were actually paid more than them over a period of time. In the next studies, we wanted to test the effect of agency on satisfaction using hypothetical scenarios that depict more realistic organizational settings. In Study 3, following the Walmart example described in the introduction, participants were asked to imagine that they worked in a big company that was considering giving new employees better benefits than existing employees. We manipulated participants' agency (involvement in the company's decision) and measured their satisfaction with the decision to give the new employees better benefits. We predicted that agency would increase participants' satisfaction with this allocation, and that participants' evaluations of how fair this decision is would account for the effect.

Method

Participants. Participants were recruited online using the Amazon Mechanical Turk website; participation was restricted to participants from the United States. We decided to run 100 participants in this study. One hundred two adults (52% females, age ranged from 20 to 68, $M = 35.25$, $SD = 11.72$) participated in this five-minute study for 25 cents. We specified ahead of time that we would exclude any participants who failed to answer correctly the comprehension questions. Ten participants were excluded from any further analyses based on this decision rule. We conducted a post hoc power analysis. We based the power analysis on the obtained d of 0.45 (see below). The achieved power was 0.57. We used larger samples in our next studies.

Procedure. Participants were asked to imagine the following scenario:

> Six months ago you started working as a computer programmer at Google. Google is now looking to hire new computer programmers. Changes in the demand for programmers have presented Google with the following dilemma: if Google wants to attract the best programmers, they have to offer them slightly higher annual benefits than those that are given to recently hired programmers. If Google doesn't offer these better terms, the best programmers will instead take jobs in other rival companies, and Google might lose in its competition over the market to the rival companies.

Participants were then randomly assigned to either the agency or no-agency condition. In the agency condition, the vignette continued: "Imagine Google asked you and two other programmers who were recently hired (i.e., within the last 6 months) to vote on whether or not it should offer slightly higher benefits to new programmers. The voting is confidential and anonymous." Participants were then asked to vote: "I would vote to give the new programmers the same annual benefits and lose the best programmers," or "I would vote to give the new programmers higher annual benefits." After they voted, they were told that, based on the employees' vote, it was decided that the new programmers would get higher annual benefits than recently hired programmers (note this occurred even if they had voted not to give the others additional benefits, similar to Study 2). In the no-agency condition, the vignette above instead continued "Imagine Google's vice president now has to decide on whether or not Google should offer slightly higher benefits to new programmers." They then found out that the vice president decided that the new programmers would get higher annual benefits than recently hired programmers. Thus, in both conditions, the outcome was the same, but participants' involvement in creating this outcome differed.

All participants were then asked three questions about this outcome. First, they were asked: "Knowing that these new programmers will now make more than you, how satisfied would you be with your own annual benefits?" Participants next indicated how satisfied they would be with the new programmers' benefits, and then how fair they thought the company's decision was. Participants then indicated how much control they felt they had over the company's decision in the scenario. They made all of these ratings on separate scales ranging from 1 (*not at all*) to 7 (*very much*). Finally, participants answered two comprehension questions about the text and were asked to report their sex and age.

Results

Manipulation check. Confirming our manipulation, participants reported feeling more control over the outcomes when they could vote on the company's policy (agency condition, $M = 3.18$, $SD = 1.42$) than when they could not (no-agency condition, $M = 1.36$, $SD = 0.53$), $t(90) = 8.20$, $p < .001$, $d = 1.70$.

Satisfaction. In Table 3, we report the correlations between participants' satisfaction with their own benefits, their satisfaction with others' benefits, and their perception of fairness. To assess the effect of agency on satisfaction, we compared the ratings made by

Table 3
Correlations Between Main Variables by Condition in Study 3

Variable	Agency			No agency		
	1	2	3	1	2	3
1. Satisfaction with own benefits	—			—		
2. Satisfaction with others' benefits	.50**	—		.45**	—	
3. Perception of fairness	.55**	.32*	—	.72**	.32*	—

Note. $N = 92$.
* $p < .05$. ** $p < .01$.

participants in the agency condition with those made by participants in the no-agency condition (see Figure 3). We did not find a significant difference in participants' satisfaction with their own benefits, although participants who had agency were directionally more satisfied with their own benefits ($M = 3.36$, $SD = 1.60$) than participants who had no agency ($M = 2.75$, $SD = 1.50$), $t(90) = 1.89$, $p = .061$, $d = 0.39$. Participants with agency were significantly more satisfied with the new programmers' benefits ($M = 4.20$, $SD = 1.65$) than participants who had no agency ($M = 3.36$, $SD = 1.76$), $t(90) = 2.36$, $p = .021$, $d = 0.49$.

In the agency condition, 80% of participants (36/45) voted in favor of giving out extra benefits to new programmers. A binomial sign test revealed that the tendency to give the extra benefits was greater than chance, $p < .001$. A t test did not reveal a significant difference in participants' satisfaction with their own benefits between participants who initially voted in favor of giving better benefits to new programmers ($M = 3.53$, $SD = 1.66$) and participants who voted against it ($M = 3.03$, $SD = 1.2$; note that only nine participants voted against), $t(43) = 1.47$, $p = .150$, $d = 0.44$. Yet, participants who voted in favor of giving extra benefits were more satisfied with the new programmers' benefits ($M = 4.53$, $SD = 1.58$) than participants who voted against it ($M = 2.89$, $SD = 1.27$), $t(43) = 2.89$, $p = .006$, $d = 0.88$.

Fairness. According to our account, agency reduces the unfairness that is otherwise associated with inequitable allocations. As expected, we found that agentic participants thought that the company's decision was more fair ($M = 3.71$, $SD = 1.67$) than nonagentic participants ($M = 2.85$, $SD = 1.69$), $t(90) = 2.45$, $p = .016$, $d = 0.51$.

Discussion

The findings from Study 3 extend the agency effect we observed in Studies 1 and 2 to a workplace scenario that mimics an actual decision that companies frequently face. Specifically, we found that people were more satisfied with benefits given to other employees, and not to them, when they knew they had some control over the benefit allocation than when they did not.

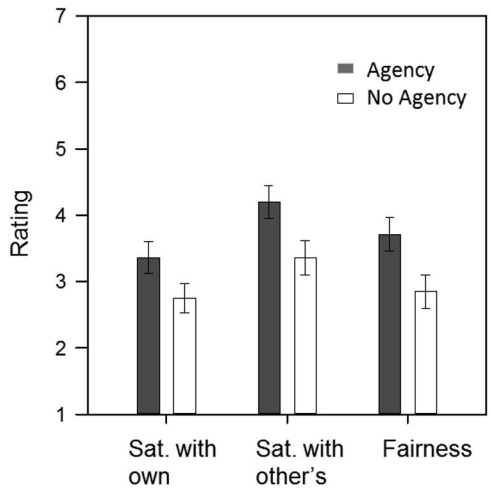

Figure 3. Mean ratings and standard errors of satisfaction and fairness ratings in Study 3.

Study 4

In Studies 1–3, we measured participants' satisfaction with an allocation that gave other people better outcomes than their own. In line with our main prediction, we found that agentic participants were more satisfied with this result than nonagentic ones. Thus, if an organization wants to give out some extra resources that cannot be allocated equally, it can increase the satisfaction of the employees who would be disadvantaged by the allocation by involving them in the decision process (i.e., giving them agency). Still, it might be the case that the organization would be better off not giving out the additional resources (e.g., sacrificing efficiency for equity). This would be true if the satisfaction level of agentic employees' who were disadvantaged was much lower than it would be had the organization decided not to give out any extra resources, and thereby created no inequity. For the agency allocation procedure to be maximally useful, agentic workers who vote to let others receive more than them should end up being no less satisfied with their outcome than nonagentic workers are with an allocation that keeps things equal.

To compare these cases, we used a two way design, with agency (yes or no) and outcome (unequal or equal) as between-participants factors. We created a new scenario inspired by an organizational field study that examined satisfaction in the workplace in the face of unequal allocations of office space (Greenberg, 1988). The scenario informed participants that new offices were to be allocated to two employees: the protagonist and another equally deserving employee named Allison, both of whom were using old, windowless offices. The problem was that only one new office was currently available, and the second office would only be ready in a year. In the no-agency condition, participants were told that some managers at the company voted on whether the office should be given to one of the employees now. In the agency condition, participants were told that they and some other employees who used old offices were to vote on the allocation, and were asked to cast their vote. In both conditions, the options were to give the available new office to Allison now, or to give it to neither Allison nor the protagonist now. Then, participants were either informed that the result of the vote was to give the new office to Allison, and give them a new office in a year (unequal condition), or that they would both receive the new office next year (equal condition).

Finally, Study 4 started to test the mechanism underlying the agency effect. Specifically, Study 4 tested whether agency makes people perceive the inequity as more fair, and makes them feel good due to their generous behavior.

Method

Participants. To determine the sample size of Study 4, we conducted a power analysis (Faul et al., 2007). We based the power analysis on the results of Study 3, where d ranged from 0.4 to 0.5. The recommended sample size was 320 participants (80 per cell), so we aimed to run 360 participants, taking into account about 10% drop out attributable to attention checks, as in Study 3. We preregistered our hypothesis and the planned sample size (https://aspredicted.org/b9nt9.pdf). Three hundred sixty-three American adults participated in this five-minute study on Amazon Mechanical Turk for 25 cents (55% females, age ranged from 18 to 86, $M = 37.46$, $SD = 12.56$). Forty-eight participants were excluded from any

further analyses because they failed to answer correctly at least one of the two comprehension questions.

Procedure. All the participants read the following scenario:

> Imagine that you are working at a large company. You and Allison, another employee at the company, both do the same job, make the same amount each year, and have received identical evaluations. Both of you use relatively old offices with no windows, and you are both in line for a new office.
>
> The company has recently finished constructing some new office space and one of the new offices is available for your department. The construction of the other offices will take another year, at which time there will be two offices available for your department. All the new offices have windows.

Participants were then randomly assigned to one of four conditions, according to a two-way design, with agency (yes or no) and outcome (unequal or equal) as between-participants factors. In the agency conditions, participants were told: "Some employees in your department, who also use old offices, including you, have been asked to vote on the allocation of the new office. The employees can vote to (1) give the new office to Allison now and give you a new office in a year, or (2) let neither of you use the new office this year, and give Allison and you new offices in a year." They were then asked to vote. In the no-agency conditions, participants were told instead: "Some managers at your department have been asked to vote on the allocation of the new office." They were then presented with the same two allocation options as in the agency condition.

Next, in the equal outcome conditions, participants were told: "Now imagine that according to the voting, it was decided that Allison and you will get a new office in a year." In the unequal outcome conditions, participants were instead told: "Allison will get the new office now, and you will get a new office in a year." Participants were asked to rate "How satisfied would you be with the outcome of the vote?" on a 1 (*not at all*) to 7 (*very much*) scale. They were also asked to rate on 1–7 scales: "How fair is the decision?," "How generous would you feel?," and "How much control do you feel you had over the decision?" Finally, they had to answer two comprehension questions and to report their sex and age.

Results

Manipulation check. Confirming our manipulation, participants reported feeling more control over the outcomes when they could vote on the office allocation (agency conditions, $M = 3.51$, $SD = 1.18$) than when they could not (no-agency conditions, $M = 1.85$, $SD = 1.30$), $t(313) = 9.36$, $p < .001$, $d = 1.06$.

Satisfaction. To assess the effect of agency on satisfaction of disadvantaged parties, we conducted a two-way ANOVA with agency (yes or no) and outcome (equal or unequal) as between-participants factors. The dependent measure was ratings of satisfaction with the outcome. Consistent with our hypothesis, participants with agency were more satisfied with the outcome ($M = 4.95$, $SD = 1.67$) than participants who had no agency ($M = 4.39$, $SD = 1.89$), $F(1, 311) = 8.85$, $p = .003$, $\eta_p^2 = 0.03$ (see Figure 4). Additionally, participants who found out that Allison would get the office this year were less satisfied ($M = 4.15$, $SD = 1.78$) than participants who were told that neither Allison nor them would get the office ($M = 5.17$, $SD = 1.70$), $F(1, 311) = 27.11$, $p < .001$, $\eta_p^2 = 0.08$. Importantly, these results were qualified by a significant interaction between agency and outcome, $F(1, 311) = 7.23$, $p = .007$, $\eta_p^2 = 0.02$.

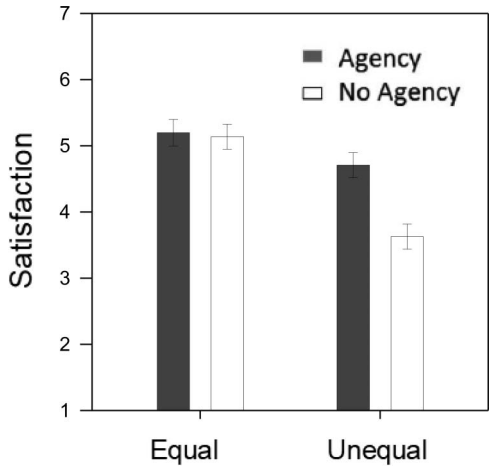

Figure 4. Mean ratings of satisfaction by agency and outcome in Study 4.

We followed up on the interaction with planned comparisons. We found that when the office was given to no one (equal outcome), participants with agency were not more satisfied ($M = 5.20$, $SD = 1.64$) than participants with no agency ($M = 5.14$, $SD = 1.75$), $t(311) = 0.20$, $p = .843$. Yet, when the office was given to Allison (unequal outcome), participants with agency were more satisfied ($M = 4.71$, $SD = 1.66$) than participants with no agency ($M = 3.63$, $SD = 1.73$), $t(311) = 4.04$, $p < .001$, $d = 0.64$.

These results align with our previous experiments in suggesting that employees are more satisfied with inequity when they have agency in creating the allocation than when they do not. It is also important to see whether agency can make participants just as satisfied with an unequal allocation, as nonagentic participants would be with an equal allocation. To answer this question we compared participants' satisfaction in the agency unequal condition and the no-agency equal condition. Participants who had agency and found that Allison will get the new office were not significantly less satisfied ($M = 4.71$, $SD = 1.66$) than participants who had no agency and found that the office will not be given to anyone ($M = 5.14$, $SD = 1.75$), $t(311) = 1.60$, $p = .111$. This final result suggests that the agency based intervention does not have a significantly negative impact on worker satisfaction: participants who had agency in the decision to give the new office to Allison were no less satisfied than those who merely found out that the managers did not give the new office to anyone.

Fairness. To assess the effect of agency on the perceived fairness of the allocation, we conducted a two-way ANOVA with agency (yes or no) and outcome (equal or unequal) as between-participants factors. The dependent measure was ratings of fairness. There was no main effect of agency, such that participants with agency found the outcome just as fair ($M = 4.86$, $SD = 1.79$) as participants who had no agency ($M = 4.69$, $SD = 2.02$), $F(1, 311) = 1.15$, $p = .285$. Participants who found out that Allison would get the office this year found the allocation less fair ($M = 3.95$, $SD = 1.81$) than participants who were told that neither

Allison nor them would get the office ($M = 5.62$, $SD = 1.63$), $F(1, 311) = 72.79$, $p < .001$, $\eta_p^2 = 0.19$. Importantly, these results were qualified by a significant interaction between agency and outcome, $F(1, 311) = 5.20$, $p = .023$, $\eta_p^2 = 0.02$.

We followed up on the interaction with planned comparisons. When the office was given to no one (equal outcome), participants with agency did not find the allocation more fair ($M = 5.49$, $SD = 1.59$) than participants with no agency ($M = 5.73$, $SD = 1.66$), $t(311) = 0.85$, $p = .398$. Yet, when the office was given to Allison (unequal outcome), participants with agency found the allocation more fair ($M = 4.29$, $SD = 1.78$) than participants with no agency ($M = 3.64$, $SD = 1.79$), $t(311) = 2.39$, $p = .017$, $d = 0.36$. Thus, it appears that agency affected perceptions of fairness only when the allocation was unequal. See correlations between the fairness, generosity and satisfaction measures in Table 4.

Generosity. To assess the effect of agency on participants' feeling of generosity, we conducted a two-way ANOVA with agency (yes or no) and outcome (equal or unequal) as between-participants factors. The dependent measure was ratings of generosity. There was a main effect of agency, such that participants with agency felt more generous ($M = 4.51$, $SD = 1.83$) than participants who had no agency ($M = 3.84$, $SD = 1.92$), $F(1, 311) = 10.02$, $p = .002$, $\eta_p^2 = 0.03$. Outcome did not have a significant effect on participants' feeling of generosity, but participants who found out that Allison would get the office this year felt directionally more generous ($M = 3.96$, $SD = 1.96$) than participants who were told that neither Allison nor them would get the office ($M = 4.36$, $SD = 1.83$), $F(1, 311) = 72.79$, $p = .063$, $\eta_p^2 = 0.01$. Importantly, these results were qualified by a significant interaction between agency and outcome, $F(1, 311) = 5.65$, $p = .018$, $\eta_p^2 = 0.02$.

We followed up on the interaction with planned comparisons. When the office was given to no one (equal outcome), participants with agency did not feel more generous ($M = 4.45$, $SD = 1.80$) than participants with no agency ($M = 4.29$, $SD = 1.87$), $t(311) = 0.55$, $p = .581$. Yet, when the office was given to Allison (unequal outcome), participants with agency did feel more generous ($M = 4.56$, $SD = 1.87$) than participants with no agency ($M = 3.40$, $SD = 1.88$), $t(311) = 3.96$, $p < .001$, $d = 0.62$. Thus, it appears that agency affected feelings of generosity only when the allocation was unequal.

Table 4
Correlations Between Main Variables by Condition in Study 4

	Agency – Equal outcomes			No agency – Equal outcomes		
Variable	1	2	3	1	2	3
1. Satisfaction	—			—		
2. Perception of fairness	.63**	—		.69**	—	
3. Feeling of generosity	.33**	.11	—	.60**	.42**	—
	Agency – Unequal outcomes			**No agency – Unequal outcomes**		
Variable	1	2	3	1	2	3
1. Satisfaction	—			—		
2. Perception of fairness	.69**	—		.74**	—	
3. Feeling of generosity	.53**	.35**	—	.63**	.48**	—

Note. $N = 315$.
** $p < .01$.

Discussion

Study 4 replicated the effect of agency on satisfaction in an office allocation scenario, demonstrating that when a new office is given to another equally deserving employee, participants are more satisfied if they were allowed to take part in the decision (i.e., had agency through voting) than if they were not. Study 4 provided further evidence for our account that agency affects both perception of fairness and feelings of generosity.

Importantly, Study 4 also showed that our proposed allocation procedure did not negatively impact participant satisfaction when comparing this procedure to the likely status quo—that the organization would waste the resource and maintain equity. Indeed, participants' satisfaction from a decision giving the new office to someone else, when they had agency, was not lower than their satisfaction from the decision not to give the office to anyone, when they had no agency. Thus, if an organization prefers to give out some extra resources (but cannot allocate them equally), it can use an agency-based allocation procedure to do so without negatively impacting the disadvantaged employees' satisfaction.

Study 5

Studies 1–4 tested the agency hypothesis in settings where participants' own outcomes were fixed and other people's outcomes could be the same or better than their outcome. In real life, however, it is often the case that other people's better outcomes come at one's own expense. Would agency still increase satisfaction with others' better outcomes when the self could have received the potential benefit? Study 5 tested this question. We used the unequal conditions of the office allocation scenario from Study 4, and added a selfish allocation option. Specifically, the new office could now be given to another employee, to the self, or to neither one. We also made the "give to neither" option more realistic by stating that in this case, the new office will be given to an employee in another department (and thus will not remain empty as in our previous studies). Agency was manipulated as in Study 4, such that participants were either asked to vote on these three office allocation options themselves, along with other employees who used an old office (agency condition), or they were told that some managers had to vote on these options (no-agency condition). In both conditions, participants were then told that according to the voting, it has been decided to give the new office to Allison. We predicted that participants would be more satisfied with an allocation that gives someone else a better outcome if they had agency in the decision process, even if this outcome would come at their own expense.

Method

Participants. As in the previous study, we aimed for 80 participants per cell (and to account for drop out, we aimed to recruit 90 participants per cell, and a total of 180). We preregistered our hypothesis and the planned sample size (https://aspredicted.org/pa7f3.pdf). One hundred eighty-three American adults participated in this five-minute study on Amazon Mechanical Turk for

25 cents (49% females, age ranged from 22 to 69, $M = 36.86$, $SD = 10.47$). Thirty-nine participants were excluded from any further analyses because they failed to answer correctly at least one of the two comprehension questions.

Procedure. All the participants read the opening of the office allocation scenario as in Study 4. Specifically, they were told that they and another equally deserving employee named Allison were eligible to receive a new office, but that only one office was available this year, and the second office would be available in a year from now. Participants were then randomly assigned to either the agency condition or the no-agency condition. In the agency condition, participants were told: "Some employees in your department, who also use old offices, including you, have been asked to vote on the allocation of the new office. The employees can vote to (1) give the new office to Allison now and give you a new office in a year, (2) give the new office to you now and give Allison a new office in a year, or (3) let another department use the new office this year, and give Allison and you new offices in a year." They were then asked to vote. In the no-agency condition, participants were told instead: "Some managers at your department have been asked to vote on the allocation of the new office." They were presented with the same three allocation options as in the agency condition. Then, in both conditions, participants were told "Now imagine that according to the voting, it was decided that Allison will get the new office now, and you will get a new office in a year." Participants were asked to rate "How satisfied would you be with the outcome of the vote?" on a 1 (*not at all*) to 7 (*very much*) scale. They were also asked to rate on 1–7 scales: "How fair is the decision?," "How generous would you feel?," and "How much control do you feel you had over the decision?" Finally, they had to answer two comprehension questions and to report their sex and age.

Results

Manipulation check. Confirming our manipulation, participants reported feeling more control over the outcomes when they could vote on the office allocation (agency condition, $M = 3.19$, $SD = 2.01$) than when they could not (no-agency condition, $M = 1.57$, $SD = 1.00$), $t(142) = 6.19$, $p < .001$, $d = 1.04$.

Satisfaction. To assess the effect of agency on satisfaction, we compared the ratings made by participants in the no-agency condition to those made by participants in the agency condition. Consistent with our hypothesis, participants with agency were more satisfied with the outcome of the vote ($M = 3.89$, $SD = 1.95$) than participants who had no agency ($M = 3.27$, $SD = 1.57$), $t(142) = 2.11$, $p = .037$, $d = 0.35$.

Note that because we wanted to test the overall effect of the agency allocation procedure, we included the satisfaction ratings made by all participants in the agency condition—regardless of their vote. In the agency condition, 27% voted to give the new office to Allison, 27% voted to give the new office to themselves, and 45% voted to give the new office to another department. As could be expected, an ANOVA revealed that agentic participants' initial preference affected their satisfaction with the final decision to give the new office to Allison, $F(2, 61) = 21.15$, $p < .001$, $\eta_p^2 = 0.42$. According to a Tukey post hoc test, participants who initially voted in favor of giving the new office to Allison were more satisfied with this decision ($M = 5.88$, $SD = 1.27$) than participants who voted to give the office to themselves ($M = 2.76$, $SD = 1.64$), $p < .001$, $d = 2.13$, and also more satisfied than participants who voted to give the office to another department ($M = 3.36$, $SD = 1.57$), $F(2, 61) = 21.15$, $p < .001$, $d = 1.76$. There was no significant difference in satisfaction between participants who chose to give to self and those who chose to give to another department, $p = .416$

Fairness and generosity. As in Study 4, we tested whether agency reduced the perception of unfairness and increased feelings of generosity. See correlations between the fairness, generosity and satisfaction measures in Table 5. In line with our account, we found that agentic participants thought that the decision to give Allison the new office was more fair ($M = 4.34$, $SD = 1.78$) than nonagentic participants ($M = 3.55$, $SD = 1.78$), $t(142) = 2.64$, $p = .009$, $d = 0.44$. Agentic participants also felt more generous ($M = 3.85$, $SD = 2.08$) than nonagentic participants ($M = 3.12$, $SD = 1.77$), $t(142) = 2.28$, $p = .024$, $d = 0.38$.

Discussion

The findings of Study 5 extend the previous findings by demonstrating the effect of agency on satisfaction in a realistic setting, where an extra resource can go either to the self, to another person, or to another department. Indeed, we found that when participants find out that their peer is about the get the new office, they are still more satisfied with this result when they could vote on this decision than when they could not, even when they could have potentially received the office themselves.

Study 6

Our studies so far provide support for the idea that agency increases satisfaction with allocations where others get a better outcome than the self. According to our account, the agency effect is brought about by two mechanisms: enabling people to perceive the inequitable allocation as more fair, and enabling them to feel good about helping others achieve good results. If this is true, then agency should increase satisfaction just as much as—and possibly even more than—other fair procedures, such as random allocation devices. Specifically, agency might lead people to greater satisfaction than fair procedures, such as random allocation, because these latter devices do not elicit generous feelings about helping others (Folger, 1977; Shaw & Olson, 2014; Tyler, Huo, & Lind, 1999). Study 6 was designed to investigate this question.

Study 6 employed the office scenario from Studies 4 and 5. However, in this case the only options for allocating the new office were to give the office to the protagonist or give it to Allison.

Table 5
Correlations Between Main Variables by Condition in Study 5

	Agency			No agency		
Variable	1	2	3	1	2	3
1. Satisfaction	—			—		
2. Perception of fairness	.63**	—		.65**	—	
3. Feeling of generosity	.75**	.42**	—	.58**	.65**	—

Note. $N = 144$.
** $p < .01$.

There were three between-participants conditions. The agency condition and the no-agency unfair condition were the same as in Study 5. That is, participants were told that some employees including them (agency), or some managers at the company (no-agency unfair), voted on the office allocation. In the new no-agency fair condition, participants were told that the managers decided to flip a coin and give the new office according to the result. In all conditions, the process resulted in giving the new office to Allison. We predicted that participants would be more satisfied when the new office is given to Allison following a fair procedure (agency condition and no-agency fair condition) than an unfair procedure (no-agency unfair condition). However, we further predicted that participants would be most satisfied when the inequity resulted from a fair procedure involving agency as compared with a fair procedure not involving agency.

Method

Participants. As in the previous studies, we aimed to run 80 participants per cell (we thus ran a total of 270 participants, to allow exclusion of about 10% of participants, based on the comprehension questions). We preregistered our hypothesis and the planned sample size (*https://aspredicted.org/bi6mm.pdf*). Two hundred sixty-nine American adults participated in this five-minute study on Amazon Mechanical Turk for 25 cents (35% females, age ranged from 19 to 81, $M = 34.45$, $SD = 11.48$). Sixteen participants were excluded from any further analyses because they failed to answer correctly at least one of the two comprehension questions.

Procedure. All the participants read the opening of the office allocation scenario as in Studies 4 and 5. Specifically, they were told that they and another equally deserving employee named Allison were eligible for receiving a new office, but that only one office was available this year, and the second office would be available in a year from now. Participants were then randomly assigned to either the agency condition, the no-agency fair condition, or the no-agency unfair condition.

In the agency condition, participants were told: "You and two other employees in your department, who also use old offices, have been asked to decide on the allocation of the new office. The employees can decide to either (1) give the new office to Allison now and give you a new office in a year, (2) give the new office to you now and give Allison a new office in a year." They were then asked "Which option would you vote for?" In the no-agency unfair condition, participants were told instead: "Three managers at your department have been asked to decide on the allocation of the new office. The managers can decide to either (1) give the new office to Allison now and give you a new office in a year, (2) give the new office to you now and give Allison a new office in a year. Now imagine that the managers decided to vote." In the no-agency fair condition, participants read the same text, except that the last sentence was replaced with the following sentence: "Now imagine that the managers decided to flip a coin."

Then, in the agency and in the no-agency unfair conditions, participants were told "Now imagine that according to the vote, it was decided that Allison will get the new office now, and you will get a new office in a year." In the no-agency fair condition, they were told instead: "Now imagine that according to the outcome of the coin flip, it was determined that Allison will get the new office now, and you will get a new office in a year." Participants were asked to rate "How satisfied would you be with the outcome of the vote?" on a 1 (*not at all*) to 7 (*very much*) scale. They were also asked to rate on 1–7 scales: "How fair is the decision?," "How generous would you feel?," and "How much control do you feel you had over the decision?" Finally, they had to answer two comprehension questions and to report their sex and age.

Results

Manipulation check. Confirming our agency manipulation, participants reported feeling more control over the outcomes when they could vote on the office allocation (agency condition, $M = 3.72$, $SD = 1.76$) than when they could not (no-agency fair and no-agency unfair conditions, $M = 1.61$, $SD = 1.21$), $t(251) = 11.24$, $p < .001$, $d = 1.42$.

Satisfaction. To compare the satisfaction ratings in the three conditions, we conducted a one-way ANOVA with two planned contrasts. The analysis revealed that satisfaction differed among the conditions, $F(2, 250) = 7.05$, $p < .001$, $\eta_p^2 = 0.05$. In line with our predictions, according to the first planned contrast, participants in the fair conditions (agency condition and no-agency fair condition) were more satisfied with Allison receiving the new office ($M = 4.37$, $SD = 1.62$) than participants in the no-agency unfair condition ($M = 3.53$, $SD = 1.60$), $t(250) = 3.75$, $p < .001$, $d = 0.47$. However, according to the second planned contrast, there was no significant difference in satisfaction between the agency condition, where participants could vote on the outcome ($M = 4.30$, $SD = 1.60$), and the no-agency fair condition, where the managers' made the decision by flipping a coin ($M = 4.37$, $SD = 1.65$), $t(250) = 0.29$, $p = .774$.

Note that because we wanted to test the overall effect of the agency allocation procedure, we included the satisfaction ratings made by all participants in the agency condition—regardless of their vote. In the agency condition, 61% of participants voted to give the new office to Allison and 39% voted to give the new office to themselves. As expected, a *t* test revealed that participants who initially voted in favor of giving the new office to Allison were more satisfied with this decision ($M = 5.14$, $SD = 1.24$) than participants who voted to give the office to themselves ($M = 3.03$, $SD = 1.24$), $p < .001$, $F(1, 91) = 8.06$, $p < .001$, $d = 1.79$.

Fairness. As in Studies 4 and 5, we tested the role of fairness and generosity in participants' satisfaction with allocations giving others better outcomes. See correlations between the fairness, generosity, and satisfaction measures in Table 6. A one-way ANOVA revealed that fairness evaluations differed among the conditions, $F(2,$

Table 6
Correlations Between Main Variables by Condition in Study 6

	Agency			No agency fair			No agency unfair		
Variable	1	2	3	1	2	3	1	2	3
1. Satisfaction	—			—			—		
2. Perception of fairness	.33**	—		.53**	—		.44**	—	
3. Feeling of generosity	.72**	.14	—	.51**	.24*	—	.44**	.24*	—

Note. $N = 253$.
* $p < .05$. ** $p < .01$.

250) = 18.05, $p < .001$, $\eta_p^2 = 0.13$. A planned contrast revealed that participants in the agency condition, who could vote on the allocation, rated the decision to give Allison the new office as more fair ($M = 4.87$, $SD = 1.22$) than participants in the no-agency unfair condition, who could not vote ($M = 4.24$, $SD = 1.64$), $t(250) = 2.80$, $p = .006$, $d = 0.35$. Yet, participants in the agency condition rated the decision to give Allison the new office as less fair than participants in the no-agency fair condition who knew that the managers made this decision by tossing a coin ($M = 5.64$, $SD = 1.62$), $t(250) = 3.28$, $p = .001$, $d = 0.41$.

Generosity. A one-way ANOVA revealed that feelings of generosity differed among the conditions, $F(2, 250) = 15.48$, $p < .001$, $\eta_p^2 = 0.11$. A planned contrast revealed that participants in the agency condition, who were involved in the decision process, felt more generous ($M = 4.61$, $SD = 1.88$) than participants in the no-agency unfair condition, where the managers voted ($M = 3.14$, $SD = 1.67$), $t(250) = 5.48$, $p < .001$, $d = 0.69$. Participants in the agency condition also felt more generous than participants in the no-agency fair condition, where the decision was made by a coin flip ($M = 3.64$, $SD = 1.78$), $t(250) = 3.50$, $p = .001$, $d = 0.44$.

Discussion

The results of Study 6 support our prediction, whereby fair procedures lead to more satisfaction with allocations that give more to others. Yet, the results do not support our second prediction, whereby fair procedures that involve agency lead to greater satisfaction than fair procedures that do not. We replicated the same pattern of results in a similar study, where we compared the agency and no-agency unfair conditions to a slightly different no-agency fair condition, where the decision was made by three other disadvantaged employees (see S1 in the supplemental materials). We speculate that the reason that participants in both studies were not more satisfied in the agency condition than in the no-agency fair condition may be that participants in the agency condition felt more generous, but perceived the allocation as less fair. Apparently, a vote by a group of disadvantaged employees seemed to participants as a less fair procedure than a coin flip, and this overcame the positive effects of generosity associated with the agentic experience. Still, the agentic participants were just as satisfied as participants in the no-agency condition where a coin was flipped, suggesting that these two procedures are similarly useful in terms of satisfaction with allocations that give others better outcomes. The agency procedure can be especially useful in cases where using a random device is not possible (as in the Walmart case, where the extra resources can be only given to one group) or is not seen as acceptable (Keren & Teigen, 2010; Oberholzer-Gee, Bohnet, & Frey, 1997).

Study 7

Studies 4–6 provided support for the agency hypothesis, and started testing the mechanism underlying it: These studies showed that an experience of agency increased participants' personal feelings of generosity and the perceived fairness of unfavorable allocations. Were these altered feelings and perceptions responsible for participants' increased satisfaction with unfavorable outcomes? To test whether generosity and fairness indeed affect satisfaction, in Study 7 we elicited feelings of generosity and fairness *before* we elicited participants' satisfaction. Additionally, to ensure the reliability of our measures, in Study 7 each construct was measured using two items (rather than one). We expected to find a main effect of agency on satisfaction, mediated by feelings of generosity and perception of fairness.

Method

Participants. As in the previous studies, we aimed to run 90 participants per cell. We preregistered our hypothesis and the planned sample size (https://aspredicted.org/vd4n3.pdf). Two hundred and one American adults ended up participating in this five-minute study on Amazon Mechanical Turk for 25 cents (54% females, age ranged from 18 to 71, $M = 39.83$, $SD = 12.74$). Twenty-one participants were excluded from any further analyses because they failed to answer correctly at least one of the two comprehension questions.

Procedure. Participants were randomly assigned to an agency or a no-agency condition. The participants read the office allocation scenario from the respective unequal-outcome conditions in Study 4 (agency or no-agency). Thus, in the agency condition, they could vote on the new office allocation, and in the no-agency condition they could not. The only difference from the scenario in Study 4 was that the name of the other employee was now Nick instead of Allison (to ensure that the results hold when participants consider male recipients). All the participants were then told that, according to the voting, it was decided that Nick will get the new office now, and they will get the office in a year. Participants were asked to answer two pairs of questions. The first pair of questions concerned generosity, and the second pair concerned fairness. The order of the pairs was randomized and the order of questions within each pair was kept constant. The first question in the generosity pair was "How generous would you feel?" on a 1 (*not generous at all*) to 7 (*completely generous*) scale. The second question in this pair was "How unselfish or selfish would you feel?" on a 1 (*very selfish*) to 7 (*completely unselfish*) scale. The first question in the fairness pair was "How fair or unfair is the decision?" on a 1 (*completely unfair*) to 7 (*completely fair*) scale. The second question in this pair was "How impartial or partial is the decision?" on a 1 (*completely partial*) to 7 (*completely impartial*) scale. Participants were then reminded that according to the voting, it was decided that Nick would get the new office now, and they would get a new office next year. They were asked to answer two questions: "How satisfied or dissatisfied would you be with the outcome of the vote?" on a 1 (*very dissatisfied*) to 7 (*very satisfied*) scale, and "How happy or sad would you be about the outcome of the vote" on a 1 (*very sad*) to 7 (*very happy*) scale. Finally, participants were asked "How much control do you feel you had over the decision?" on a 1 (*not at all*) to 7 (*very much*) scale. We report the correlations between the six items used to measures participants' satisfaction with the decision, perception of fairness and feelings of generosity, in Table 7. Participants also had to answer two comprehension questions and to report their sex and age.

Results

Manipulation check. Confirming our agency manipulation, participants reported feeling more control over the outcomes when

Table 7
Correlations Between Main Variables by Condition in Study 7

Variable	1	2	3	4	5	6
Agency						
1. Satisfaction	—					
2. Happiness	.67**	—				
3. Fairness	.66**	.50**	—			
4. Impartiality	.35**	.16	.49**	—		
5. Generosity	.54**	.43**	.32**	.08	—	
6. Unselfishness	.50**	.30**	.25*	.08	.70*	—
No agency						
1. Satisfaction	—					
2. Happiness	.85**	—				
3. Fairness	.58**	.63**	—			
4. Impartiality	.32**	.25**	.45**	—		
5. Generosity	.57**	.56**	.33**	.36**	—	
6. Unselfishness	.39**	.45**	.34**	.13	.47**	—

Note. $N = 180$.
* $p < .05$. ** $p < .01$.

they could vote on the office allocation (agency condition, $M = 3.51$, $SD = 1.85$) than when they could not (no-agency condition, $M = 1.66$, $SD = 1.30$), $t(178) = 7.84$, $p < .001$, $d = 1.18$.

Satisfaction. To compute participants' satisfaction score, we averaged their answers to the questions that asked how satisfied or dissatisfied they were, and how happy or sad they were with the decision to give Nick the new office ($r = .81$). Replicating the findings from our previous studies, we found that participants who had agency were more satisfied with the decision to give the new office to Nick ($M = 4.30$, $SD = 1.34$) than participants who had no agency ($M = 2.95$, $SD = 1.45$), $t(178) = 6.42$, $p < .001$, $d = 0.96$.

In the agency condition, 71% of participants (60/84) voted in favor of giving the new office to Nick. A binominal sign test revealed that the tendency to give the new office to Nick was greater than chance, $p < .001$. A t test revealed that agentic participants who initially voted in favor of giving the new office to Nick now were more satisfied with this decision ($M = 4.68$, $SD = 1.21$) than agentic participants who voted to give the office to Nick next year ($M = 3.33$, $SD = 1.19$), $p < .001$, $t(82) = 4.64$, $p < .001$, $d = 1.02$.

Fairness. Next, we tested whether the effect of agency on satisfaction with unequal allocations is driven by a reduction in the perception of unfairness and an increase in feelings of generosity, both of which were measured before satisfaction. We computed the fairness score by averaging participants' ratings of how fair or unfair they thought the decision was, and how impartial or partial they thought it was ($r = .54$). In line with our account, we found that agentic participants thought that the decision to give Nick the new office was more fair ($M = 4.48$, $SD = 1.29$) than nonagentic participants ($M = 3.63$, $SD = 1.46$), $t(178) = 4.15$, $p < .001$, $d = 0.62$.

Generosity. We computed the generosity score by averaging participants' ratings of how generous or not generous they felt, and how unselfish or selfish they felt ($r = .61$). Agentic participants felt more generous ($M = 5.06$, $SD = 1.42$) than nonagentic participants ($M = 3.78$, $SD = 1.50$), $t(178) = 5.87$, $p < .002$, $d = 0.88$.

Mediation. To test whether the different evaluations of fairness and feelings of generosity drive the differences in satisfaction between the agency and the no-agency conditions, we conducted a mediation analysis (Hayes, 2013; Preacher & Hayes, 2008). As noted before, agency affected satisfaction with the decision, ($b = 1.34$, $p < .001$). The fairness score was affected by agency ($b = 0.86$, $p < .001$), and so was the generosity score ($b = 1.28$, $p < .001$). Agency was still a significant predictor of satisfaction when mediators (fairness and generosity) were entered into the analysis ($b = 0.46$, $p = .008$), suggesting partial mediation. The 95% bias-corrected confidence interval for the size of the total indirect effect of condition on satisfaction through fairness excluded zero [0.18, 0.58], and so did the indirect effect through generosity [0.33, 0.81], suggesting that both factors are significant mediators.

Discussion

The results of Study 7 support our main prediction, whereby agentic decision makers are more satisfied with allocations that give more to others. We have further claimed that the effect of agency on satisfaction is brought by increased feelings of generosity from helping the other person, as well as by greater feelings of fairness because inequality is created by oneself and not by a partial party. Indeed, we found that feelings of generosity and perception of fairness both mediated the effect of agency on satisfaction.

General Discussion

Whether one is a cashier at Walmart, a university professor, or a veteran pitcher for the Yankees, it is not uncommon to find that newly hired employees are offered better terms than existing ones. Such inequity spurs dissatisfaction. The present research examines a procedure designed to reduce employees' dissatisfaction in cases where others receive benefits that they do not. Our main argument is that giving potentially disadvantaged employees some degree of agency or involvement in the decision about the other employees' outcomes can reduce their dissatisfaction with a resulting unequal allocation.

The results of seven studies supported our hypothesis: Agency significantly reduced participants' dissatisfaction with allocations that gave others more than them. For example, in Study 3, participants were asked to imagine that they worked for a high-tech company, and that because of changes in the market, the company had to offer better terms to attract the best employees. Participants who had agency (i.e., could vote on the new employees' terms) were more satisfied with the decision to give the new employees better terms than them, compared with those who had no agency (i.e., the management made this decision). Agency reduced employees' dissatisfaction even when the extra benefit given to others was clearly at their own expense (Studies 5 and 6). Importantly, the effect of agency improved worker satisfaction in a lab-based setting where actual work and pay were involved (Studies 1 and 2). We paid participants each week (for five weeks) to complete a task and each week they knew that another participant was paid more than them for completing the same task. We varied whether the inequality occurred in a situation where participants had agency in this decision or not. We found that the agentic participants were more satisfied than nonagentic ones with the other employee receiving more. These findings also importantly document that agency can have long-term positive impact on worker satisfaction

with inequitable allocations. Dissatisfaction was reduced not only immediately after the decision, but also some significant time later (Studies 1 and 2).

Our studies also examined the potential consequences of implementing an agency-based allocation procedure, and compared them with other prominent procedures. In Study 4, we examined worker satisfaction in response to the two most "fair" strategies for allocating resources in such contexts: having potentially disadvantaged employees decide to give more benefits to other employees, and having the management decide *not* to give the extra benefits to anyone. We found that satisfaction rates of disadvantaged employees were not significantly different for these two possible cases. This result suggests that if organizations want to give out some extra resources that cannot be allocated equally, they can do so without negatively impacting those who do not receive these benefits. This finding has important implications because giving out the extra resources could have other benefits, such as increasing the satisfaction and possibly productivity of the employees who do receive the extra benefits.

Study 6 further compared people's satisfaction with an agency procedure and with an allocation using an impartial device such as a coin flip. We found that both of these procedures increased satisfaction with inequality to a similar extent, suggesting that both can be used successfully. An agency procedure might be especially useful in cases where using a random device like a coin flip is not possible (as in the Walmart case, where the extra resources can be only given to one group) or when a random allocation is not seen as acceptable (Keren & Teigen, 2010; Oberholzer-Gee et al., 1997).

Note that whereas the results of Studies 3–7 are based on participants' responses to hypothetical scenarios, our main finding whereby agency reduces dissatisfaction with inequitable allocations could not simply be the result of an affective forecasting error. Importantly, in Studies 1 and 2, participants actually experienced being paid less than others, and either experienced having agency in making this decision or not. This incentivized behavioral paradigm validates the findings from the hypothetical scenarios studies; the hypothetical studies, in turn, allow us to test the mechanism underlying the effect in a more nuanced way.

Previous research has demonstrated that agency leads people to be more likely to give others the bigger piece of pie (Choshen-Hillel & Yaniv, 2011, 2012; Shaw et al., 2016). However, it did not test a critical question from an applied perspective of whether people end up being dissatisfied with the inequity they created. This could happen if people prefer that the resources are allocated equally, but they begrudgingly allow others to have more than them, because they want to appear generous or to avoid appearing petty. The current findings refute this possibility by showing that empowering people with agency in making unequal allocations makes them more—not less—satisfied, in both the short term and the long term. The findings also show that the agency procedure has other benefits, and seems equivalent to other fair procedures. Along with the advantages of the agency procedure, our findings also document its limitations: even though agency reduced participants' dissatisfaction with unequal allocations, it did not make them completely satisfied with the resulting inequality. Organizations that can distribute limited resources and must navigate equity-efficiency tradeoffs likely cannot completely please everyone. Nevertheless, our results reveal that certain decisions are more surefire ways to dissatisfy employees (e.g., creating inequity through nonagentic procedures). Thus, we make an important contribution by providing a potentially useful tool that organizations can use to give out resources to some workers while minimizing harm to other workers' satisfaction.

Fairness and Generosity

Why does an experience of agency make people more favorable toward options that give others the bigger piece of the pie? Prior research has suggested two complementary mechanisms (Choshen-Hillel & Yaniv, 2011, 2012). The current research provides the first empirical test of these mechanisms. The first mechanism suggests that agency improves satisfaction through increasing participants' happiness by allowing them to feel generous. This mechanism builds on the notion of warm glow whereby people derive more satisfaction from the good fortune of others when they are personally responsible for helping them than when they are not (Aknin et al., 2013; Andreoni & Miller, 2002; Harbaugh et al., 2007). The second mechanism suggests that agency improves satisfaction through reducing people's dissatisfaction with inequity by removing the negative social signal that is often associated with inequity (Shaw, 2013, 2016). This mechanism builds on the finding that people who have no agency view a decision to give others more than them as unfair, because it is a signal of the decision-maker's unjustified favoritism toward others or the disadvantaged recipient's lower value (Festinger, 1954; Loewenstein et al., 1989; Shaw, 2013, 2016). In contrast, people who do have agency are expected to view the other person's superior outcome as a consequence of their own deliberate choice rather than a negative social signal, and therefore view the allocation as more fair and less dissatisfying (Choshen-Hillel & Yaniv, 2011, 2012).

The current research provided empirical support for both of these mechanisms. In Studies 4–7, participants were asked to rate how generous they felt after they made their decision. Consistent with the suggested warm-glow mechanism, participants who had agency in the decision to give the other person some benefit reported feeling more generous than participants who had no agency. Furthermore, this feeling of generosity mediated the effect of agency on satisfaction (Study 7). Thus, participants seemed to gain some good feeling about being generous and helping the other person, and this increased their satisfaction. Second, and in line with a fairness mechanism, agentic participants rated the decision to give the other person some benefit as more fair than participants who had no agency (Studies 1 and 3–7, but not Study 2). The increased perception of fairness still mediated the effect of agency on satisfaction above and beyond generosity (Study 7). Together, feelings of generosity and fairness evaluations partially mediated the agency effect (Study 7), suggesting that agency affect satisfaction through these two different routes.

The processes through which our two proposed mechanisms contribute to increased satisfaction warrant further exploration. Our current studies do not specify how much of the satisfaction associated with agency is tied to the private warm glow of benefitting others compared with reducing the negative social signal of inequity. Consider an employee who had voted in favor of new employees' better benefits, but a year later another firm evaluates her value and does not know that she took part in this decision. This employee would feel agentic and generous and have the

private knowledge that she helped others, but this other firm would not know that she did and might make negative inferences about her because she makes less than other employees. How would the employee respond to this situation? Knowing the answer to this question would help further elucidate the relative contribution of our two proposed mechanisms and suggest steps one may need to take to see the benefits of our proposed agency procedure. If the employee feels good even when others do not know she played a role, then this would make agency an especially robust procedure. Yet if she feels bad, then strategies that restore her social status would be necessary to preserve the benefits of our proposed procedure.

Implementing an Agency-Based Procedure

Can organizations apply an agency procedure? Specifically, is it feasible for managers to hand over decisions on bonus allocations or salary raises to employees? We believe that it is. One such example is a prominent U.S. business school that, because of changes in the market, had to decide whether or not to give new faculty members higher salaries than current junior faculty. Instead of making the decision themselves, the school administration asked the junior faculty to vote on the salary for the new faculty. Just like in our studies, the current faculty could not receive the pay raise themselves, yet they voted to give higher pay to others. According to our current research, such a simple voting procedure should lead to higher satisfaction of those who cannot get the raise, and this satisfaction can be maintained over time.

Further, in recent years, new platforms and applications have been developed to allow companies to more easily allow employees to make such decisions. Philip Rosedale, the founder of the virtual world "Second Life," describes in an interview such an innovative approach he took in allocating a bonus: "Using a simple piece of software built in-house, Linden Lab divided the total bonus money and handed out an equal share to each employee. Employees then anonymously gave it away to anyone in the company they pleased, keeping none for themselves. It could all go to their best buddy, be spread evenly around the company's couple hundred employees, or any allocation in between—whatever they decided" (Stillman, 2012). According to Rosedale's report, the bonus allocation chosen by employees was fair and enhanced their satisfaction. The experience of these agentic employees anecdotally supports our findings.

Our findings are promising in suggesting a viable way to overcome dissatisfaction with inequity in certain situations. Yet, it is clear that people will not always be satisfied when others make more than them, even if they are agentic. Some limits of the effectiveness of the agency allocation procedure are therefore in order. First, although our agency procedure is a helpful tool that management can use, we do not expect that it will make employees more accepting of glaring inequality in the workplace. Namely, agency should reduce dissatisfaction with inequity only in situations where the resulting allocation is seen as fair. For example, previous work has found that people will not vote to arbitrarily advantage others when the resources can be split evenly (van den Bos, Wilke, Lind, & Vermunt, 1998; van den Bos, Lind, et al., 1997). Similarly, if another employee is clearly not deserving of a bonus, we do not predict that agentic employees would vote to give such employee a bonus and would not be satisfied if the other employee receives it. Indeed, the agency procedure may be most efficacious at reducing dissatisfaction that is rooted in envy, but not dissatisfaction that is based on unfairness (for a discussion of the difference, see Shaw & Choshen-Hillel, 2017).

Second, decision-makers are expected to be more satisfied with outcomes that place them at a disadvantage when they have agency, but this should hold true only as long as the disadvantage is not too large. In our studies, the disadvantage was always limited; it either did not come at their own expense (Studies 1–4), or was relatively low (receiving a new office later rather than immediately, Studies 5–7). Indeed, there is evidence in the literature that people are sometimes willing to pay a token cost to benefit others more than them (Charness & Rabin, 2002; Choshen-Hillel et al., 2015; Choshen-Hillel & Yaniv, 2011). However, we suspect that as the cost to the self increases, so will dissatisfaction, and the differences between agentic and nonagentic decision-makers will shrink. Some clue into this can be found in the dissatisfaction of agentic participants who voted against the option that benefited the other employee. As the cost to the self increases, so will the rate of people who oppose the generous option, and satisfaction will decrease accordingly.

Another practical question for future research is whether potentially disadvantaged employees actually want to make decisions on extra benefits to other employees. Even if these employees are quite satisfied when they decide to give extra benefits to others, they might not expect to be so satisfied, and might want to abdicate such decisions to a third party (who would be less likely to give out the extra benefit). This prediction stems from recent work arguing that people generally prefer to avoid the responsibility for difficult choices, and would rather delegate them to others (Steffel & Williams, in press), and that they specifically wish to avoid the responsibility for creating unequal allocations (Gordon-Hecker, Rosensaft-Eshel, et al., 2017). Note that other research finds that people would prefer to make decisions about allocations to self and others (rather than defer, even when making these decisions leads to dissatisfaction; Berman & Small, 2012), so it seems that there are contexts in which people do and do not want to enact such allocations. Our research suggests that when people do end up making these allocation decisions (either because they chose to make them, or because they were forced to) they often end up being satisfied with such decisions.

Agency and Power

The notion of agency, defined here as involvement or control over the self and other people's outcomes, is highly related to the notion of power, defined as the capacity to influence and control other people (e.g., Galinsky et al., 2006). At first glance, our findings may seem inconsistent with a large class of findings in the power literature. For several decades, power researchers have argued for the corruptive nature of power (Kipnis, 1972). To give just a few examples, power has been shown to lead people to be less sensitive to other people's perspectives (Galinsky et al., 2006) and more likely to stereotype others (Fiske, 1993). Higher social class, which is related to high power, has also been shown to decrease engagement in pro-social behavior (Piff, Kraus, Côté, Cheng, & Keltner, 2010). Yet, according to the approach/inhibition theory of power, power does not necessarily lead to antisocial behavior (Keltner, Gruenfeld, & Anderson, 2003). This theory argues that

power makes people more ready to take action and can lead people to ignore social norms and to act on their preexisting personal goals (Keltner et al., 2003). Thus, if people are oriented toward selfishness, then power will make them more selfish (i.e., less prosocial), whereas if they are oriented toward helping others, then power can lead to help others *more* (i.e., be more prosocial; Chen, Lee-Chai, & Bargh, 2001; Galinsky, Gruenfeld, & Magee, 2003).

A complex relation between power and prosocial behavior is also reflected in studies examining the effect of power on resource allocation behavior. These studies found that having more power over allocations (in a variant of the ultimatum game) makes allocators more selfish, as measured by allocators proposing more unequal offers that favor the self. Yet, having full, dictator-like power over the allocation actually makes allocators more prosocial, as measured by more generous, equal offers (Handgraaf, Van Dijk, Vermunt, Wilke, & De Dreu, 2008; van Dijk & Vermunt, 2000). These studies suggest that when bargaining with others, people take advantage of their power and use their power for their own benefit. However, when allocating resources to others in a nonbargaining context, people feel responsible for others and take their benefits into account as well. These latter findings are consistent with our findings in our more dictator-like game, whereby participants tended to behave generously in a case where they had some power over the allocation, and the other party had none. Our findings demonstrate an even more extreme case of generosity of powerful decision makers that not only opt for equal allocations that are prosocial, but actually opt for prosocial unequal allocations that place the allocator at a disadvantage. Our findings further advance this literature by measuring the subsequent satisfaction of these decision makers, showing that they are satisfied with such decisions and remain satisfied for several weeks after their decision.

Agency, Voice, and Procedural Justice

The current work also extends previous research on procedural justice and voice (e.g., Folger, Rosenfield, Grove, & Corkran, 1979; Lind et al., 1990; van den Bos et al., 1998). As noted in the introduction, the agency hypothesis builds on the findings that giving people the opportunity to express their opinions in a decision making process can mitigate their negativity toward an unfavorable outcome by making the procedure seem more fair. This has been demonstrated in a wide range of contexts, from reactions to performance evaluation at the office (Greenberg, 1986) to citizens' reactions to government policies that are not favorable to them (Smith & Tyler, 1996). Voice has also been found to reduce dissatisfaction in cases of unequal allocations. In one study, participants were either given the opportunity to send a message to a manager who was in charge of allocating resources to them and to a slightly more deserving participant (i.e., they had voice) or not. Having voice reduced their resentment toward the manager's decision to give more (rather than the same) to the slightly more deserving person (Folger et al., 1979). Still, in this study and in similar other studies, participants primarily voiced their strong desire that the other person *not* be paid more than them (Folger, 1977; van den Bos et al., 1998). Other studies investigated cases where there were no differences in deservingness between the self and other. Here, voice was not found to reduce participants' dissatisfaction with unequal allocations (van den Bos et al., 1997). Indeed, one of the most common utterances from participants who were given voice in previous work is their desire *not* to receive less than equally deserving others (e.g., Folger, 1977; see also van den Bos et al., 1998; van den Bos, Lind, et al., 1997). This line of research concludes that when a clear social comparison is available, a fair procedure would not be enough to increase satisfaction with an inequitable allocation (van den Bos et al., 1998).

Our current work goes beyond previous work on voice in demonstrating that the proposed agency procedure can actually encourage participants to vote for others to have more and to be more satisfied with this outcome. Why is agency able to do this? We argue that our agency procedure made people opt for unequal allocations that favored others over themselves, and reduced their dissatisfaction with these inequitable allocations, because the agency procedure—unlike the voice procedure—highlights the participant's responsibility for the other person's outcome. When one expresses one's opinion to affect a manager's decision, the responsibility for the decision is primarily the manager's. Yet, when one makes an independent decision, one feels personally responsible. This responsibility is tied to both mechanisms for reducing dissatisfaction that we discussed above. First, it elicits warm glow from the good outcome of the other person. Second, it eliminates negative social signals (e.g., that one is worth less than the other employee) that would result from partial decisions made by others. These findings carry important implications for the field by revealing that management can defer allocation decisions to disadvantaged workers, rather than merely let them express their opinions.

Relatedly, recent research suggests that allocators often mispredict how much fairness concerns will impact satisfaction. Specifically, allocators of resources tend to overestimate the extent to which the fairness of the allocation procedure matters to the recipients. That is, allocators believe that recipients will be much more satisfied with receiving less than others if this allocator uses a fair as opposed to unfair procedure; in reality, the fairness of the procedure only has a moderate influence on recipients' satisfaction (Cooney, Gilbert, & Wilson, 2016). These findings raise an interesting question of whether allocators might also overpredict the effect of agency on receivers' satisfaction. Our speculation is that the effect of agency is not intuitive and that allocators may actually underpredict its effect. For example, managers would not expect their employees to vote in favor of giving better benefits to their peers because they would expect them to feel more envy than they actually do in agentic cases. They also may anticipate that, even if employees do vote for such policies, they would still end up dissatisfied with being at a relative disadvantage.

Final Remark

In a recent article about the ethics of nudges, Nobel laureate Richard Thaler explained how behavioral interventions could be used to sway people to the good, helping them make decisions that are better for them, but also to the bad, directing them toward decisions that are in other parties' best interests. On a personal note, Thaler adds: "Whenever I'm asked to autograph a copy of *Nudge* . . . I sign it, 'Nudge for good.' Unfortunately, that is meant as a plea, not an expectation" (Thaler, 2015). In the same way, the allocation procedure that we have examined here may be used toward different goals. Organizations may exploit the agency

allocation procedure to reach decisions that are better for the management and not necessarily for the employees. Yet, given the agency allocation procedure's potential benefits for all the parties involved, we believe that organizations and policymakers would use it for the good—to allow for efficient allocations that improve the well-being of some, without hurting others.

References

Aknin, L. B., Barrington-Leigh, C. P., Dunn, E. W., Helliwell, J. F., Burns, J., Biswas-Diener, R., . . . Norton, M. I. (2013). Prosocial spending and well-being: Cross-cultural evidence for a psychological universal. *Journal of Personality and Social Psychology, 104,* 635–652. http://dx.doi.org/10.1037/a0031578

Alexander, S., & Ruderman, M. (1987). The role of procedural and distributive justice in organizational behavior. *Social Justice Research, 1,* 177–198. http://dx.doi.org/10.1007/BF01048015

Andreoni, J., & Bernheim, B. D. (2009). Social image and the 50–50 norm: A theoretical and experimental analysis of audience effects. *Econometrica, 77,* 1607–1636. http://dx.doi.org/10.3982/ECTA7384

Andreoni, J., & Miller, J. (2002). Giving according to GARP: An experimental test of the consistency of preferences for altruism. *Econometrica, 70,* 737–753. http://dx.doi.org/10.1111/1468-0262.00302

Anik, L., Aknin, L. B., Norton, M. I., Dunn, E. W., & Quoidbach, J. (2013). Prosocial bonuses increase employee satisfaction and team performance. *PLoS ONE, 8,* e75509. http://dx.doi.org/10.1371/journal.pone.0075509

Bandura, A. (2009). Agency. In D. Carr (Ed.), *Encyclopedia of the life course and human development* (pp. 8–11). New York, NY: Macmillan Reference.

Batson, C. D., Batson, J. G., Slingsby, J. K., Harrell, K. L., Peekna, H. M., & Todd, R. M. (1991). Empathic joy and the empathy-altruism hypothesis. *Journal of Personality and Social Psychology, 61,* 413–426. http://dx.doi.org/10.1037/0022-3514.61.3.413

Batson, C. D., Fultz, J., & Schoenrade, P. A. (1987). Distress and empathy: Two qualitatively distinct vicarious emotions with different motivational consequences. *Journal of Personality, 55,* 19–39. http://dx.doi.org/10.1111/j.1467-6494.1987.tb00426.x

Bazerman, M. H., Blount White, S., & Loewenstein, G. F. (1995). Perceptions of fairness in interpersonal and individual choice situations. *Current Directions in Psychological Science, 4,* 39–43. http://dx.doi.org/10.1111/1467-8721.ep10770996

Bem, D. J. (1972). Self-perception theory. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (pp. 1–62). New York, NY: Academic Press.

Berman, J. Z., & Small, D. A. (2012). Self-interest without selfishness: The hedonic benefit of imposed self-interest. *Psychological Science, 23,* 1193–1199. http://dx.doi.org/10.1177/0956797612441222

Boyce, C. J., Brown, G. D., & Moore, S. C. (2010). Money and happiness: Rank of income, not income, affects life satisfaction. *Psychological Science, 21,* 471–475. http://dx.doi.org/10.1177/0956797610362671

Brickman, P., & Bulman, R. J. (1977). Pleasure and pain in social comparison. In J. M. Suls & R. L. Miller (Eds.), *Social comparison processes: Theoretical and empirical perspectives* (pp. 149–186). Washington, DC: Hemisphere.

Camerer, C. (2003). *Behavioral game theory: Experiments in strategic interaction*. Princeton, NJ: Princeton University Press.

Charness, G., & Rabin, M. (2002). Understanding social preferences with simple tests. *The Quarterly Journal of Economics, 117,* 817–869. http://dx.doi.org/10.1162/003355302760193904

Chen, S., Lee-Chai, A. Y., & Bargh, J. A. (2001). Relationship orientation as a moderator of the effects of social power. *Journal of Personality and Social Psychology, 80,* 173–187. http://dx.doi.org/10.1037/0022-3514.80.2.173

Chernyak, N., & Kushnir, T. (2014). The self as a moral agent: Preschoolers behave morally but believe in the freedom to do otherwise. *Journal of Cognition and Development, 15,* 453–464. http://dx.doi.org/10.1080/15248372.2013.777843

Choshen-Hillel, S., Shaw, A., & Caruso, E. M. (2015). Waste management: How reducing partiality can promote efficient resource allocation. *Journal of Personality and Social Psychology, 109,* 210–231. http://dx.doi.org/10.1037/pspa0000028

Choshen-Hillel, S., & Yaniv, I. (2011). Agency and the construction of social preference: Between inequality aversion and prosocial behavior. *Journal of Personality and Social Psychology, 101,* 1253–1261. http://dx.doi.org/10.1037/a0024557

Choshen-Hillel, S., & Yaniv, I. (2012). Social preferences shaped by conflicting motives: When enhancing social welfare creates unfavorable comparisons for the self. *Judgment and Decision Making, 7,* 618–627.

Clark, A. E., & Oswald, A. J. (1996). Satisfaction and comparison income. *Journal of Public Economics, 61,* 359–381. http://dx.doi.org/10.1016/0047-2727(95)01564-7

Cooney, G., Gilbert, D. T., & Wilson, T. D. (2016). When fairness matters less than we expect. *Proceedings of the National Academy of Sciences of the United States of America, 113,* 11168–11171. http://dx.doi.org/10.1073/pnas.1606574113

Dana, J., Cain, D. M., & Dawes, R. M. (2006). What you don't know won't hurt me: Costly (but quiet) exit in dictator games. *Organizational Behavior and Human Decision Processes, 100,* 193–201. http://dx.doi.org/10.1016/j.obhdp.2005.10.001

Dawes, C. T., Fowler, J. H., Johnson, T., McElreath, R., & Smirnov, O. (2007). Egalitarian motives in humans. *Nature, 446,* 794–796. http://dx.doi.org/10.1038/nature05651

Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality, 19,* 109–134. http://dx.doi.org/10.1016/0092-6566(85)90023-6

Dunn, E. W., Aknin, L. B., & Norton, M. I. (2008). Spending money on others promotes happiness. *Science, 319,* 1687–1688. http://dx.doi.org/10.1126/science.1150952

Dunn, J., Ruedy, N. E., & Schweitzer, M. E. (2012). It hurts both ways: How social comparisons harm affective and cognitive trust. *Organizational Behavior and Human Decision Processes, 117,* 2–14. http://dx.doi.org/10.1016/j.obhdp.2011.08.001

Eitam, B., Kennedy, P. M., & Tory Higgins, E. (2013). Motivation from control. *Experimental Brain Research, 229,* 475–484. http://dx.doi.org/10.1007/s00221-012-3370-7

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39,* 175–191. http://dx.doi.org/10.3758/BF03193146

Fehr, E., & Schmidt, K. M. (1999). A theory of fairness, competition, and cooperation. *The Quarterly Journal of Economics, 114,* 817–868. http://dx.doi.org/10.1162/003355399556151

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7,* 117–140. http://dx.doi.org/10.1177/001872675400700202

Fiske, S. T. (1993). Controlling other people. The impact of power on stereotyping. *American Psychologist, 48,* 621–628. http://dx.doi.org/10.1037/0003-066X.48.6.621

Folger, R. (1977). Distributive and procedural justice: Combined impact of "voice" and improvement on experienced inequity. *Journal of Personality and Social Psychology, 35,* 108–119. http://dx.doi.org/10.1037/0022-3514.35.2.108

Folger, R., Rosenfield, D., Grove, J., & Corkran, L. (1979). Effects of "voice" and peer opinions on responses to inequity. *Journal of Personality and Social Psychology, 37,* 2253–2261. http://dx.doi.org/10.1037/0022-3514.37.12.2253

Galinsky, A. D., Gruenfeld, D. H., & Magee, J. C. (2003). From power to action. *Journal of Personality and Social Psychology, 85,* 453–466. http://dx.doi.org/10.1037/0022-3514.85.3.453

Galinsky, A. D., Magee, J. C., Inesi, M. E., & Gruenfeld, D. H. (2006). Power and perspectives not taken. *Psychological Science, 17,* 1068–1074. http://dx.doi.org/10.1111/j.1467-9280.2006.01824.x

Goodman, P. S., & Friedman, A. (1971). An examination of Adams' theory of inequity. *Administrative Science Quarterly, 16,* 271–288. http://dx.doi.org/10.2307/2391900

Gordon-Hecker, T., Choshen-Hillel, S., Shalvi, S., & Bereby-Meyer, Y. (2017). Resource allocation decisions: When do we sacrifice efficiency in the name of equity? In M. Li & D. Tracer (Eds.), *Interdisciplinary perspectives on fairness, equity and justice* (pp. 93–105). New York, NY: Springer. http://dx.doi.org/10.1007/978-3-319-58993-0_6

Gordon-Hecker, T., Rosensaft-Eshel, D., Pittarello, A., Shalvi, S., & Bereby-Meyer, Y. (2017). Not taking responsibility: Equity trumps efficiency in allocation decisions. *Journal of Experimental Psychology: General, 146,* 771–775. http://dx.doi.org/10.1037/xge0000273

Greenberg, J. (1986). Determinants of perceived fairness of performance evaluation. *Journal of Applied Psychology, 71,* 340–342. http://dx.doi.org/10.1037/0021-9010.71.2.340

Greenberg, J. (1988). Equity and workplace status: A field experiment. *Journal of Applied Psychology, 73,* 606–613. http://dx.doi.org/10.1037/0021-9010.73.4.606

Greenberg, J., & Tyler, T. R. (1987). Why procedural justice in organizations? *Social Justice Journal, 1,* 127–142. http://dx.doi.org/10.1007/BF01048012

Güth, W., Schmittberger, R., & Schwarze, B. (1982). An experimental analysis of ultimatum bargaining. *Journal of Economic Behavior & Organization, 3,* 367–388. http://dx.doi.org/10.1016/0167-2681(82)90011-7

Handgraaf, M. J. J., Van Dijk, E., Vermunt, R. C., Wilke, H. A. M., & De Dreu, C. K. W. (2008). Less power or powerless? Egocentric empathy gaps and the irony of having little versus no power in social decision making. *Journal of Personality and Social Psychology, 95,* 1136–1149.

Harbaugh, W. T., Mayr, U., & Burghart, D. R. (2007). Neural responses to taxation and voluntary giving reveal motives for charitable donations. *Science, 316,* 1622–1625. http://dx.doi.org/10.1126/science.1140738

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: Guilford Press.

Heider, F. (1958). *The psychology of interpersonal relations*. New York, NY: Wiley. http://dx.doi.org/10.1037/10628-000

Hideg, I., Michela, J. L., & Ferris, D. L. (2011). Overcoming negative reactions of nonbeneficiaries to employment equity: The effect of participation in policy formulation. *Journal of Applied Psychology, 96,* 363–376. http://dx.doi.org/10.1037/a0020969

Hook, J. G., & Cook, T. D. (1979). Equity theory and the cognitive ability of children. *Psychological Bulletin, 86,* 429–445. http://dx.doi.org/10.1037/0033-2909.86.3.429

Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001). The job satisfaction-job performance relationship: A qualitative and quantitative review. *Psychological Bulletin, 127,* 376–407. http://dx.doi.org/10.1037/0033-2909.127.3.376

Kahneman, D., Knetsch, J. L., & Thaler, R. (1986). Fairness as a constraint on profit seeking: Entitlements in the market. *The American Economic Review, 76,* 728–741.

Karsh, N., & Eitam, B. (2015). I control therefore I do: Judgments of agency influence action selection. *Cognition, 138,* 122–131. http://dx.doi.org/10.1016/j.cognition.2015.02.002

Keltner, D., Gruenfeld, D. H., & Anderson, C. (2003). Power, approach, and inhibition. *Psychological Review, 110,* 265–284. http://dx.doi.org/10.1037/0033-295X.110.2.265

Keren, G., & Teigen, K. H. (2010). Decisions by coin toss: Inappropriate but fair. *Judgment and Decision Making, 5,* 83–101.

Kipnis, D. (1972). Does power corrupt? *Journal of Personality and Social Psychology, 24,* 33–41. http://dx.doi.org/10.1037/h0033390

Kogut, T. (2012). Knowing what I should, doing what I want: From selfishness to inequity aversion in young children's sharing behavior. *Journal of Economic Psychology, 33,* 226–236. http://dx.doi.org/10.1016/j.joep.2011.10.003

Lamberton, C. (2013). A spoonful of choice: How allocation increases satisfaction with tax payments. *Journal of Public Policy & Marketing, 32,* 223–238. http://dx.doi.org/10.1509/jppm.11.084

Lamberton, C., De Neve, J. E., & Norton, M. I. (2017). *Eliciting taxpayer preferences increases tax compliance*. Manuscript in preparation.

Lawler, E. E. (1968). A correlational-causal analysis of the relationship between expectancy attitudes and job performance. *Journal of Applied Psychology, 52,* 462–468. http://dx.doi.org/10.1037/h0026499

Leventhal, G., Popp, A., & Sawyer, L. (1973). Equity or equality in children's allocation of reward to other persons? *Child Development, 44,* 753–763. http://dx.doi.org/10.2307/1127720

Levitt, S. D., & List, J. A. (2007). What do laboratory experiments measuring social preferences reveal about the real world? *The Journal of Economic Perspectives, 21,* 153–174. http://dx.doi.org/10.1257/jep.21.2.153

Lind, E. A., Kanfer, R., & Earley, P. C. (1990). Voice, control, and procedural justice: Instrumental and noninstrumental concerns in fairness judgments. *Journal of Personality and Social Psychology, 59,* 952–959. http://dx.doi.org/10.1037/0022-3514.59.5.952

Loewenstein, G. F., Thompson, L., & Bazerman, M. H. (1989). Social utility and decision making in interpersonal contexts. *Journal of Personality and Social Psychology, 57,* 426–441. http://dx.doi.org/10.1037/0022-3514.57.3.426

Luttmer, E. F. P. (2005). Neighbors as negatives: Relative earnings and well-being. *The Quarterly Journal of Economics, 120,* 963–1002.

McFarlin, D. B., & Sweeney, P. D. (1996). Does having a say matter only if you get your way? Instrumental and value-expressive effects of employee voice. *Basic and Applied Social Psychology, 18,* 289–303. http://dx.doi.org/10.1207/s15324834basp1803_3

Messick, D. M., & Sentis, K. P. (1985). Estimating social and nonsocial utility functions from ordinal data. *European Journal of Social Psychology, 15,* 389–399. http://dx.doi.org/10.1002/ejsp.2420150403

Miller, K. I., & Monge, P. R. (1986). Participation, satisfaction, and productivity: A meta-analytic review. *Academy of Management Journal, 29,* 727–753. http://dx.doi.org/10.2307/255942

Mitchell, G., Tetlock, P. E., Mellers, B. A., & Ordonez, L. D. (1993). Judgments of social justice: Compromises between equality and efficiency. *Journal of Personality and Social Psychology, 65,* 629–639. http://dx.doi.org/10.1037/0022-3514.65.4.629

Moran, S., & Schweitzer, M. E. (2008). When better is worse: Envy and the use of deception. *Negotiation and Conflict Management Research, 1,* 3–29. http://dx.doi.org/10.1111/j.1750-4716.2007.00002.x

Oberholzer-Gee, F., Bohnet, I., & Frey, B. S. (1997). Fairness and competence in democratic decisions. *Public Choice, 91,* 89–105. http://dx.doi.org/10.1023/A:1004933219501

Pettypiece, S. (2015). *Unintended consequence of Wal-Mart's raise: Unhappy workers*. Retrieved September, 14, 2016, From http://www.bloomberg.com/news/articles/2015-08-06/an-unintended-consequence-of-wal-mart-pay-raise-unhappy-workers

Piff, P. K., Kraus, M. W., Côté, S., Cheng, B. H., & Keltner, D. (2010). Having less, giving more: The influence of social class on prosocial behavior. *Journal of Personality and Social Psychology, 99,* 771–784. http://dx.doi.org/10.1037/a0020092

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple me-

diator models. *Behavior Research Methods, 40,* 879–891. http://dx.doi.org/10.3758/BRM.40.3.879

Pritchard, R. D., Dunnette, M. D., & Gorgenson, D. O. (1972). Effects of perceptions of equity and inequity on worker performance and satisfaction. *Journal of Applied Psychology, 56,* 75–94. http://dx.doi.org/10.1037/h0032135

Shaw, A. (2013). Beyond "To share or not to share": The impartiality account of fairness. *Current Directions in Psychological Science, 22,* 413–417. http://dx.doi.org/10.1177/0963721413484467

Shaw, A. (2016). Fairness: What it isn't, what it is, and what it might be for. In D. C. Geary & D. B. Berch (Eds.), *Evolutionary perspectives on child development and education* (pp. 193–214). Amsterdam, the Netherlands: Springer International Publishing.

Shaw, A., & Choshen-Hillel, S. (2017). It's not fair: Folk intuitions about disadvantageous and advantageous inequity aversion. *Judgment and Decision Making, 12,* 208–223.

Shaw, A., Choshen-Hillel, S., & Caruso, E. M. (2016). The development of partiality aversion: Understanding when (and why) people give others the bigger piece of the pie. *Psychological Science, 27,* 1352–1359. http://dx.doi.org/10.1177/0956797616660548

Shaw, A., DeScioli, P., & Olson, K. R. (2012). Fairness versus favoritism in children. *Evolution and Human Behavior, 33,* 736–745. http://dx.doi.org/10.1016/j.evolhumbehav.2012.06.001

Shaw, A., & Knobe, J. (2013). Not all mutualism is fair, and not all fairness is mutualistic. *Behavioral and Brain Sciences, 36,* 100–101. http://dx.doi.org/10.1017/S0140525X12000878

Shaw, A., & Olson, K. R. (2012). Children discard a resource to avoid inequity. *Journal of Experimental Psychology: General, 141,* 382–395. http://dx.doi.org/10.1037/a0025907

Shaw, A., & Olson, K. R. (2014). Fairness as partiality aversion: The development of procedural justice. *Journal of Experimental Child Psychology, 119,* 40–53. http://dx.doi.org/10.1016/j.jecp.2013.10.007

Silver, M., & Sabini, J. (1978). The social construction of envy. *Journal for the Theory of Social Behaviour, 8,* 313–332. http://dx.doi.org/10.1111/j.1468-5914.1978.tb00406.x

Smith, H. J., & Tyler, T. R. (1996). Justice and power: When will justice concerns encourage the advantaged to support policies which redistribute economic resources and the disadvantaged to willingly obey the law? *European Journal of Social Psychology, 26,* 171–200. http://dx.doi.org/10.1002/(SICI)1099-0992(199603)26:2<171::AID-EJSP742>3.0.CO;2-8

Smith, R. H., & Kim, S. H. (2007). Comprehending envy. *Psychological Bulletin, 133,* 46–64. http://dx.doi.org/10.1037/0033-2909.133.1.46

Steffel, M., & Williams, E. F. (in press). Delegating decisions: Recruiting others to make choices we might regret. *The Journal of Consumer Research*.

Stillman, J. (2012). *Why employees should decide who gets bonuses*. Retrieved February, 9, 2018, From https://www.inc.com/jessica-stillman/why-you-should-let-your-employees-dole-out-bonuses.html

Sweeney, P. D., & McFarlin, D. B. (2004). Social comparisons and income satisfaction: A cross- national examination. *Journal of Occupational and Organizational Psychology, 77,* 149–154. http://dx.doi.org/10.1348/096317904774202117

Sweeney, P. D., McFarlin, D. B., & Inderrieden, E. J. (1990). Research notes: Using relative deprivation theory to explain satisfaction with income and pay level: A multistudy examination. *Academy of Management Journal, 33,* 423–436. http://dx.doi.org/10.2307/256332

Thaler, R. H. (2015). The power of nudges, for good and bad. *The New York Times*. November 1, p. BU6.

Thibaut, J., & Walker, L. (1975). *Procedural justice: A psychological analysis*. Hillsdale, NJ: Erlbaum.

Tyler, T. R. (2000). Social justice. *International Journal of Psychology, 35,* 117–125. http://dx.doi.org/10.1080/002075900399411

Tyler, T. R., Casper, J. D., & Fisher, B. (1989). Maintaining allegiance toward political authorities: The role of prior attitudes and the use of fair procedures. *American Journal of Political Science, 33,* 629–652. http://dx.doi.org/10.2307/2111066

Tyler, T. R., Huo, Y. J., & Lind, E. A. (1999). The two psychologies of conflict resolution: Differing antecedents of pre-experience choices and post-experience evaluations. *Group Processes & Intergroup Relations, 2,* 99–118. http://dx.doi.org/10.1177/1368430299022001

Tyler, T. R., & Lind, E. A. (1992). A relational model of authority in groups. *Advances in Experimental Social Psychology, 25,* 115–191. http://dx.doi.org/10.1016/S0065-2601(08)60283-X

van den Bos, K., Lind, E. A., Vermunt, R., & Wilke, H. A. (1997). How do I judge my outcome when I do not know the outcome of others? The psychology of the fair process effect. *Journal of Personality and Social Psychology, 72,* 1034–1046. http://dx.doi.org/10.1037/0022-3514.72.5.1034

van den Bos, K., Vermunt, R., & Wilke, H. A. M. (1997). Procedural and distributive justice: What is fair depends more on what comes first than on what comes next. *Journal of Personality and Social Psychology, 72,* 95–104. http://dx.doi.org/10.1037/0022-3514.72.1.95

van den Bos, K., Wilke, H. A., Lind, E. A., & Vermunt, R. (1998). Evaluating outcomes by means of the fair process effect: Evidence for different processes in fairness and satisfaction judgments. *Journal of Personality and Social Psychology, 74,* 1493–1503. http://dx.doi.org/10.1037/0022-3514.74.6.1493

van Dijk, E., & Vermunt, R. (2000). Strategy and fairness in social decision making: Sometimes it pays to be powerless. *Journal of Experimental Social Psychology, 36,* 1–25. http://dx.doi.org/10.1006/jesp.1999.1392

Waytz, A., Dungan, J., & Young, L. (2013). The whistleblower's dilemma and the fairness-loyalty tradeoff. *Journal of Experimental Social Psychology, 49,* 1027–1033. http://dx.doi.org/10.1016/j.jesp.2013.07.002

Weg, E., & Zwick, R. (1994). Toward the settlement of the fairness issues in ultimatum games: A bargaining approach. *Journal of Economic Behavior & Organization, 24,* 19–34. http://dx.doi.org/10.1016/0167-2681(94)90052-3

Received August 22, 2017
Revision received April 15, 2018
Accepted April 22, 2018 ■