Doing Unto Future Selves As You Would Do Unto Others: Psychological Distance and Decision Making

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Four experiments showed that the decisions people make for future selves and other people are similar to each other and different from their decisions for present selves. Experiments involved decisions to drink a disgusting liquid for scientific purposes (Experiment 1), tutor peers during exam week (Experiment 2), receive e-mails for charity (Experiment 3), and defer a lottery prize for a larger one (Experiment 4). These findings seemed to be at least partially rooted in the tendency for decisions regarding the ongoing, present self to be uniquely influenced by internal subjective experience. Specifically, these effects emerged for real, but not hypothetical, decisions. Also, they were mitigated by manipulations that altered participants' attention to present or future subjective experience. In addition, when participants' subjective experience primarily involved empathy for others (Experiment 3), their decisions on behalf of present selves were more generous than their decisions for future selves and others. Applications are discussed.

Keywords: *self–other; decision making; temporal distance; future self; empathy gap; temporal discounting*

Often we make decisions for the future that fly in the face of what we would do today. We might be too busy today to even make time for a quick phone call to our dear Aunt Ida but nevertheless plan a week-long visit to her in 6 months. Not surprisingly, then, we often find ourselves tempted to renege on our decisions when the future becomes now. Of course, we sometimes anticipate that this temptation will arise and seek to avert its impact by limiting the decision-making power of our future self. Thus, we might purchase a nonrefundable flight or, to take a different example, we might tell the waiter at the beginning of dinner that we will be skipping dessert, knowing that if we wait until later to decide our resolve will be lost. These observations of human decision making have led many theorists to conceptualize the human mind as composed of multiple selves: The self that chooses well in advance and the self that faces the consequences (Ainslie, 1992; Elster, 1984; Schelling, 1984; Thaler & Shefrin, 1981).

Implicit in these theories is the assumption that future selves are to some extent viewed and treated like other people. Some philosophers (notably Parfit, 1971) have even suggested that a person is a succession of overlapping but different selves and that future selves therefore should be treated like others. Our own interest lies less in whether future selves should be treated as other people than in the observation that people do indeed seem to treat them as such. The reason for this, we will suggest, has to do with the similar ways in which people experience events that are socially and temporally distant. Although researchers have noted parallels between temporal and social distance (e.g., Albert, 1977; Loewenstein, 1996; Trope & Liberman, 2003), research has not tested their assumed relationship by comparing decisions for present selves versus future selves and others.

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Everyday experience suggests that present and future selves are not treated the same. Our hypothesis in this article begins with the notion that decision making for future selves (e.g., "How much of my first paycheck of next year should I put into savings?") elicits decisions that better resemble decision making for other people ("How much should my coworker Hal put from his paycheck into savings?") than decision making for present selves ("How much of this paycheck that I just got should I put into savings?"), at least in the case when the relevant decisions are likely to have affective consequences for the actor who will experience them.

PARALLELS BETWEEN TEMPORAL AND SOCIAL DISTANCE

Separate streams of research involving decision making over time and decision making for self versus others suggest similarities between the two. First, research has documented inconsistencies in people's choices over time (e.g., Loewenstein, Read, & Baumeister, 2003). These studies typically involve problems of self-control and demonstrate people's tendency to choose to experience rewards now and pain later (Ainslie & Haslam, 1992; Read & Loewenstein, 2000). For example, a person who loves sweets may plan in advance not to consume any tomorrow but may decide to indulge (and pay for it by exercising later) when tomorrow becomes now. Similar to people's tendency to make decisions that satisfy present selves over future selves is their tendency to make decisions that neglect others relative to the self. When people are able to allocate a limited amount of resources among themselves and others, they generally keep more for themselves and allocate less to others (Camerer, 2003; Diekmann, Samuels, Ross, & Bazerman, 1997).

Outside the realm of decision making, some experiments have directly compared the effects of temporal and social distance. These studies have shown that perceptions and judgments of future selves sometimes resemble perceptions and judgments of other people better than those of present selves. For example, people picturing future events involving themselves frequently adopt the visual perspective of an external observer (Pronin & Ross, 2006). They literally perceive their future selves as they would perceive another person, although they do not perceive their present self from that perspective. A similar pattern occurs for attributions. People tend to provide dispositional explanations for their future actions (Nussbaum, Trope, & Liberman, 2003), much as they do for others' (but not their own) present actions (e.g., Jones & Nisbett, 1972). Moreover, whereas people describe present selves as situationally variable, they describe future selves and others in trait terms (Pronin & Ross, 2006).

Some theory and evidence suggest that differences in the way people experience present selves, versus future selves and others, may account for these asymmetries. Construal level theory (Trope & Liberman, 2003) claims that increases in temporal and social distance are likely to decrease people's focus on concrete and immediate concerns and increase their focus on abstract goals and outcomes (also Vallacher & Wegner, 1987). One important characteristic of this abstract focus of attention is that it gives little weight to concerns about internal subjective experience (e.g., Fujita, Trope, Liberman, & Levin-Sagi, 2006). Indeed, numerous research approaches, to which we now turn, suggest that people pay less attention to subjective experience when that experience belongs to psychologically distant selves, that is, future selves and others, rather than when it belongs to psychologically immediate (present) selves.

SUBJECTIVE EXPERIENCE AND PSYCHOLOGICAL DISTANCE

William James (1890/1983) described people's experience of their own thoughts and feelings as having "a warmth and intimacy about them of which [others'] are completely devoid" (p. 314). A focus on such internal thoughts and feelings is central to how people experience their present selves (e.g., Andersen & Ross, 1984; McGuire & McGuire, 1986; Prentice, 2006; Pronin, Kruger, Savitsky, & Ross, 2001). However, this centrality does not (and cannot) extend to how people experience future selves (Pronin & Ross, 2006). Indeed, people often are wrong when they try to conceive of their future feelings and subjective states (e.g., Wilson & Gilbert, 2003). Similarly, this centrality of introspective information does not extend to how people experience other people (e.g., Andersen & Ross, 1984; Malle & Pearce, 2001). When people attempt to simulate others' internal states they often are sorely in error (e.g., Prentice & Miller, 1996; Van Boven, Loewenstein, & Dunning, 2005). This self-other asymmetry in attention to subjective experience also has been described as involving actors' tendency to take an inside view versus observers' tendency to take an outside view (Buehler, Griffin, & Ross, 1994; Epley & Dunning, 2000; Kahneman & Tversky, 1979).

In the domain of attribution, experiments have linked similarities in the treatment of future selves and others to this difference in underlying psychological process, that is, involving differences in attention to internal subjective experience (Pronin & Ross, 2006). Experiments involving decision making have not

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directly compared effects of temporal and social distance, but some research involving temporal distance suggests that its effects on decision making also are linked to psychological processes that distinguish the experience of present selves from others (Loewenstein, 1996; Trope & Liberman, 2000).

The foregoing analysis of psychological processes, combined with our review of past research regarding intertemporal (and interpersonal) inconsistencies in decision making, leads us to the present research. We predict that people's decisions for present selves will differ from their decisions for future selves and others and that a source of these differences will involve differences in attention to subjective experience. This analysis of underlying process suggests that people often will make especially selfish decisions for present selves (because their subjective experiences often will be focused on personal pain or gain). However, it is worth noting that it also suggests that in situations where actors' primary subjective experience involves prosocial feelings (or empathy), they will make more generous decisions on behalf of present selves.

THE PRESENT RESEARCH

The present experiments explore asymmetries in the decisions that people make for present selves versus for future selves and others. Participants make decisions involving drinking a disgusting liquid (Experiment 1), volunteering time in the middle of exam week (Experiment 2), helping charity at little cost (Experiment 3), and deferring a monetary prize (Experiment 4). These studies aim to show that the decisions people make for future selves and others are similar to each other and different from their decisions for present selves. In seeking evidence for this hypothesis, we also aim to find evidence supporting our analysis of underlying sources (i.e., involving differences in attention to the internal subjective experiences of present selves versus future selves and others).

Understanding the relationships between decision making for present selves versus for future selves and others is likely to be of important practical significance. It could, for example, suggest ways for people to make decisions that better fulfill long-term, and more prosocial, ends. In some cases, this might involve people making decisions that will bind the future self rather than the present self. In addition, if it is the case that decision making for other people resembles decision making for future selves, then another option is available when decisions must be made in the present: We can have others make them for us. Thus, we might be wise to decide 6 months in advance how much to allot to our "Vegas gambling fund" or, once at the casino, to ask a trusted friend to make that decision for us.

EXPERIMENT 1: DRINKING SOMETHING DISGUSTING (FOR THE BENEFIT OF SCIENCE)

Participants made what they presumed to be either real or hypothetical decisions about how much of a disgusting liquid would be drunk by themselves in the present or future, or by another participant, for a scientific experiment. When making a real decision, participants were expected to choose more disgusting liquid for their future self or another participant than for their present self. When making a hypothetical decision, participants were not expected to make different choices across the three conditions. This set of predictions was derived from our analysis of underlying sources involving the unique tendency for the ongoing self (one that obviously cannot be experienced hypothetically) to focus its attention on immediate subjective experience (in this case, the experience of drinking a disgusting liquid for the sake of science).

Method

Participants

A total of 153 Princeton undergraduates participated for course credit (in the real decision conditions) or as volunteers (in the hypothetical decision conditions). They were assigned to conditions in a 2 × 3 (Real/Hypothetical × Self-Present/Self-Future/Other) design.[1]

Procedure

Real decision conditions. Participants arrived at the laboratory individually and first participated in an unrelated experiment (on group perception). The experimenter then told them that their next study concerned "effects of mood on social perception." She explained that the researchers were "particularly interested in disgust," which would be induced via drinking "an unpleasant-tasting liquid." After drinking it, she said, participants would "make judgments about some fictional characters" so that the researcher could examine whether "different amounts of disgust lead to different judgments."

She then told participants in the two self-conditions that they would "choose for yourself how much of the liquid you'll consume." She added, "We especially need subjects in the higher condition levels, which require drinking more of the liquid." She assured them that the drink was "not in any way dangerous" and simply involved "an unusual combination of everyday foods, in this case water with ketchup and soy sauce mixed in."

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In the self-present condition, participants were told that they would consume the liquid during the experimental session. In the self-future condition, they were told that because of some bureaucratic issues it would not be possible "to run the actual study tonight as planned" and that "the actual experiment (drinking the liquid and making the judgments)" would be run early next semester. Participants were notified that their participation credit (a course requirement) would be revoked if they did not return for this 5-min follow-up session.[2]

In the other condition, participants received the same description of the study and of their decision but were told that they would be deciding how much would be drunk by "the next person in this new study." Because all participants had just completed an unrelated experiment, the experimenter added, "Just to be clear, the experiment you did is complete and you yourself will not be doing this study."

All participants then completed a form asking them to indicate how much of the liquid they (or a fellow participant) would consume (1 tsp, 1 tbsp, 1/4 cup, 1/2 cup, or 1 cup). They then were debriefed. Eight participants reported suspecting that no one would be asked to drink the liquid. Because their responses thus did not involve what they perceived to be a real decision, they were excluded from analyses.

Hypothetical decision conditions. In these three conditions, participants were told, "Please imagine yourself in the following situation: You've just arrived at a psychology experiment session that you're participating in to fulfill a psychology course requirement." They then were presented with the script from one of the three real-decision conditions after being told to imagine, "The experimenter presents you with the following description of what you'll be required to do." After being thereby told about their decision, participants completed the form that was used in the real-decision conditions for indicating a quantity of disgusting liquid. They were told to imagine, "The experimenter then hands you a form (reproduced below) and asks you to indicate how much [you/this person] will consume. What do you check?"

Results and Discussion

We predicted an interaction between the presumed real versus hypothetical nature of participants' decision and the target of their decision (present self, future self, or other). This interaction was significant, $F(2, 139) = 3.77$, $p = .003$ (see Figure 1). Thus, we next examined the effects of decision target separately for the real versus hypothetical conditions.

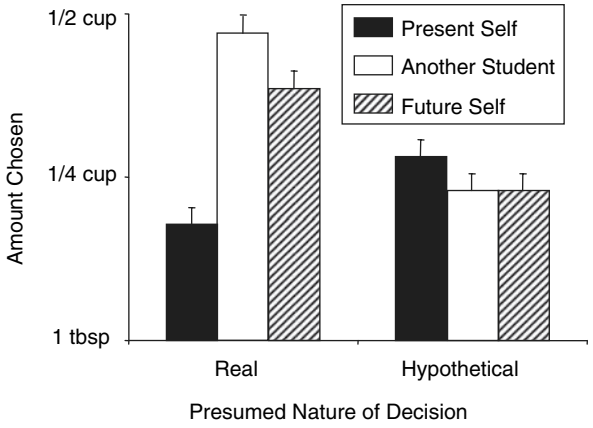

Figure 1 Real and hypothetical decisions about how much disgusting liquid will be drunk by oneself in the present, one's future self, or another student (Experiment 1).

NOTES: For purposes of data analysis (and visual depiction, above), responses were coded on a 5-point scale (1 = 1 tsp, 2 = 1 tbsp, 3 = 1/4 cup, 4 = 1/2 cup, 5 = 1 cup). Error bars indicate 1 standard error above the mean.

Hypothetical Decision Conditions

Based on our theoretical analysis involving the role of attention to subjective experience, we did not expect to find differences in participants' chosen amount of liquid across the three hypothetical conditions. This prediction was supported, $F(2, 139) = .27$, *ns*. There were no differences between any two of the three hypothetical conditions (Fs < .4).

Real Decision Conditions

We expected that participants who believed they were making a real decision would choose differing amounts of unpleasant-tasting liquid depending on whom they expected would drink that liquid. This prediction was supported, $F(2, 139) = 6.91$, $p = .001$. We predicted that participants would choose to drink more disgusting liquid in the future than in the present and that their decisions for the future self would resemble decisions for another participant. Indeed, participants chose larger quantities to be drunk by their future self than their imminent self, $F(1, 139) = 6.51$, $p = .01$. They also chose larger quantities to be imminently drunk by another person than by themselves, $F(1, 139) = 13.31$, $p = .0004$. As expected, there was no difference between quantities chosen for future selves versus others, $F(1, 139) = 1.09$, *ns*.

Finally, it may be worth noting that some differences emerged between real versus hypothetical decisions. Participants chose greater quantities of disgusting liquid

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for a real peer than for a hypothetical peer, hypothetical future self, or hypothetical present self ($ps < .05$). They also tended ($ps < .06$) to choose greater quantities of disgusting liquid for their real future self than for a hypothetical peer or hypothetical future self.[3]

The results of this experiment support our hypothesis that when making real decisions, people treat future selves like others. As expected, no differences emerged for hypothetical decisions. This result is consistent with our theoretical proposal that decisions for present selves differ from decisions for future selves and others because of the heavy weight people place on internal experience when making decisions for present selves. People do not experience the internal states of hypothetical present selves, thus prompting our prediction of no differences between hypothetical present selves versus future selves and others. These results suggest that although hypotheticality might be considered a form of psychological distance, it may operate differently from temporal distance in its effects on decision making. This study also found that hypothetical decisions were less extreme (in terms of selfishness or generosity) than real ones. One reason for this could involve the fact that participants' real decisions were sensitive not only to the taste of the liquid but also to the needs of science and a nice experimenter (in Study 3, we return to this issue of the decision-making consequences of the positive subjective feeling of helping). Perhaps hypothetical decision makers did not choose more bad-tasting liquid than their peers because they knew their decisions would have no real consequences and thus gave less weight not only to the negative aspects of their decision but also the positive ones.

In our next study, we sought further evidence for the effects of psychological distance on decision making. We also sought evidence for our proposed mechanism by including a condition in which participants were encouraged to consider the internal states of their future selves.

EXPERIMENT 2: TUTORING PEERS DURING EXAM WEEK

In the context of an ostensible peer-tutoring program, students volunteered the time of their present selves, future selves, or student peers. They were asked to volunteer that time during a particularly stressful and busy occasion for most college students: the week of midterm examinations. We expected that given the salience to participants of their own anxieties and pressures during midterm examinations, they would provide more generous offers on behalf of future midterm-time selves (and others) than present midterm-time selves. We further predicted that the generosity of such future offers would be attenuated by a manipulation that focused participants' attention on feelings and concerns of the sort that would apply during future midterm exam periods as well as the present one.

Method

Participants

Fifty-four Princeton freshmen received candy for participating. They were assigned to one of four conditions (self-present, self-future/simple, other, and self-future/same feelings).

Procedure

Participants received a knock on their door on a Monday or Tuesday night during the week of midterm examinations. They were greeted by an experimenter who introduced herself as a freshman in their dorm and asked for a minute of their time. She explained, "Now that it's midterms week, there are several people in our class who are having major academic problems and are in danger of failing." She said she was "pulling together a peer tutoring program" to help students "in trouble." This introduction led to a request. In the self-present condition, participants were asked how much time they could tutor that week:

> Now while we are right in the middle of midterms week we want to pull together a peer tutoring program to help out these freshmen right away. We're asking you if you'd be able to help one of these students this week, for somewhere between 15 min and 6 hrs. *How much time do you think you can spare to help out this week?*

The experimenter carried an official-looking sign-up sheet with the names of all the freshmen in the dorm and recorded participants' offers beside their names (as a signal of their commitment).

The self-future condition differed only in that participants were asked how much time they could tutor during the next midterms period. In the self-future/ same-feelings condition, participants were reminded that next semester they would

> have about the same amount of work that you do now, you're going to feel all the same time pressures, you'll still have the same concerns about how to balance schoolwork, going out, volunteer work, and everything else. Basically, you are going to be the same person you are now.

The other condition resembled those above except that participants were asked to indicate an amount of time that they thought new (i.e., incoming) freshmen could "spare to help out" during their midterms. After providing their

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response, participants were debriefed about our deceptions, thanked, and offered candy.

Results and Discussion

Our primary hypothesis was that participants would offer more help when it was their future selves or their peers rather than their present selves who would have to fulfill the obligation during midterm exams. An omnibus F test supported this prediction, $F(3, 50) = 8.37$, $p < .0001$. Fewer minutes of help were volunteered on behalf of the present self ($M = 27$) than the future (no-reminder) self ($M = 85$), $F(1, 50) = 8.45$, $p = .005$. Fewer minutes also were volunteered on behalf of the present self than on behalf of fellow students ($M = 120$), $F(1, 50) = 21.44$, $p < .0001$. There was no difference between offers made for future selves versus fellow students, $F(1, 50) = 2.00$, $p = .16$.

As predicted, the reminder that the future self would have the same subjective experiences as the present self decreased future offers ($M = 46$) to close to the level of present ones, $F < 1$. Participants offered less time on behalf of future selves when the reminder was included rather than absent, $F(1, 50) = 3.56$, $p = .06$. Similarly, they offered less time on behalf of future selves with this reminder than on behalf of others, $F(1, 50) = 12.62$, $p < .0001$. There were no other significant differences.

In this experiment, participants' decisions for future selves resembled their decisions for other people better than they resembled their decisions for themselves in the present. Consistent with our analysis of underlying sources, we found that the effect of time on decision making diminished when participants were encouraged to simulate their future internal states via a reminder that these future states would resemble their present ones. Our findings suggest not only that people may sometimes be more generous when offering the help of a future self but also that such differences are attenuated when people are reminded that the types of thoughts and feelings that would curtail their immediate generosity will no doubt be present when they are called on to act generously in the future.

It would be a mistake, however, to conclude that our analysis of underlying sources suggests that people will always be more generous with future selves or others as opposed to present selves. Rather, our analysis suggests that when the positive subjective experience associated with helping others is more prominent than the negative subjective experience of making personal sacrifices, decisions for present selves should be more generous, rather than less generous, than decisions for future selves or others. In such situations, we again would predict that decisions for future selves will better resemble decisions for others than for present selves. Our next experiment tested these predictions. In it, the negative aspects of participants' decisions to help were dramatically reduced (to the simple nuisance of receiving some unwanted e-mail as compared to the large burden of tutoring others during exam time). We expected that when the subjective experience likely to be most salient to participants thus involved empathy for others in need (rather than anxiety about pending exams), participants would be more generous when making decisions on behalf of the present self (rather than the future self or others).

This next experiment also aimed to address a question raised by our first two studies. That is, in Experiment 1, participants made decisions for present selves, future selves, or present others, whereas in Experiment 2, they made a decision for present selves, future selves, or future others (i.e., next year's freshmen). In this next experiment, participants made decisions for either present or future selves or present or future others, thus allowing us to explore all possible combinations of temporal and social distance in a single study.

EXPERIMENT 3: RECEIVING E-MAILS IN THE NAME OF CHARITY

Participants were asked to choose how many e-mails they or someone else would receive, either in the present or future, as a way of helping charity and a needy student paying off college loans. In this experiment, we expected that positive feelings associated with helping would dominate participants' subjective experience of the situation (rather than negative feelings associated with the burden of receiving unwanted e-mail). We therefore predicted that participants would choose to receive more e-mails on behalf of themselves in the present than on behalf of future selves or present or future others.

Method

Participants

Fifty-eight Princeton undergraduates received candy for participating. They were assigned to conditions in a 2 (self vs. other) × 2 (present vs. future) design.

Procedure

Participants were approached on campus by a female undergraduate. She told them, "To help pay off my student loans, I've been working part-time at a clearinghouse which represents a bunch of different charities." She explained that her job was to "contact people through e-mail" about the charities.

In the two self conditions, she then asked participants if they "would be willing to help out and sign up

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to receive some e-mails." She told them that they were under "no obligation" to support any of the charities, that they would receive e-mails only "one time," and that they could decide "how many e-mails to get." She then asked them to provide her with their e-mail address, which she recorded on a form. Next, she reiterated that the student would receive a single set of e-mails and that none of the charities would receive the student's contact information (so there was "no need to worry about spam"). She said that each e-mail, because of a special receipt function, had to be opened individually before it could be deleted and that this process took about 10 min for 40 e-mails.[4]

This introduction was identical in the two other conditions, except that participants were asked to make their decision for a fellow student. They were told that another student (who had been told that the request involved "no obligation" and a "one-time" e-mailing, etc.) had agreed to help and provided an e-mail address but then had to "run off" before completing the form indicating how many e-mails to send. The experimenter said that the student "told me just to decide a number of e-mails for them" but she explained that she was "not really allowed to do that, because I get paid per e-mail, so it's kind of unfair" and that she was wondering if the participant could listen to a description of the situation and make the decision instead. She then provided participants with the same description of the situation that was provided in the self conditions (reiterating that the student would receive a single set of e-mails, that none of the charities would receive the student's contact information, that it took about 10 min to get through 40 e-mails, etc.).

In the present versions of both conditions, participants were told that they (or the other student) would "receive the e-mails in the next 10 min" because the experimenter would send them as soon as the participant picked a number. In the future versions of both conditions, participants were told that they (or the other student) "would not receive the e-mails until early January, when our next mailing goes out." At the time of the study, this was approximately 6 weeks into the future.

In all conditions, the experimenter then explained that participants could choose for her to send "anywhere between 5 and 40 e-mails" in multiples of five. She also made a plea, "Obviously it's better if you choose more, not only for the charities who are trying to raise money, but also for me because I get paid based on how many e-mails I send out." Finally, she gave participants the form on which she had recorded their e-mail address (or that of the alleged other student) and she asked them to fill in a box labeled "number of e-mails to send." At the bottom of the form, in bold lettering, it said, "Thank you for supporting charitable organizations! You will be contacted [right away/in January]." In small print, the form also asked participants to indicate what the primary influence had been on their decision. After completing the form, participants were debriefed about our deceptions, thanked, and offered candy.

Results and Discussion

We first sought evidence for our expectation that when making this decision, participants' feelings of empathy and prosocial motivation (i.e., for helping both charity and a needy peer paying off student loans) would outweigh their feelings of annoyance and pressure (i.e., for having to spend a maximum of 10 min deleting mass e-mails). Participants' responses to the question about the primary factor in their decision were coded for whether they indicated a prosocial feeling (e.g., "helping others"), a negative concern (e.g., "convenience"), or both. Fifty-one of the 58 participants provided codable responses. Of those, 78% indicated a prosocial focus, 14% indicated a negative focus, and 8% listed both. As predicted, empathy and prosocial motives were the primary influences experienced by participants in this task. They also were the primary motive regardless of condition (93% in the self-present condition listed it, 77% in self-future, 64% in other present, and 73% in other-future); chi-square tests showed no effects of temporal or social distance (or the relevant interaction), $\chi^2(N = 58) < 2.21$, ps $> .14$.

We expected that participants' decisions about how many e-mails to receive in the name of charity would depend on who would be receiving those e-mails. An omnibus F test supported this prediction, $F(3, 54) = 4.45$, $p = .007$ (see Figure 2). Based on our theoretical account involving the weight given to subjective experience (in this case, to the positive experience of helping people in need), we expected that participants would choose to have more e-mails received by themselves in the present than by their future self or by present or future others. We first found main effects of social and temporal distance, Fs$(1, 54) = 6.90$ and 4.66, ps $< .05$, and no interaction ($F = 1.55$, ns). The relevant linear contrast (self-present vs. all other conditions: +3,–1, –1, –1) also was significant, $F(1, 54) = 11.23$, $p = .001$. Participants chose to have more e-mails sent to themselves in the present than in the future, $F(1, 54) = 5.79$, $p = .02$, and they chose to have more e-mails sent to themselves in the present than to another student in the present, $F(1, 54) = 7.76$, $p = .007$, or another student in the future, $F(1, 54) = 11.45$, $p = .001$. The future self and the present and future other conditions did not differ from each other (Fs < 1).

These results support our main hypothesis that people make different decisions for present selves versus future

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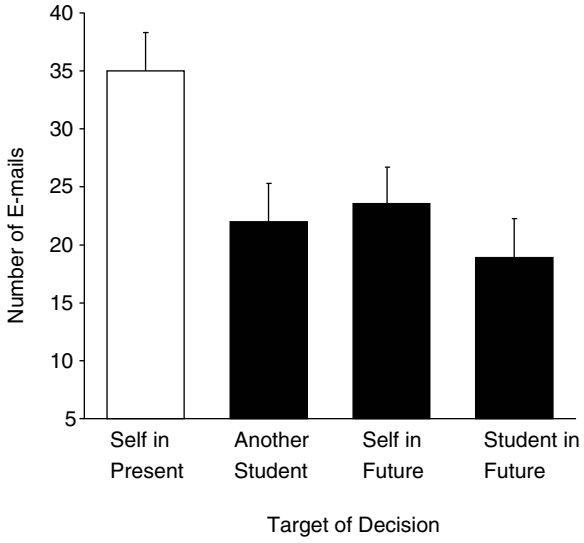

Figure 2 Decisions about how many e-mails will be received in the name of charity on behalf of oneself in the present or future or a fellow student in the present or future (Experiment 3).
NOTE: Error bars indicate 1 standard error above the mean.

selves and others. We crossed temporal with social distance and found that with the single exception of decisions for the present self, participants made similar decisions in every other case. These results also provide further support for our proposed underlying mechanism involving people's heightened focus on internally salient subjective experience (in this case, feelings of empathy from helping charity and a needy experimenter).

These results also help to address a possible alternative account for the results of Experiments 1 and 2. One might wonder whether those results simply reflected participants feeling happier—and thus behaving more generously—when they learned that the relevant "suffering" (e.g., disgusting liquid ingestion) was not something they themselves would have to experience right away. In the present experiment, that knowledge led participants to make less rather than more generous decisions, thereby ruling out this account.

In our first three experiments, we found that the decisions people made for themselves in the present differed predictably from the decisions they made for future selves and others (in the present or future). Our final experiment sought to explore this phenomenon in the context of the human tendency to discount the value of delayed rewards such as money (e.g., Loewenstein et al., 2003). We suspected that this tendency arose at least partially from people's tendency to focus on their immediate subjective experiences (e.g., their experiences of needing and wanting money) when making decisions. Thus, consistent with the results of Experiments 1 to 3, we expected people to be more likely to decide against delaying financial rewards when those decisions involved denying themselves in the present in exchange for a larger future reward rather than denying their future selves or others for that purpose. Moreover, consistent with our proposed mechanism, we predicted that participants would be more likely to decide to deny the present self when their attention was diverted from their immediate emotional experience.

EXPERIMENT 4: PREFERRING LESS MONEY NOW TO MORE MONEY LATER

Participants decided whether to defer a financial payment for a larger one. They either made this decision regarding a payment that they could receive now, one that they could receive in the future, or one that another student could receive. We expected that participants would be more likely to decide to defer when their decision only affected future selves or others, that is, when it did not affect present selves, because we expected people to focus more on the subjective needs and concerns of present selves (vs. future selves or others). Consistent with our proposed mechanism, we expected this tendency to be lessened for decisions involving the present self when participants were encouraged to step outside of their current emotional experience and to make a decision apart from those emotions.

Method

Participants

The experiment included 140 Princeton undergraduates who participated in exchange for entry into a lottery.

Procedure

Self-present condition. An experimenter approached students on campus and asked them to complete a survey in exchange for entry into a lottery with a "1 in 100 chance to win $50." She informed them that they would learn whether they had won as soon as they finished and she explained that the winner could receive either "a $50 check you can cash now or a $65 check that will be dated August 1 [2½ months later], which means that you will not be able to cash it until that date" (supposedly, "new research compensation rates for the university [would] go into effect" then). Participants were asked to indicate their payment choice by checking one of two options on a form (i.e., "If I win, I choose to receive a $50 check made out in my name and payable

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to me immediately upon completing this study" vs. "If I win, I choose to receive a $65 check made out in my name and payable to me as of August 1, 2007"). Then, they were debriefed.

Self-future condition. This condition resembled the above in all respects except that participants were told that the winner could receive either a $50 check that would be dated 2½ months into the future or a $65 check that would be dated 2½ months after that (the actual dates were provided). The experimenter explained that the $50 payment could not be offered until then because "we unfortunately can't pay you until the study is completed" (she explained the increase to $65 with the same compensation-rate story as in the self-present condition).

Other-student condition. This condition resembled the self-present condition except that participants were told that the experimenter was "about to start asking students" to complete a survey in exchange for entry into a lottery with a "1 in 100 chance to win $50." She explained that the students would learn whether they had won as soon as they finished and that the winner could receive either "a $50 check they can cash now or a $65 check that will be dated August 1 [2½ months later], which means that they will not be able to cash it until that date" (based on the alleged compensation-rate change). She explained, "Normally, I would let the participant make this decision themselves, but in this case I need to have it set before I can start the study. So, I'm asking other Princeton students to decide." Participants then were asked to indicate their payment choice on a form (i.e., "If the participant wins, I choose for them to receive a $50 check made out in their name and payable to them immediately upon completing of this study" vs. "If the participant wins, I choose for them to receive a $65 check [etc.]").

Self-present-reduced-salience condition. This condition resembled the self-present condition except that participants were told before making their choice,

> Think about the decision from the perspective of a person who does not know you or any of your thoughts or feelings about the decision. Then, from this nonemotional perspective, of someone who doesn't know your thoughts and feelings, make the decision for yourself.

Results and Discussion

As shown in Figure 3, participants' decisions to delay financial rewards depended on their experimental condition, $\chi^2(3) = 9.06$, $p = .03$. As expected, participants were far less likely to decide to delay financial rewards when those delays involved the present self rather than the future self or another person (or the present self but with their attention diverted from ongoing emotions). This result was significant according to a 2×2 (Self-Present vs. All Other Conditions × $50 vs. $65) chi-square (equivalent to a +3, –1, –1, –1 contrast using logistic regression), $\chi^2(2) = 8.98$, $p = .003$. In the self-present condition, participants chose to delay the reward 46% of the time; by contrast, they chose to delay it 74% of the time in the self-future condition, 74% of the time in the other-student condition, and 71% of the time in the self-present–reduced-salience condition. Differences between the self-present condition and each of the other three conditions were significant, $\chi^2(1) = 5.92$, 5.92, and 4.77, respectively, ps $< .03$. There were no differences between those three conditions, $\chi^2 < .10$.

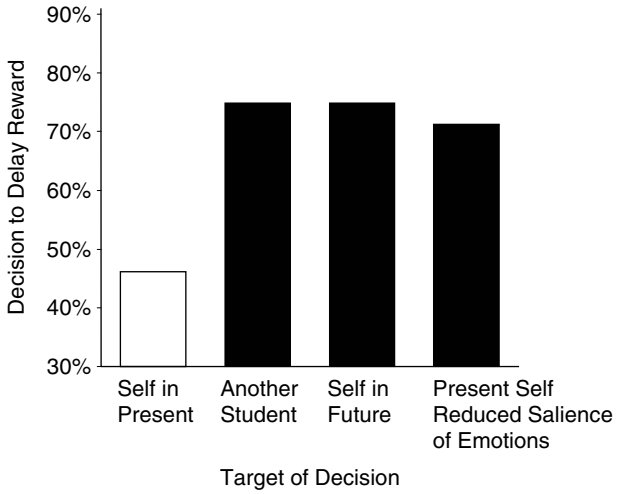

Figure 3 Decisions to defer a lottery reward on behalf of the present self, the future self, a fellow student, or the present self with that self's attention diverted from ongoing emotions (Experiment 4).

In this study, participants showed more temporal discounting when they considered deferring a reward that might go to their present self as opposed to one that might go to their future self or another person. Indeed, they treated future selves just as they did others. When they were encouraged to divert their attention from ongoing emotions, they also came to treat present selves similarly to future selves and others. Within the context of temporal discounting phenomena, these results provide added support for the hypothesis that people treat future selves like others. They also provide further support for our theoretical account that a source of this effect involves people's heightened attention to subjective experience (thoughts and feelings) when considering the present self rather than temporally or socially distant selves.

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GENERAL DISCUSSION

This article examines the hypothesis that people's decisions for future selves differ from their decisions for present selves and instead more closely resemble decisions for other people. We provide evidence for this hypothesis in contexts ranging from decisions about consuming a disgusting liquid for the benefit of science to decisions about helping others in need. These experiments also explore a source of this phenomenon in people's tendency to treat the present self uniquely (in comparison to future selves or others) because of a strong attentional focus on that self's internal thoughts, feelings, and other subjective experiences.

These experiments involved real decisions. Indeed, our proposed mechanism suggests, and we found, that the observed asymmetry is likely to be absent in hypothetical scenarios of the sort often used in decision-making research. In this regard, it is worth noting that the real decisions that participants made for future selves and others likely seemed real to them. When participants in Experiment 1 made decisions about how much unpleasant-tasting liquid to drink in the future, they likely believed their decisions were genuine commitments—indeed, they were told that if they did not return for their future session, they would forfeit their experimental credit (a course requirement). Similarly, when participants decided how many e-mails should be sent to one of their peers (or to their future self) in Experiment 3, they knew that they could not change their decision later because they had no way of contacting the experimenter. Of course, some of our participants may have been skeptical about the reality of the decisions they were asked to make, and it is difficult to know whether such suspicion might have contributed to our findings. It may be worth noting, though, that some of our results suggest that such suspicion would have weakened our results by dampening the seeming reality of participants' decisions. In Study 1, we found that participants displayed no differences in their decisions across conditions when those decisions had no real consequences (i.e., when they were hypothetical).

The current research involved not only real decisions but also decisions with obvious costs (e.g., drinking a disgusting a liquid) or benefits (e.g., receiving a big check) for the actor who would experience them. These sorts of experiences are the kind most relevant to our theorizing because they are the sorts most likely to engender strong subjective reactions. When such reactions are less salient, because it is future selves or others who will experience them, they are less likely to influence decision making. This framework involving the salience of subjective experience does not suggest, however, that people will always make more selfish and less generous decisions when choosing for present selves rather than for future selves or others. Rather, it suggests that they will do so when subjective experiences are primarily focused on personal reward or suffering (e.g., when contemplating drinking a murky mix of soy sauce and ketchup). As was illustrated in Experiment 3, people may be inclined to make more generous decisions on behalf of present selves when the subjective experience most salient to them involves empathy for others in need.

Although past researchers have theorized a similarity between temporal and social distance, these two forms of psychological distance have not been compared directly. Our experiments manipulate the type of psychological distance confronting participants while holding the decision task constant. We also include experimental manipulations aimed at testing a mechanism that could account for this similarity. Providing evidence that interpersonal and intertemporal decision making resemble each other, and involve similar psychological processes, is an important step toward understanding the role of psychological distance in decision making.

Our experiments also demonstrated the breadth of these effects across different decision scenarios, including those where participants made decisions for real/individuated others versus more generalized/abstract others (Studies 1, 3 vs. 2, 4) and where they made decisions in which they served as a proxy for another participant versus where that was not indicated (Studies 3, 4 vs. 1, 2). It is worth noting, however, that the present experiments also leave a number of questions unanswered. For example, they do not compare the effects of public decisions with private ones. In our experiments, participants' decisions were somewhere in the middle: Their decisions were known to another person (i.e., the experimenter) but it was only one person and someone whom they did not know. These effects might be weakened in more public situations (if the pressure to make the right decision in others' eyes overrides the effects of immediate emotional experience). These studies also do not examine decisions made for close versus distant others (e.g., friends vs. strangers), and they do not examine the effect of individual differences in the tendency to see the future self as another person (Frederick, 2003). Finally, they do not resolve the question of whether effects of temporal and social distance are quantitatively comparable and additive. We now turn to this final question.

In Experiment 3, we found that when participants made decisions for a future other (decisions involving social and temporal distance), their decisions resembled those of participants who simply considered a present other or a future self. This suggests that psychological distances may not combine to produce heightened effects.

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Yet we do not claim that such effects never occur or that the effects of psychological distance never differ quantitatively (i.e., becoming stronger with more distance). Everyday observations suggest occasions when we make decisions for loved ones that we would not make for distant others and when we make decisions for ourselves 6 months from now that we would be wary of making for ourselves 6 days from now. Although degrees of distance likely matter in at least some circumstances (e.g., Idson & Mischel, 2001), it is worth noting that other studies suggest (consistent with Experiment 3) that once a certain degree of distance is present, further increments have almost no effect. For example, Hsee and Weber (1997) found that assumptions of risk-related preferences differed for the self versus a proximal other but that decisions for a proximal other versus a distal other did not differ. Studies of discounting have shown that the function relating distance to valuation (or salience, vividness, emotional intensity, etc.) is close to hyperbolic for temporal distance (e.g., Frederick, Loewenstein, & O'Donoghue, 2002; Loewenstein & Elster, 1992) and social distance (Jones & Rachlin, 2006). This implies that initial increments of distance produce relatively large effects but that the effects of supplementary increments are rapidly decreasing.

Relevant Theoretical Frameworks

The present hypotheses about decision making were derived from theorizing about differences in the focus of attention when considering the present self versus the future self and others. Research suggests that people show a unique tendency to focus on internal subjective experience when perceiving their ongoing behavior, traits, and preferences (e.g., Andersen & Ross, 1984; Buehler et al., 1994; Pronin & Kugler, 2007). A more recent thread of theorizing has elaborated on one particular aspect of people's focus of attention when considering the present self, that is, a focus on concrete aspects of the situation (Trope & Liberman, 2003). The present research does not pit these two approaches against each other because the two make similar predictions for similar reasons in the current context. That is, when making a decision for the present self that will entail costs or benefits for that self, one's attention is likely to focus on concrete, subjective aspects of what it would feel like to actually act on the decision in question (such as drinking a disgusting liquid or sacrificing study time to tutor others). Thus, a focus on internal subjective experience likely will entail a focus on concrete concerns.

Our results and theoretical account also are consistent with the literature on "hot-cold empathy gaps," which predicts congruence between present emotional states and predictions about future ones (Loewenstein, 1996). Our account assumes that the salience, vividness, and emotional impact of choices decreases with psychological distance. When choosing for the present self, decision makers are in a "hot" state because they are considering consequences that are temporally and personally proximal. As a result, they will tend to assume that the experience of their present (or impending) selves will be relatively intense and arousing. This assumption will then make them hesitant to accept aversive experiences for present selves and eager to accept positive ones. In contrast, when choosing for future selves or others, decision makers are not faced with salient subjective consequences and, as such, are in a relatively "cold" state. Consequently, they (falsely) assume that future selves or others also will be in a relatively cold state when experiencing the outcome of their decision.

Also relevant to the present work is research on the intensity bias (Buehler & McFarland, 2001), showing that actual experiences often are less intense than they are imagined to be. At first, this finding might seem to contradict our results, insofar as it suggests that predicted future reactions are more intense than experienced current ones. However, it is important to recognize that the intensity bias compares predicted with actual experience. It does not show that predictions of future experience ("How will it feel to drink this disgusting liquid in 2 months?") are more affectively intense than predictions of proximal experience ("How will it feel to drink this disgusting liquid now?"). Indeed, it is possible that people would imagine proximal experiences to be more affectively intense than distant ones. Such comparisons are not the subject of the intensity bias (because they do not involve comparisons of actual vs. predicted experience). In our experiments, by contrast, such comparisons are critical; participants never actually experience the contemplated outcome and in all cases they are thus in the position of having to predict their responses to it. We provide evidence that when the outcome is temporally close rather than distant, people are more likely to focus on salient affective features.

Our research also relates to past work on people's tendency to project their preferences (Ross, Greene, & House, 1977) and transient drive states (Van Boven & Loewenstein, 2003) onto others. For example, hungry people overestimate others' hunger. The present research may initially appear to contrast with this work because our participants made decisions for others that differed from those they made for present selves. However, our experiments did not manipulate transient drive states to examine whether changes in them would affect decision making. Moreover, it is worth noting that although people project their subjective experiences onto others, their projections often lose something in the translation, that is, people generally assume that others will experience

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their emotional reactions, but "less so" (McFarland & Miller, 1990).

Applications

Understanding the ways in which temporal and social distance affect decision making is valuable. It can help us to choose when we would rather make decisions in advance versus in the moment (or when we would rather have others decide for us). When those choices are impractical, it can at least help us to understand the likely impact of our having made a particular decision in the moment rather than in advance (or for ourselves rather than someone else). At times, such an understanding may have little impact (such as when it only affects a small gambling spree in Vegas), but at other times such an understanding can have broad consequences, for example, by influencing macrolevel savings behavior (e.g., Benartzi & Thaler, 2004). On a long-term scale, discounting future selves seriously imperils savings policies such as the U.S. social security system. Our experiments support the notion that asking people to decide how much of a future paycheck (rather than a current one) to put into retirement, or asking them to have a trusted colleague decide for them, may induce more savings. Our results further suggest that when those decisions must be made for the present self, wiser decisions could be afforded by the simple reminder that the future self will share many of the same feelings, needs, and concerns as the present self (see Experiment 2) or even by a simple nudge to step outside oneself and make the decision from a nonemotional perspective (Experiment 4).

The effects of temporal and social distance on decision making suggest potential strategies for addressing other important problems for society, such as issues concerning the impact of human activity on our global environment. We often seem to live "like there is no tomorrow" in our tendency to pollute and exploit natural resources. Although it may be difficult to prevent ourselves today from deciding to fill up the car with gasoline when the tank is empty and an early-morning meeting awaits us, we might be willing to commit to an arrangement compelling us to commute by bicycle next year (just as we might commit to a proposition engineered to compel residents of another state to decrease their automobile commuting).

The psychological distance we enjoy when making decisions for future selves and others frees us from immediate subjective concerns. In many cases, this freedom seems to lead to healthier, less impulsive, and more socially desirable decisions. Yet it is also worth noting that there are likely to be times when we would be better off not ignoring such subjective concerns. When we agree in the present to take that 36-hour work trip to London, Paris, and Geneva next spring, it would behoove us to consider whether the trip will be as enjoyable to experience as it will be to dream about, and when we volunteer our friend to sing karaoke in the employee talent show, it would behoove us to contemplate the experience of the poor soul whom we are committing to probable humiliation. More generally, when making future commitments (or ones for other people) that sound good in theory but that will only cause suffering and regret when they are experienced, a wise tactic may be to ask ourselves what we would do if we had to face the consequences of our decisions right now. In such cases, we would benefit from recognizing that our future selves (and others) are likely to experience the world with hearts and minds that do not differ so much from our present ones.

NOTES

1. Due to subject pool limitations, some of the conditions in this experiment were run successively rather than concurrently.

2. One might wonder whether participants believed that their participation credit would be revoked, thereby putting their course grade in peril, if they did not return for this follow-up. We asked 41 undergraduates (via an anonymous survey distributed by an undergraduate research assistant at the student campus center) to imagine a student not attending such a follow-up. We asked whether they believed "it would be possible for this student's grade to be changed if he or she refused to complete the experimental requirement." Only 10% of participants indicated disbelief (a number consistent with the 11% whom our experiment excluded due to suspicion).

3. Because participants' compensation (course credit vs. volunteer) was confounded with the hypotheticality of their decision (real vs. hypothetical), we ran a follow-up study with credit-receiving participants in the hypothetical conditions ($N = 45$). The results replicated our findings with the volunteers. The means across the three new conditions again very closely resembled each other ($M_{\text{present self}} = 3.07$, $M_{\text{future self}} = 3.00$, $M_{\text{other}} = 3.07$; where 3 = 1/4 cup, see Figure 1) and also very closely resembled the means from our original sample ($M_{\text{present self}} = 3.13$, $M_{\text{future self}} = 2.92$, $M_{\text{other}} = 2.92$).

4. To be assured of the plausibility of this claim, we asked Princeton undergraduates ($N = 41$) whether they had "ever received an e-mail that was sent with a receipt function on it that required you to open the e-mail before you could delete it" and, if they had not, whether they thought it was "possible for such an e-mail to exist." Seventy-five percent of participants reported either having received such an e-mail or believing that one might exist.

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