Leaving a Legacy: Intergenerational Allocations of Benefits and Burdens

Kimberly A. Wade-Benzoni, Harris Sondak, and Adam D. Galinsky

ABSTRACT: In six experiments, we investigated the role of resource valence in intergenerational attitudes and allocations. We found that, compared to benefits, allocating burdens intergenerationally increased concern with one's legacy, heightened ethical concerns, intensified moral emotions (e.g., guilt, shame), and led to feelings of greater responsibility for and affinity with future generations. We argue that, because of greater concern with legacies and the associated moral implications of one's decisions, allocating burdens leads to greater intergenerational generosity as compared to benefits. Our data provide support for this effect across a range of contexts. Our results also indicate that the differential effect of benefits versus burdens in intergenerational contexts depends on the presence of two important structural characteristics that help enact concerns about legacies, including (1) future impact of decisions, and (2) a self-other tradeoff. Overall, our findings highlight how considering resource valence brings to the fore a number of key psychological characteristics of intergenerational decisions—especially as they relate to legacies and ethics.

In 1888, following his brother's death, Alfred Nobel, the inventor of dynamite, was reading what was supposed to be his brother's obituary in a French newspaper. Nobel realized that the newspaper editor had confused the two brothers and consequently had written an obituary for Alfred instead. The headline proclaimed, "The Merchant of Death is Dead!" describing a man who had gained his wealth by helping people to kill one another. Nobel was deeply troubled and it is believed that this glimpse of what might have been his negative legacy was pivotal in motivating him to leave nearly his entire fortune following his actual death eight years later to fund annual awards, the Nobel Prizes, for those whose work most benefited humanity.

THE STORY OF ALFRED NOBEL, the creator of one of the most well-known positive legacies, illustrates that people care about their legacies and that the desire to avoid leaving a negative legacy can be a very motivating force. Legacies can be created by people in work related contexts or more broadly as family or community members. In business contexts, legacy building can take the form of working to ensure the long-term viability of an organization, leaving the organization stronger, more productive, and more valuable than one found it (Fox, Tost, & Wade-Benzoni, 2009). Thinking about how one wants to be remembered by other people and acting on those thoughts is a way of giving meaning to one's life. Leaving a legacy enables people to create something that will outlive themselves and thus provides a symbolic form of immortality (Wade-Benzoni, 2006b; Wade-Benzoni &

©2010 **Business Ethics Quarterly** 20:1 (January 2010); ISSN 1052-150X pp. 7–34

Tost, 2009). In effect, people can connect themselves to future others through their legacy, even if they do not interact or even exist contemporaneously with them in the social environment.

Legacies are relevant whenever consequences of one's actions are inherited by future generations of organizational members or societal cohorts. A typical and potentially problematic aspect of decisions that affect future generations is that the interests of future individuals often conflict with the interests of present decision makers. An intergenerational dilemma arises when a course of action that is in the best interest of others in the future requires a sacrifice on the part of individuals in the present (Wade-Benzoni, 2002, 2008; Wade-Benzoni, Hernandez, Medvec, & Messick, 2008; Wade-Benzoni & Tost, 2009). Although intergenerational terminology has traditionally been applied to broad social issues, such as global environmental change, or to family issues, such as the transfer of wealth from parents to children, research on intergenerational dilemmas has emphasized that applying an intergenerational framework is a useful way to conceptualize organizational issues that share characteristics with these more traditional applications (Wade-Benzoni, 2002). Past, present, and future sets of organizational actors can be thought of as different "generations" in organizations. Managers often make decisions involving long-term consequences for their organizations, and thus, these decisions affect future generations of organizational stakeholders.

Intergenerational dilemmas are ubiquitous in contemporary organizations. Consider, for example, a situation in which an executive is faced with the decision of using a more expensive but sustainable energy source that will better conserve resources for future social actors but will cut into current company profits, or instead using a nonrenewable resource that will save the company money in the short-term but pollute the environment (Tost, Hernandez, & Wade-Benzoni, 2008). Similarly, an intergenerational tradeoff exists when corporate leadership chooses to hide corporate losses through complex accounting procedures in order to inflate current company value (and thus benefits gained through leadership positions in the form of salary and other financial incentives) despite the costs to future generations of organizational actors and shareholders who will likely have to deal with the burdens of declining stock prices, negative publicity, and potential corporate demise when such misdeeds are eventually discovered (Tost, Hernandez, & Wade-Benzoni, 2008).

Given that the present generation can potentially impose large and not easily reversed long-term consequences on future generations, intergenerational decisions clearly involve ethical considerations. In the areas of philosophy and law, recognition of intergenerational dilemmas has led scholars to theorize about the extent to which present actors are morally obligated to protect the interests of future others (e.g., Barry, 1989; Richards, 1981; Weiss, 1989). At the same time, economists have sought to determine the balance between the interests of present decision makers and future others that produces optimal levels of efficiency (e.g., Kotlikoff, 1992; Portney & Weyant, 1999). In contrast to these normative approaches, and consistent with the approach taken in the emerging field of behavioral ethics (De Cremer, Forthcoming), psychological research on intergenerational conflict of interest has taken a descriptive approach that focuses on identifying the psychological factors

that affect the actual decision making behavior of present actors (see Tost, Hernandez, & Wade-Benzoni, 2008; Wade-Benzoni, 2006a; Wade-Benzoni & Tost, 2009, for reviews).

One of the most consistent findings from behavioral ethics research is that when people experience ethical dilemmas, psychological biases operate to influence moral awareness and judgments in a self-serving manner (De Cremer, Forthcoming). Further, these self-favoring biases enable people to persist in viewing themselves as ethical even while making decisions that may compromise the interests of others and society at large (Chugh, Banaji, & Bazerman, 2005; De Cremer, Forthcoming; Tenbrunsel, Diekmann, Wade-Benzoni, & Bazerman, Forthcoming). Research has thus emphasized the powerful impact of self-interest on ethical reasoning. Fox, Tost, & Wade-Benzoni (2009) point out that behavioral ethicists who have focused on motivations for ethical behavior have tended to argue either that organizations should reward ethical behavior, thus eliminating or minimizing the perception of conflict between ethical behavior and material self-interest (e.g., Fudge & Schlacter, 1999), or simply that organizations should focus on hiring virtuous employees (e.g., Lantos, 1999). Research on intergenerational decisions, however, has taken a different approach—emphasizing social psychological factors that affect intergenerational beneficence in the face of conflict of interest between present and future generations. In this paper, we will build upon prior research on intergenerational decision making to investigate the role of resource valence and legacies in influencing ethical behavior in intergenerational contexts.

Intergenerational allocation decisions can involve a range of resources and the nature of those resources can make a pivotal difference in intergenerational decisions—especially as it relates to the notion of legacies. Decision makers may be allocating desirable benefits (e.g., profit, enjoyable activities, or natural resources) or, in contrast, they might be distributing burdens that they and others wish to avoid (e.g., debt, undesirable tasks, or hazardous waste). In the case of benefits, acting on the behalf of future generations involves consuming fewer desirable resources in order to preserve some portion of them for future others; in the case of burdens, intergenerational beneficence is demonstrated by leaving fewer undesirable things for future others.

Much work in psychology has shown that burdens matter more than benefits for attitudes and behaviors (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). The current research explores whether the valence of the resource being allocated affects thoughts and attitudes about legacies as well as allocations between present and future actors. In a series of experiments, we predict and find that the intergenerational allocation of burdens in comparison to benefits increases concern with one's legacy as well as generosity toward future others. We also find that heightened ethical concerns underlie the difference between benefits and burdens in intergenerational allocations, and both an intertemporal dimension and a self-other conflict must be in place for this effect of valence to emerge.

ALLOCATING BENEFITS AND BURDENS

The majority of studies in the literature on interpersonal allocations have focused on positive or beneficial resources. Although some researchers have characterized benefits and burdens as simply the inverse or absence of each other (Elster, 1992; Mikula, 1980), research in social psychology and organizational behavior suggests that the treatment of benefits and burdens are not psychologically equivalent and that distributing benefits and burdens results in very different decision processes (Griffith & Sell, 1988; Lamm & Kayser, 1978; Mannix, Neale, & Northcraft, 1995; Northcraft, Neale, Tenbrunsel, & Thomas, 1996; Okhuysen, Galinsky, & Uptigrove, 2003; Sondak, Neale, & Pinkley, 1995; Törnblom, 1988).

Diverse research in psychology provides evidence that negative events elicit more physiological, affective, cognitive, and behavioral activity and prompt more cognitive analysis than neutral or positive events (Taylor, 1991). Negative events are more likely to capture attention and are considered and contemplated for longer periods of time than are positive or neutral events (Abele, 1985; Bohner, Bless, Schwartz, & Strack, 1988; Pratto & John, 1991), and they are perceived as more complex and bring forth more causal attributional activity than do positive events (Peeters & Czapinski, 1990, Weiner, 1985). Baumeister et al. (2001: 323) eloquently summarize these points: "The greater power of bad events over good ones is found in everyday events, major life events (e.g., trauma), close relationship outcomes, social network patterns, interpersonal interactions, and learning processes. Bad emotions, bad parents, and bad feedback have more impact than good ones, and bad information is processed more thoroughly than good. The self is more motivated to avoid bad self-definitions than to pursue good ones. Bad impressions and bad stereotypes are quicker to form and more resistant to disconfirmation than good ones. . . . Hardly any exceptions (indicating greater power of good) can be found. Taken together, these findings suggest that bad is stronger than good, as a general principle across a broad range of psychological phenomena." In so far as we can assume that enduring a burden is experienced as a negative event, and enjoying a benefit is experienced as a positive event, we would expect that burdens weigh more heavily in allocation decision making processes as compared to benefits.

Research in negotiation contexts has directly compared allocations of benefits to burdens and found that people are willing to pay more to avoid a burden than to gain an equal benefit, and would require much greater compensation to accept a burden than to give up a benefit (Northcraft et al., 1996). In addition, negotiators reject burdens more strongly than equal benefits are pursued (Sondak et al., 1995) and negotiating the allocation of burdens generates more self-interested and competitive behavior compared to negotiating over benefits (Okhuysen et al., 2003). Generally, in negotiations, burdens weigh more heavily than benefits and lead to more self-interest and contentiousness toward others.

INTERGENERATIONAL CONTEXTS

In traditional negotiation situations, because joint or collective decisions are required, people can expect the other negotiating parties to be concerned with their own interests and thus are not solely responsible for determining others' outcomes. In contrast, in the intergenerational contexts examined in this set of studies, future generations do not have a voice in present allocation decisions. The structural power asymmetry that characterizes this type of intergenerational context is similar to dictator games—a paradigm used by experimental economists in which decision makers have unilateral choice about the outcomes to themselves and others (e.g., Bolton, Katok, & Zwick, 1998; Forsythe, Horowitz, Savin, & Sefton, 1994; Hoffman, McCabe, & Smith, 1996). Although power asymmetry is a feature shared by both dictator and intergenerational decisions, an important difference between the two is that intergenerational decisions involve a temporal dimension. Time delay between decisions and consequences has been shown to have systematic effects on allocations of resources. There is a well-established literature on intertemporal choice showing that people discount the value of resources that they themselves will consume in the future reflecting an inborn impatience and preference for immediate over postponed consumption. In addition, as time delays increase, people have greater difficulty fully understanding the consequences of their decisions (see Loewenstein, 1992, for a review).

The barriers created by the temporal component are compounded in the intergenerational context by the fact that it is others, rather than oneself, that will be affected in the future by one's decisions (Wade-Benzoni, 1999, 2002, 2008). De Cremer (Forthcoming) notes that moral prescriptive norms dictate that we should act in responsible ways that do not hurt the interests of others. Thus, the addition of a self-other tradeoff inherent in intergenerational decisions brings an ethical dimension to intertemporal decisions. When making tradeoffs between the well-being of oneself and that of others, there is a tension between self-interest and the desire to benefit others. Although people may care about the outcomes to others, tradeoffs between one's own and others' well-being can be skewed to the point where little weight is put on the effect of one's decisions on others (Loewenstein, Thompson, & Bazerman, 1989).

If it is difficult for individuals to forego consumption for their own deferred benefit (i.e, to delay gratification) or to resolve a burden quickly (i.e., not to procrastinate), we might expect that it would be even more difficult to eschew a benefit or rectify a burden for the benefit of another person in the future. The combination of interpersonal and intertemporal dimensions that characterizes intergenerational situations, however, creates conditions of special significance. Specifically, it enables the possibility that decisions can influence one's legacy.

LEGACIES AND ETHICS

The concept of a legacy emerges when a person's behavior has implications for other people in the future. The enduring impact of one's behavior over time is central to creating a legacy: one cannot create a legacy by having a fleeting impact, or by affect-

ing merely one's own future self (Wade-Benzoni, 2006b). People seek to contribute in positive ways to the world they will leave behind (de St. Aubin, McAdams, & Kim, 2004; Grant & Wade-Benzoni, 2009). Contemporary research on concern for and commitment to the well-being of future generations has highlighted the desire to leave a positive legacy for the future as a central motivator of intergenerational generosity (McAdams & de St. Aubin, 1992). A deep and strong impetus for acting on the behalf of future generations is a desire to extend the self beyond mortal life (Becker, 1973; Kotre, 1984; McAdams, 1985). People strive to defy death by creating legacies that live on through their children, family business, books, paintings, reputation, family name, or other products that will survive beyond their physical existence. Through legacy creation, people can connect themselves to future others that will continue to exist in a social environment after they are no longer a part of it themselves. Believing that one has made a difference by leaving a group, an organization, a professional field, or the world a better place than it was when one entered it, is one way in which people gain a sense of purpose and meaning in their lives (Grant & Wade-Benzoni, 2009; Wade-Benzoni, 2003).

While this literature suggests that leaving a positive legacy can be a motivating force, we posit that the prospect of leaving a negative legacy looms even larger in intergenerational decisions. This motivation is related to beliefs that leaving burdens for powerless others is seen as more morally problematic than neglecting to leave them benefits. Empirical work by Sondak and Tyler (2007) supports the notion that people may hesitate to impose explicitly aversive outcomes on powerless others. Further, research by Mummendey and colleagues (e.g., Blanz, Mummendey, & Otten, 1997; Mummendey et al., 1992; Otten & Mummendey, 1999) show in several studies that people favored their ingroup when unilaterally allocating positive resources, but refrained from discriminating behavior when allocating negative resources.

We expect that ethical concerns follow the general pattern that negative events have a greater impact on people than positive events, and in the intergenerational context this influence will manifest itself as a greater concern with the moral implications of one's behavior and ultimately greater generosity toward future others when allocating burdens as compared to benefits. As discussed above, allocation decisions can be made unilaterally or through joint decision making processes, and may be targeted toward either present or future actors. In negotiation, where others can be expected to protect their own interests, people are more contentious and less generous to others when it comes to burdens as opposed to benefits. In contrast, the dictator context makes the other party more vulnerable to the decisions of the allocator, but is contained in the present. The intergenerational context includes this power asymmetry, but adds future orientation as well. We expect this combination of vulnerability of the other party and future orientation to intersect with the fact that burdens matter more than benefits and to result in three consequences: This combination of factors (1) focuses people's attention on their legacies, (2) raises more ethical concerns than other allocation contexts, and (3) leads people to be more generous in allocating burdens compared to benefits.

The effect of resource valence on self-interested behavior in intergenerational allocations that we predict and find is notably in contrast to the effect of valence

found in negotiation contexts explored in earlier research. While negotiators become more self-interested and contentious in the face of burdens (Okhuysen et al., 2003; Sondak et al., 1995), in the intergenerational context people care more about avoiding leaving a burdensome negative legacy than about leaving a beneficial positive legacy. Thus, because the combined interpersonal and intertemporal components of intergenerational contexts uniquely engages concerns about legacies, the greater self-interest that is triggered in the distribution of burdens, as observed in negotiations, is tempered by concerns about legacies in intergenerational decisions.

THE CURRENT EXPERIMENTS

We present a set of laboratory studies below demonstrating that resource valence plays a significant role in the extent to which people are concerned with their legacies and the welfare of future generations. Further, our experiments show that allocation preferences depend on resource valence, the intertemporal dimension of intergenerational contexts, and the involvement of the self as one of the recipients of the allocation.

In the first three experiments—Experiments 1, 2, and 3—we explore people's attitudes and feelings toward intergenerational allocations of benefits and burdens. The first of these experiments shows that people are more concerned about their lasting impact on future generations when asked to think about the creation of burdens for future generations as opposed to the preservation of benefits for them. The second experiment indicates greater concern for avoiding leaving a negative legacy than with leaving a positive one, and a greater sense of responsibility toward and affinity with those in the future when allocating burdens as opposed to benefits. The third of these experiments shows that moral emotions are more intense when people allocate burdens intergenerationally than when they allocate benefits.

In the next three experiments—Experiments 4, 5, and 6—we explore the role of resource valence in intergenerational allocation preferences. Based on the results of Experiments 1, 2, and 3, we predict and find in Experiment 4 that intergenerational generosity is greater when burdens are allocated to future others as compared to benefits. Experiments 5 and 6 highlight the relationship between resource valence and the importance of key structural features that characterize intergenerational contexts and enable the emergence of legacy concerns, including (1) future impact of decisions, and (2) a self-other tradeoff. We also explore the extent to which ethical concerns account for the effect of resource valence in intergenerational allocations.

EXPERIMENT 1

In our first experiment we explore whether resource valence affects attitudes in intergenerational contexts. In particular, we predict that leaving burdens to future generations leads to more concern with one's legacy (as captured by a generativity measure) than diminishing the availability of benefits to them (Hypothesis 1). We explore concern with legacies in the context of a study about global warming—one of the most relevant and significant intergenerational issues in business and society

today. To measure concern with their legacies, participants completed a modified version of the generativity scale developed by McAdams & de St. Aubin (1992); this scale measures the extent to which people are concerned for and committed to the well-being of future generations. Our prediction that resource valence will influence reported generativity is notable because the substantial literature on generativity (see de St. Aubin et al., 2004, for a review) has traditionally treated it as an individual difference. Prior research has demonstrated that, even controlling for age and other demographic factors, generativity is the single strongest and most consistent predictor of many dimensions of socially responsible behavior, including volunteerism and contributing one's time and one's money to family members and to community concerns (Rossi, 2001). To our knowledge, our experiment is the first to suggest that generativity can be a function of context as well as an individual difference.

Methods

Participants and Design

Participants were seventy-six undergraduate students at a large U.S. university. They participated in the experiment while waiting for a chance to win basketball tickets and were given a snack in exchange for their participation. The experiment consisted of two between-participants conditions: benefits vs. burdens.

Procedure

Participants received a packet containing instructions and the experimental task. They were given information about global environmental change and were told, "The decisions we make today about the management of global warming have far reaching effects since future generations inherit the consequences of our actions."

Manipulation of Resource Valence

In the *benefits condition*, the materials highlighted how global warming will affect the availability of beneficial resources for future generations. Specifically, participants were told:

> Experts paint a grim scenario in which extreme weather patterns and climate related natural disasters are expected to diminish food and clean water supplies. As we make choices about whether or not and how much to change our behaviors today in order to preserve benefits for future generations we shape their options and thus our own legacy. Think about the legacy you leave as a result of behaviors that affect global warming and the preservation of benefits for future generations.

In the *burdens condition*, the materials highlighted how global warming will affect the level of burden imposed on future generations. Specifically, participants were told:

> Experts paint a grim scenario in which extreme weather patterns and climate related natural disasters are expected to lead to greater spread of infectious diseases such as malaria and dengue fever. As we make choices about whether or not and how much to change our behaviors today in order to minimize burdens to future generations we shape their options

and thus our own legacy. Think about the legacy you leave as a result of behaviors that affect global warming and the creation of burdens for future generations.

Generativity Measures

Participants next completed a nine-item modified version of a generativity scale developed by McAdams & de St. Aubin (1992). Specifically, they were asked to indicate the extent to which each of the following statements characterized them at this particular moment in time using a 7-point scale (1 = not at all, 7 = very much so). The items included were (α = .86): I'm aware that my own existence on this planet is fleeting; I want to be remembered after I die; How to leave my mark on society is something I often think about; I hope that in some way, part of me will live on after I die; I want to make a lasting impact on this world; I feel as though I have made a difference to many people; I have made and created things that have had an impact on other people; I feel that I have done something that will survive after I die; I feel as though my contributions will persist over time.

Results and Discussion

In support of Hypothesis 1, results confirm that generativity was greater when people were thinking about global warming in terms of the creation of burdens for future generations (M = 4.90, SD = 1.01) versus the preservation of benefits (M = 4.10, SD = .96) ($F(1,74) = 12.44$, $p = .001$). These results suggest that concern for the legacy one leaves is greater in the case of burdens than benefits. In the next experiment we investigate in more detail the link between resource valence and concern with legacies.

EXPERIMENT 2

In this experiment, we investigate why burdens as compared to benefits promote more generativity and concern with one's legacy as demonstrated in Experiment 1. First, we expected to replicate the results of Experiment 1 that people will be more concerned about their legacy in the case of burdens as compared to benefits, but using a different measure that asks participants directly about legacies rather than indirectly using a generativity scale. We also expect that participants will be more concerned with avoiding leaving a negative legacy than with leaving a positive legacy (Hypothesis 2). When people are thinking about future generations in terms of their own legacy, future generations are transformed from a social category of total strangers that they will never meet to one of life partners through whom the goal of legacy creation and even a kind of immortality can be accomplished (Hernandez, Chen, & Wade-Benzoni, 2006). Thus, since people are thinking more about their legacy in the case of burdens as compared to benefits, they will feel greater responsibility toward and affinity with future generations in the case of burdens (Hypotheses 3 and 4). Finally, based on our earlier discussion of how distributing burdens heightens ethical concerns, we propose that allocating burdens as compared to benefits to future generations creates more of a moral dilemma for present decision makers (Hypothesis 5).

Methods

Participants and Design

Participants were 101 MBA students at a large U.S. university. Students participated in the experiment in the context of a class exercise. The experiment consisted of two between-participants conditions: benefits vs. burdens.

Procedures

Procedures were similar to Experiment 1 in that participants were given information about global warming. Participants were debriefed by the instructor as part of the class discussion.

Manipulation of Resource Valence

In the *benefits condition*, participants were told that as we make choices about whether or not and how much of the earth's beneficial resources (such as oil, natural gas, forests, and fish) to consume today we shape the options for future generations and thus our own legacy. They were then asked to think about the legacy they leave as a result of their consumption of the earth's beneficial resources.

In the *burdens condition*, participants were told that as we make choices about whether or not and how much of the burdensome substances (such as garbage, toxic waste, nuclear waste, and greenhouse gases) to minimize today we shape the options for future generations and thus our own legacy. They were then asked to think about the legacy they leave as a result of the management of burdensome substances.

Measures

After reading the information described above, participants responded to a series of questions. They were asked to indicate the extent to which they agreed with the following statements using a 7-point scale (1 = not at all, 7 = very much so). To measure concern with legacies, they responded to two items: It is important to me to leave a positive legacy for future generations; It is important to me to avoid leaving a negative legacy for future generations. These two items were only modestly correlated and were thus analyzed separately, ($r(101) = .191$, $p = .056$). To measure responsibility and affinity, participants responded to the following two items: I feel a sense of responsibility to future generations; I feel an affinity for future generations. To measure ethical concerns, participants completed four items ($\alpha = .88$): Considerations of ethics come into play when I think about future generations; Moral implications are important when I think about future generations; Considerations of social responsibility are important when I think about future generations; Considerations of fairness are important when I think about future generations.

Results and Discussion

To test how resource valence affected concerns about avoiding leaving a negative legacy and with creating a positive legacy, we a conducted a 2 (benefit vs. burden) by 2 (type of legacy: positive vs. negative) mixed model ANOVA with repeated measures on the second factor. Two main effects emerged. Legacy concerns were greater in the burdens condition (M=5.89, SD=.86) than the benefits condition

(M=5.31, SD=1.03) (F(1,99) = 9.42, p = .003), again in support of Hypothesis 1. Further, people were more concerned with avoiding leaving a negative legacy (M = 5.79, SD = 1.44) than with leaving a positive legacy for future generations (M = 5.44, SD = 1.10), F(1, 99) = 4.72, p = .03, in support of Hypothesis 2. The interaction was not significant, F < 1.

Participants reported a greater sense of responsibility to future generations in the case of burdens (M = 6.0, SD = .82) as compared to benefits (M = 5.5, SD = .94) (F (1,99) = 7.22, p = .008) in support of Hypothesis 3, and greater affinity with future generations in the case of burdens (M = 5.62, SD = 1.05) as compared to benefits (M = 5.0, SD = .94) (F (1,99) = 9.62, p = .003) in support of Hypothesis 4.

Recent evidence suggests that whether or not those in power are generous to others depends on feelings of responsibility (Chen, Lee-Chai, & Bargh, 2001; Overbeck & Park, 2001; Wade-Benzoni et al., 2008). More specifically, recent research on intergenerational decisions has shown that priming the present generation with power leads to greater feelings of responsibility and stewardship toward future generations, which consequently increases generosity toward them (Wade-Benzoni et al., 2008). In light of our finding that people feel more responsibility to future generations in the distribution of burdens as compared to benefits, our expectation that people will act more generously on the behalf of future generations in the case of burdens than benefits (which we test in Experiments 4–6) is reinforced.

Finally, we found that the mean for ethical concerns were significantly greater in the case of burdens (M = 5.5, SD = .90) than benefits (M = 5.1, SD = 1.18) (F (1, 99) = 4.64, p = .03), in support of Hypothesis 5.

EXPERIMENT 3

In the next experiment, we explore whether reflecting on intergenerational allocations that one has made in one's own life influences the moral emotions that people experience. Emotions are responses to perceived changes, threats, or opportunities in the world, but in many cases it is only the self whose interests are directly affected by these events; in contrast, moral emotions are connected to social events that directly affect others (Haidt, 2003). Guilt, for instance, is often triggered by others' misfortunes when a person is responsible for causing the harm. Although different emotions vary on the extent to which they are linked to the interests of society or other people, the constellation of guilt, shame, disgust, regret, and embarrassment has been consistently viewed as comprising a set of moral emotions (Eisenberg, 2000; Haidt, 2001; Tangney, 1991; see Haidt, 2003, for a review). Zhong and Liljenquist (2006) found that recalling a time in which one acted unethically intensified the experience of moral emotions. Given that participants in the burdens condition in Experiment 2 thought that the situation was fraught with more ethical implications than those in the benefits condition, we predicted that recalling an experience involving burden allocation between oneself and future generations would activate more moral emotions than recalling a benefit allocation between oneself and future generations (Hypothesis 6).

Methods

Participants and Design

Participants were sixty-four MBA students at a large U.S. university. Students participated in the experiment in the context of a class exercise. The experiment consisted of two between-participants conditions: benefits vs. burdens.

Procedures

Participants received a packet containing instructions and the experimental tasks. The first task participants completed comprised the experimental manipulation. Participants were asked to recall and write about a particular incident in their lives (for similar recall studies, see Galinsky, Gruenfeld, & Magee, 2003; Gollwitzer, Heckhausen, & Steller, 1990; Wade-Benzoni, Rousseau, & Li, 2006; Zhong & Liljenquist, 2006). Those participants assigned to the *burdens condition* were instructed to:

> Please think of a time when you were in a position to allocate a burdensome resource between yourself and another person who would be affected by your decision in the future, but who would be unable to reciprocate your actions. For example, you were faced with a decision to leave an old mercury thermometer in the attic of a house you just sold, or to leave your successor with debt in a discretionary account just before accepting a new job. In the space provided below, please write a few sentences describing that incident:

Those participants assigned to the *benefits condition* were instructed to:

> Please think of a time when you were in a position to allocate a beneficial resource between yourself and another person who would be affected by your decision in the future, but who would be unable to reciprocate your actions. For example, you were faced with a decision to leave money in a discretionary account for your successor as you left a position in an organization, or to invest in research that would only pay off in your area after you had made a lateral move to another division. In the space provided below, please write a few sentences describing that incident.

After completing the recall task, participants were instructed: "Below are a number of words that describe different feelings and emotions. Indicate to what extent you feel each emotion when thinking about the incident you described above," and they used a 5-point scale anchored at 1 = not at all, 5 = extremely. The emotions that participants were asked to rate their experience were the same moral emotions that Zhong and Liljenquist (2006) used: disgust, regret, guilt, shame, and embarrassment (α = .88).

Results and Discussion

We found support for our prediction that recalling a time when one allocated burdens between oneself and a future generation would produce heightened moral emotions compared to recalling allocation of benefits between oneself and future generations, in support of Hypothesis 6. Recalling an intergenerational allocation experience in-

volving burdens (M = 2.18, SD = 1.04) led to heightened moral emotions compared to benefits (M = 1.54, SD = .92), t(62) = 2.63, p = .01. Intergenerational allocation of burdens inspired emotions that have been shown to be particularly connected to moral concerns.

The first three experiments demonstrate that people care about their legacies in intergenerational allocation contexts and that these concerns are affected by the valence of the resources being allocated. In addition, responsibility, affinity, and ethical concerns are heightened when burdens are being allocated to future generations. In the next three experiments we move from attitudes about intergenerational allocations to explore whether the intergenerational context creates allocation preferences that depend on resource valence as well as time delay and self-other conflict.

EXPERIMENT 4

Based on our results that people are more generative when thinking about burdens as compared to benefits (Experiment 1), are more concerned with ethical issues in the case of burdens (Experiment 2), feel greater responsibility for and affinity with their successors in the case of burdens (Experiment 2), have greater concerns about legacies in the case of burdens (Experiment 2), are more concerned with avoiding leaving a negative legacy than with leaving a positive legacy (Experiment 2), and experience heightened moral emotions when allocating burdens intergenerationally (Experiment 3), we predict that people will be more beneficent to future generations when allocating burdens as compared to benefits (Hypothesis 7).

In the next experiment we simulated important features of intergenerational allocation situations as identified by prior research on intergenerational decisions (Wade-Benzoni, 2002; 2003; 2006b; 2008; Wade-Benzoni et al., 2008). These features include power asymmetry, lack of direct reciprocity, self-other conflict, time delay, role transition, and increasing consequences as resources are transferred from one generation to the next. The simultaneous presence of these features contributes to the creation of an intergenerational context and the associated psychology (Wade-Benzoni & Tost, 2009).

Related to the last feature, we note that intergenerational decisions are even more complicated when the consequences to future generations (whether they are positive or negative) increase over time. In these situations, intergenerational generosity involves deferring benefits so that they can grow, or addressing burdens to prevent them from mounting in the future. In the case of long-term investments, for example, future generations are expected to experience greater monetary benefits relative to those foregone by earlier generations. Similarly, future generations can experience more serious negative consequences as a result of the present generation leaving burdens for them (such as toxic waste that is buried and consequently poisons drinking water decades later) than would be experienced by the present generation had they handled the burdens themselves. In such cases, decisions and behaviors that affect actors in the present translate into more serious consequences for future actors. Since the parties who have control over the decision process (present generation) are not the parties with the most at stake (future generations), the dependency of future generations on the present generation is intensified. This feature further

elevates the dilemma that people face when allocating resources to powerless future others and exacerbates the inherent power asymmetry between present and future generations. Our remaining experiments include this feature as it helps capture the discounting aspect of intertemporal phenomena.

In Experiment 2 we found that allocating burdens led to a greater a sense of responsibility to future generations relative to benefits. People may not only subjectively feel a sense of responsibility to others but they may also be objectively responsible for creating the resource that needs to be allocated. We explored this other meaning of responsibility by testing whether being responsible for the creation of the resource would affect intergenerational generosity. Being responsible for creating the resource may make people more self-serving in the case of benefits (because they feel entitled to keep resources they created) but more other-serving in the case of burdens (because they feel guiltier about allocating burdens that they created to others), producing an interaction between responsibility and resource valence.

Methods

Participants and Design

Thirty-two individuals on the administrative staff of a large U.S. university participated in this study. Participants were each paid $5 to participate in the experiment, plus they were paid up to $10 extra depending on their decisions. The experiment had a 2 (responsible vs. not responsible) by 2 (resource: benefit vs. burden) mixed model design with repeated measures on the second factor.

Procedures

Participants played the role of an employee in a mail order office equipment company. Participants were told that they were paid on commission and would receive 5% of what their company made today as a result of their decisions. They were also told that they had recently accepted a new job and would be leaving the company shortly, though they had a few tasks to complete before they left. Their job involved managing two separate funds. The first fund was their sales and marketing fund that could be used for immediate profit or could be invested in marketing to boost future sales. The second fund was their delivery fund, which could be used to cover the cost of deliveries or could be kept as profit. Twenty sales had been made and as a result there was $100 in the sales fund and twenty boxes to deliver. Participants also currently had $100 in their delivery fund.

Participants had two decisions to make. They had to decide how to allocate the sales fund—how much to keep for profits now versus how much to invest in marketing to boost future sales. They also had to decide how many boxes to deliver themselves versus how many to leave for a future employee (their replacement) to deliver. Thus, all participants allocated both benefits (sales fund) and burdens (boxes). The two decisions were counter-balanced across conditions, such that half the participants made the decision about the sales fund first, and the other half decided about the delivery of the boxes first. Participants were paid 5% of the amount the company made as a result of their decisions with respect to the sales fund and box delivery (in addition to the $5 that they were paid to participate in the experiment).

Responsibility Manipulation

Whether or not the present employee was responsible for the creation of the benefits or burdens was manipulated. In *the responsible condition*, participants were told that the $100 in the sales fund and the 20 boxes to deliver were the result of 20 sales that they had made themselves. In the *not responsible condition*, participants were told that the $100 in the sales fund and the 20 boxes to deliver were the result of 20 sales that had been made by another department in the company. In both conditions, the delivery fund was from a central company account and, thus, participants had no responsibility for creating it.

Sales & Marketing Fund ($100)

The amount invested in marketing was expected to increase future sales such that the company would receive a 50% increase in the amount invested. Thus, every dollar invested in the present translated into $1.50 in the future. However, participants would not benefit personally from this future increase, but rather their replacement (who would also be paid as a percentage of sales) could benefit. For example, if participants decided that the company should keep all the money for profit today and invest none of it in marketing, the company would have $100 today. Since they were paid 5% of this amount, participants would receive $5 ($100*5% = $5) now and their replacement would not benefit at all. If they invested all the money in marketing, the company would have $150 in the future and, thus, they would receive no money and their replacement would receive $7.50 ($150*5% = $7.50). In other words, the money they kept meant an immediate benefit to them, but the money invested meant an even greater benefit to their replacement. To help them calculate how much the company would receive now and how much it would receive in the future as a result of their decisions, participants were provided with the following equations:

(i) (*amount kept for profit*) = what the company receives today
(ii) [(*amount invested into marketing*)*(1.50)] = what the company receives in the future

(*amount kept for profit*) + (*amount invested into marketing*) = $100

Delivery Fund ($100)

It cost the company $5 to deliver each box. If participants chose not to use the delivery fund to deliver the boxes, the company kept the money for profit today. Once again, participants received 5% of this profit. However, if participants used the money for profit, the boxes did not get delivered until the replacement took over the job. For each undelivered box, the company kept $5 in profit and participants received 25 cents ($5*5%=25 cents). However, each undelivered box cost the company 50% more in the future than was saved today because shipping rates were expected to increase by the time the replacement took over the job. Thus, for every box left undelivered, it cost the company $7.50 in the future. Since the replacement received 5% of profits, this translated into a cost of 37.5 cents ($7.50*5%=37.5 cents) for the replacement for every undelivered box. Thus, if participants delivered none of the boxes, it cost them nothing and it cost their replacement $7.50 (20*37.5). If they delivered all of the boxes, it cost them $5 ($100*5%) and it cost their replacement

nothing. In other words, each box delivered meant an immediate burden for them, but spared their replacement a greater future burden. To help in their calculations, participants were provided with the following equations:

(iii) (*number of boxes delivered*)*$5 = what it costs the company today
(iv) (*number of boxes undelivered*)*$7.50 = what it costs the company in the future
(*number of boxes delivered*) + (*number of boxes undelivered*) = 20 boxes

Measure of Benefits Allocation
Participants were asked to indicate how they would allocate the $100 sales/marketing fund by specifying how much they would keep for profit today (participants keep 5% of what the company makes today) and how much they would invest in marketing (money increases by 50% for the company, and replacement receives 5% of the resulting amount). Thus, participants could receive as much as $5 (and their replacement could receive as much as $7.50).

Measure of Burdens Allocation
Participants were asked to indicate how many of the 20 boxes they would deliver (it cost them 25 cents per box delivered) and how many they would leave undelivered (it would cost their replacement 37.5 cents per box undelivered). Thus, their decisions could cost as much as $5 (and it could cost their replacement as much as $7.50).

Common Metric
To compare benefits and burdens meaningfully, they need to be converted into a common metric. Present generations act more charitably on the behalf of future generations when either (1) they keep fewer benefits for themselves relative to what they allocate to future generations, or (2) they allocate more burdens to themselves relative to the burdens they leave for future generations. The metric we used in this experiment was based on the number of sales (total of 20)—which was the reason why there was $100 in the sales fund (benefits) and 20 boxes to be delivered (burdens). The amount of money the participants decided to keep for profit today was divided by five and compared to the number of boxes undelivered. Note that greater values of this common metric indicated greater self-interest.

Results and Discussion

We submitted allocations to a 2 (responsibility: yes vs. no) by 2 (order: benefits first vs. burdens first) by 2 (resource: benefit vs. burden) mixed model ANOVA with repeated measures on the third factor. There was greater self-interested behavior for benefits ($M = 13.10$, $SD = 5.51$) than for burdens ($M = 8.03$, $SD = 7.61$), $F(1, 28) = 10.58$, $p < .001$ (higher means indicate greater self-interest for both benefits and burdens). Thus, participants acted more on the behalf of future generations when allocating burdens than when allocating benefits, supporting Hypothesis 7. No other effect on allocation decisions by condition emerged (all F's < 1.50, all p's $> .23$), indicating there was no effect for order or responsibility on allocations.

These results reveal greater intergenerational generosity in the case of burdens than benefits. Whether or not the actor was responsible for creating the resource

had no impact on the level of intergenerational generosity. We conducted the next two experiments to help determine the relationship between the relatively greater generosity in allocating burdens we observed here and key structural characteristics of intergenerational contexts.

EXPERIMENT 5

In our next experiment, we sought to demonstrate that increased generosity in allocating burdens compared to benefits results from the combination of interpersonal and intertemporal dimensions that uniquely enable legacies to be relevant in intergenerational contexts. We compare the intergenerational context to one that models a more traditional dictator game. Both contexts share the common features of power asymmetry and self-other conflict, but only the intergenerational context involves an intertemporal component. The purpose of this experiment is to explore whether the difference in generosity between benefits and burdens found in Experiment 4 depends on the combination of intertemporal and interpersonal dimensions and thus is particularly likely to occur in intergenerational contexts. Specifically, we expect the differential effect of benefits versus burdens to be stronger in intergenerational contexts than in the dictator context, which includes interpersonal dimensions similar to the intergenerational context but not the intertemporal dimension (Hypothesis 8). In addition, we measured ethical considerations to test whether these concerns mediate the effects of the expected interaction between resource valence and timing of when the resource allocated to others will be consumed (Hypothesis 9).

Methods

Participants and Design

Participants were 131 MBA students at a large U.S. university who participated in the experiment as part of a class exercise. Participants allocated benefits or burdens between themselves in the present and either another person in the present (dictator context) or another person in the future (intergenerational context). Thus, the experiment had a 2 (resource: benefit vs. burden) by 2 (recipient: other-present [dictator] vs. other-future [intergenerational]) between-participants design.

Procedure

Participants were told that they were engaged in a resource allocation task. Materials described a situation in which the participant was the vice-president of operations of a subsidiary of an energy company. Participants were told that their company was in possession of a new energy source called Delta and that the beneficial or burdensome aspects of Delta had the potential to grow.

Manipulation of Resource Valence

Participants assigned to the *benefits* condition were told that Delta could be converted into a usable energy source that was both inexpensive and efficient, and that they were deciding how much of the converted energy they wished to consume today. Participants assigned to the *burdens* condition were told that the use of converted

Delta produces waste that can have negative public health repercussions and that at some point this waste had to be neutralized. They were also told that neutralizing the waste was burdensome in that it requires the use of many of the firm's resources. These participants were told that they were deciding how much of the waste they wished to neutralize today.

Manipulation of Timing of Resource Consumption by Recipient
All participants allocated the benefits or burdens between themselves in the present and another entity. Participants were told that another subsidiary of the parent company of their firm wanted access to the participant's supply of Delta. Participants allocating benefits were told that the other subsidiary had access to superior technology that would allow the other subsidiary to make 50% greater use of the energy (either now [dictator context] or in the future [intergenerational context]) than the participant's own division would be able to make of it now. Thus, benefits allocated to the other subsidiary would be more beneficial to it than the benefits would be to the participants themselves. Participants allocating burdens were told that the other subsidiary had inferior technology for the purposes of neutralizing the toxicity of the waste produced by Delta, so that the burdens would be 50% greater to the other subsidiary (either now [dictator context] or in the future [intergenerational context]) than to the participant in the present. Thus, burdens allocated to others would be more burdensome than the burdens would be to the participant himself or herself. Specifically, participants in the *other-present* condition were asked, "How much of the converted Delta will you consume [neutralize] today (rather than transfer to the other subsidiary)? I will consume [neutralize] ___% today." Participants in the *other-future* condition were asked, "How much of the converted Delta will you consume [neutralize] today (rather than transfer to the other subsidiary to be used in 5 years)? I will consume [neutralize] ___% today."

Role of Ethics in the Decision Process
After making their allocation decisions, participants were asked to indicate on a 7-point scale (1 = not at all, 7 = very much so) the extent to which they agreed with the following statement: "There were ethical considerations that came into play in my decision."

Participants were debriefed by means of an ensuing classroom discussion.

Results and Discussion

As in Experiment 4, to compare the degree of self-interest in how participants allocated benefits with how they allocated burdens, we put benefits and burdens on the same metric. In this experiment, in the *burdens* condition the percentage of Delta neutralized was subtracted from 100 so that higher numbers in both the benefits and burdens conditions referred to greater present self-interest. These scores were submitted to a 2 (resource: benefit vs. burden) by 2 (recipient: other-present vs. other-future) ANOVA. There was a significant effect for resource such that participants' decisions reflected more present self-interest in the case of benefits ($M = 56.58$, $SD = 33.51$) than in the case of burdens ($M = 40.79$, $SD = 36.41$), $F(1, 127) = 6.06$, $p = .02$. This

main effect of valence was qualified by a significant benefit/burden by recipient-timing interaction, $F(1, 127) = 2.89$, $p = .05$ (see Table 1 for means). Allocations of benefits to oneself in the present were significantly greater in the other-future condition than in all the other three conditions, all t's (127) > 2.06, all p's < .04. In contrast, allocations of burdens to oneself in the present did not differ between the other-future condition and the other-present condition, nor did allocations differ from each other between benefits and burdens in the other-present conditions, all t's (127) < 1. Thus, only when the allocation decision involved benefits and was between the present self and the future other (i.e., in the intergenerational context) was there significantly greater present self-interest. These results demonstrate that the intergenerational context generates a more dramatic differential effect between benefits and burdens as compared to the dictator context, in support of Hypothesis 8.

Table 1
Experiment 5: Allocations by Condition

	Other-Present (Dictator)	Other-Future (Intergenerational)
Benefits	47.00 (36.24)	64.80 (29.03)
Burdens	44.03 (36.87)	37.91 (36.29)

Means are reported in a common metric so that higher numbers indicate greater self-interest in the present. Standard deviations are in parentheses. Allocations involved oneself in the present in all conditions.

The extent to which participants saw their allocation decisions as involving ethics sheds some light on the observed differences between benefits and burdens. There was a marginally significant main effect for benefits versus burdens indicating that ethical considerations came more into play for burdens ($M = 4.85$, $SD = 1.99$) than for benefits ($M = 4.17$, $SD = 2.06$), $F(1, 128) = 3.26$, $p = .07$. This main effect was qualified by an interaction with allocation recipient-timing, $F(1, 128) = 7.50$, $p = .007$ (see Table 2 [p. 26] for means). In the case of burdens, the intergenerational context involved more ethical considerations compared to the dictator context, $t(128) = 2.28$, $p = .02$. In contrast, there was no significant difference between intergenerational context and the dictator context in the case of benefits, $t(128) = 1.60$, $p = .11$. Overall, perceptions of the ethical considerations were negatively related with the level of self-interest, $B = -4.52$, $SE = 1.49$, $t(129) = 3.04$, $p = .003$. The more participants saw their decision as possessing an ethical component the less they benefited themselves in the present.

We tested whether perceptions of the ethical considerations mediated the effects of the interaction between resource valence and recipient-timing on allocation preferences. We entered the main effects on the first step, the interaction on the second step, and the perceptions of the ethical considerations on the third step. On the final step, perceptions of ethical considerations continued to predict level of self-interest of allocation preferences, $B = -3.54$, $SE = 1.53$, $t(126) = 2.32$, $p = .02$, but the interaction of the experimental manipulations no longer predicted amount of self-interest, $B = -16.91$, $SE = 12{,}31$, $t(126) = 1.37$, $p = .17$, in support of Hypothesis 9. Adding the presence of the mediator led to a significant increase in adjusted $R^2 = .04$, $F(1, 126) = 5.36$, $p = .02$. In addition, a test of whether the mediator led to significant reduction in the effect of the interaction was marginally significant, $z = 1.84$, $p = .065$.

These results support the notion that intergenerational decision-making is unique from other contexts that share some, but not all, of its features. It was only in the

Table 2
Experiment 5: Perceptions of Ethics by Condition

	Other-Present (Dictator)	Other-Future (Intergenerational)
Benefits	4.58 (1.93)	3.80 (2.13)
Burdens	4.26 (2.18)	5.37 (1.68)

Greater means indicate greater perceptions of ethical considerations. Standard deviations are in parentheses.

intergenerational context, and not in the dictator context, that the allocation of burdens and benefits differed in their level of self-interest. Finally, perceptions of the role of ethics mediated the moderation between valence and allocation context, providing strong evidence of the underlying role of ethical considerations in these processes.

EXPERIMENT 6

We have argued that the legacy concept is enabled by the combination of intertemporal and interpersonal dimensions in intergenerational contexts, and that legacy concerns underlie the valence effect we have observed in intergenerational allocations. In Experiment 5 we confirmed that the intertemporal dimension is critical to the valence effect. In our final experiment, we investigated whether intergenerational allocations differ depending on whether or not the outcomes of the decision affect oneself. We highlighted earlier that an important feature of intergenerational dilemmas is the self-other tradeoff—a feature that we capture in our experiments. Here we seek to show empirically that the benefit-burden difference depends on this feature.

As we have explained, the motivation underlying legacies is largely based on the desire to extend the self into the future. The focus on oneself and the extension thereof is thus central to thoughts of one's legacy. The self-other conflict inherent in intergenerational dilemmas makes salient the presence and relevance of oneself in the decision, and thus engages legacy concerns. In support of this theorizing, here we test to see if the presence of the self-other conflict is critical to the intergenerational valence effect.

In this experiment, all participants made intergenerational allocation decisions, but half of the participants allocated the resource between themselves in the present and another person in the future whereas the other half of the participants allocated resources between a person other than themselves in the present and a different person in the future. While allocations to two other parties (not including oneself) are subject to considerations of distributive justice, they do not focus attention on oneself. Thus, legacy concerns are less likely to be enacted. Since we have argued that the enactment of legacy concerns is what underlies the intergenerational valence effect, we would expect that the removal of the self as an allocation recipient to correspond to a diminished difference between allocations of benefits versus burdens. Consequently, we expect the differential effect of resource valence on allocation decisions to only be evident in the intergenerational context involving a self-other tradeoff (Hypothesis 10).

Methods

Participants and Design

Participants were 92 undergraduate students at large U.S. universities. They allocated benefits or burdens either between themselves in the present and another person

in the future or between another person in the present and a different person in the future. Thus, the experiment had a 2 (resource: benefit vs. burden) by 2 (recipient today: self-present vs. other-present) between-participants design.

Procedure

The materials and manipulation of benefits and burdens were similar to Experiment 5. Participants were told that their company was in possession of a new energy source called Delta and that the beneficial or burdensome aspects of Delta had the potential to grow (by 50%). In the *benefits* condition, participants decided how much of the converted energy they wished to consume today. In the *burdens* condition, participants decided how much of the waste they wished to neutralize today.

Manipulation of Recipient

In the *self-present* condition, participants allocated benefits or burdens to themselves in the present and to a member of another subsidiary in the future. In the *other-present* condition, participants allocated benefits or burdens to a member of another subsidiary in the present and to a different member of that other subsidiary in the future. All conditions involved allocations to another person in the future, and participants were told that the resources they allocated to the future other would benefit or burden that future person and not themselves.

Results and Discussion

As in Experiment 5, in the burdens condition the percentage of Delta neutralized was subtracted from 100 so that higher numbers in both the benefits and burdens conditions referred to greater present self-interest. These scores were submitted to a 2 (resource: benefit vs. burden) by 2 (recipient today: self-present vs. other-present) ANOVA. There was a significant effect for resource such that participants' decisions reflected more favorable allocations in the present in the case of benefits ($M = 45.60$, $SD = 22.51$) than in the case of burdens ($M = 34.82$, $SD = 25.89$), $F(1, 88) = 4.50$, $p = .04$. The main effect for valence was qualified by a significant interaction, $F(1, 88) = 3.78$, $p = .05$ (see Table 3 for means). We decomposed the interaction by exploring the effect of the recipient of allocation separately for benefits and burdens. There was a significant effect of allocation recipient on allocations to the present actor for benefits, $t(88) = 2.91$, $p < .01$. For burdens, there was no effect for allocation recipient, $t < 1$. Consistent with Hypothesis 10, only in the intergenerational context involving a self-other tradeoff did we observe greater self-interest for benefits compared to burdens. A tendency to favor present day interests was greater when oneself rather than others would receive benefits in the present.

Table 3
Experiment 6: Allocations by Condition

	Self-Present	Other-Present
Benefits	52.43 (21.22)	38.48 (22.02)
Burdens	32.18 (24.02)	37.59 (28.01)

Means are reported in a common metric so that higher numbers indicate the degree of favoring the present actor. Standard deviations are in parentheses. Allocations involve a different, future actor in all conditions.

GENERAL DISCUSSION

The experiments presented here provide converging evidence that intergenerational decisions are distinctive, and have clarified the conditions under which people are concerned with their legacies and more beneficent to future generations. Our experiments demonstrate that intergenerational allocation preferences depend on (1) the valence of resources being allocated, (2) the intertemporal as well as the interpersonal dimensions that combine to create the intergenerational context, and (3) the involvement of the self as one of the recipients of the allocation. When people contemplate allocating burdens to future generations, they are more concerned with their legacies and more aware of the ethical dilemma involved than when they contemplate allocating benefits to future generations. As a result, they display greater intergenerational generosity when allocating burdens than benefits. The differential effect between benefits and burdens is strongly manifest in the intergenerational context compared to allocation contexts that are simply interpersonal (e.g., dictator games). We further found, in Experiment 6, that the differential effect of benefits and burdens in the intergenerational context requires the presence of a self-other tradeoff.

A number of other noteworthy findings emerged that highlight key psychological characteristics of intergenerational decision making. Participants were more concerned with their lasting impact on future generations when thinking about the burdens as opposed to the benefits left to them (Experiment 1) and more concerned about avoiding leaving a negative legacy than with creating a positive one (Experiment 2). Compared to leaving benefits to future others, leaving burdens led individuals to feel a greater sense of responsibility toward and affinity with those in the future (Experiment 2) as well as more moral emotions, such as guilt and shame (Experiment 3). The intergenerational allocation of burdens led to more ethical concerns (Experiments 2 and 5) for people than the allocation of benefits, and these ethical concerns mediated the observed allocation differences between benefits and burdens (Experiment 5).

Our findings suggest that the psychology of intergenerational decisions differs in important ways from other allocation contexts. In contrast to prior research in negotiation contexts in which people reject burdens more strenuously than benefits are pursued (Northcraft et al., 1996; Okhuysen et al., 2003; Sondak et al., 1995), in intergenerational allocation situations people are more willing to accept burdens on the behalf of future generations than they are willing to forgo benefits for them. The differential effect of benefits and burdens that we observed in the intergenerational context was much less evident in the condition modeling a dictator game in which there is no temporal delay, despite the shared feature of power asymmetry in both contexts. These contrasting findings suggest that we cannot simply extrapolate from what we know about other types of allocation situations that share some (but not all) features with intergenerational contexts to predict and understand intergenerational behavior.

Our experiments used different organizational contexts, participant populations, and experimental designs (within and between-participant factorials) to consistently demonstrate that allocating burdens leads to greater intergenerational generosity than allocating benefits—suggesting the robustness of the findings. Although these

findings reveal an effect of resource valence opposite to that of previous findings in negotiations where allocating burdens leads to more selfishness as compared to benefits, we believe that the effect of valence in both contexts is likely driven by the same underlying fact that burdens matter more psychologically than do benefits (Baumeister et al., 2001). Time delay between decisions and consequences as well as power asymmetry between allocators and recipients distinguishes intergenerational allocations from negotiations. Our results suggest that under the conditions that define intergenerational allocations, concerns about legacies, ethics, and responsibility temper, or even trump, self-interest—thus promoting greater generosity toward others when allocations involve burdens.

When the interests of future others are at stake, ethical considerations are relevant regardless of whether decisions involve the allocation of benefits or burdens. A central challenge in intergenerational decisions is that the ethical implications of such decisions are not always evident. To the extent that people are made more cognizant of their long-term impact on others, the ethical nature of intergenerational decisions is made more salient. Thoughts of one's legacy bring to the fore one's long-term impact on others. Our research suggests that the ethical dimension of intergenerational decisions is more psychologically salient when the decision involves burdens as compared to benefits. Our data further suggest that it is the enhanced enactment of legacy concerns in the case of burdens that may operate to make more salient the ethical aspects of intergenerational decisions.

Our investigation into the dynamics of intergenerational decisions has implications for organizations. Our results suggest that if organizations want managers to act in ways that optimize the longer-term viability of their organizations, they should psychologically link current and future generations. This linkage might be accomplished in several ways. First, organizations could encourage managers to identify with those who succeed them. Generosity in intergenerational contexts can be encouraged when people see future others as part of a group common with themselves (Gaertner, Mann, Murrell, & Dovidio, 1989). Effective ways to foster this identification across generations is an area that deserves additional study, but minimal group techniques studied in psychological research suggest that the task may not be insurmountable (Tajfel, 1982).

Further, when individuals focus on the ethical issues involved with an allocation decision, as suggested by the results of Experiment 5, they tend to behave more generously to future others. Highlighting the ethical implications of intergenerational choices could encourage present actors to think more about their legacies. Codes of ethics that focus on the long-term and multi-generational nature of organizations may make intergenerational beneficence more likely. Cross-generational connectedness and ethical awareness could lead to increased intergenerational generosity and improved long-term organizational viability.

Most notably, our results suggest that organizations may be well-served if they highlight the burdensome aspects of intergenerationally relevant decisions. Such a focus may lead managers to recognize the negative legacies that such decisions could create and thus promote more intergenerationally generous behavior. In addition, organizations can intentionally connect decisions about benefits and burdens so that

managers must make them simultaneously; it may be that the increased focus on ethical considerations that accompanies the allocation of burdens can help attenuate short-sighted and self-interested behavior that often guides the allocation of benefits. Future research could evaluate the effectiveness of these managerial strategies.

It is becoming increasingly evident that some of the most critical intergenerational issues transcend organizational boundaries. Decisions made by leaders in business and society today have far reaching and profound effects for the future as they determine how events will unfold in such domains as global environmental change. Our findings bring to the fore factors that can be useful to promoting intergenerationally responsible behavior as they relate to issues of such serious importance and relevance to organizations and societies alike.

ACKNOWLEDGEMENTS

We thank David De Cremer and an anonymous reviewer for their helpful comments on an earlier version of this paper. This paper also benefited from collaborations and discussions with Matthew Fox and Leigh Tost.

REFERENCES

Abele, A. 1985. Thinking about thinking: Causal, evaluative, and finalistic cognitions about social situations. ***European Journal of Social Psychology***, 15: 315–32.

Barry, B. 1989. ***Theories of justice***. Berkeley: University of California Press.

Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. 2001. Bad is stronger than good. ***Review of General Psychology***, 5: 323–70.

Becker, E. 1973. ***The denial of death.*** New York: Free Press.

Blanz, M., Mummendey, A., & Otten, S. 1997. Normative evaluations and frequency expectations regarding positive versus negative outcome allocations between groups. ***European Journal of Social Psychology***, 27: 165–76.

Bohner, G., Bless, H., Schwartz, N., & Strack, F. 1988. What triggers causal attributions? The impact of valence and subjective probability. ***European Journal of Social Psychology***, 18: 335–45.

Bolton, G., Katok, E., & Zwick, R. 1998. Dictator game giving: Fairness versus random acts of kindness. ***The International Journal of Game Theory***, 27: 269–99.

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: 173–87.

Chugh, D., Banaji, M., & Bazerman, M. 2005. Bounded ethicality as a psychological barrier to recognizing conflicts of interest. In D. Moore, D. Cain, G. Loewenstein, & M. Bazerman (Eds.), ***Conflicts of interest: Challenges and solutions in business, law, medicine, and public policy***. New York: Cambridge University Press.

De Cremer, D. Forthcoming. Psychology and ethics: What it takes to feel ethical when being unethical. In D. De Cremer (Ed.), ***Psychological perspectives on ethical behavior and decision making***. Greenwich, CT: Information Age Publishing.

de St. Aubin, E., McAdams, D. P., & Kim, T. 2004. ***The generative society: Caring for future generations***. Washington, DC: American Psychological Association.

Eisenberg, N. 2001. Emotion, regulation, and moral development. ***Annual Review of Psychology***, 51: 665–97.

Elster, J. 1992. ***Local Justice***. New York: Russell Sage Foundation.

Forsythe, R., Horowitz, J. L., Savin, N. E., & Sefton, M. 1994. Fairness in simple bargaining experiments. ***Games and Economic Behavior***, 6: 347–69.

Fox, M., Tost, L. P., & Wade-Benzoni, K. A. 2009. The legacy motive as a catalyst for sustainable and ethical decision making in organizations. Working paper, Duke University.

Fudge, R. S., & Schlacter, J. L. 1999. Motivating employees to act ethically: an expectancy theory approach. ***Journal of Business Ethics***, 18: 295–304.

Gaertner, S. L., Mann, J., Murrell, A. & Dovidio, J. F. 1989. Reducing intergroup bias: The benefits of recategorization. ***Journal of Personality and Social Psychology***, 57: 239–49.

Galinsky, A. D., Gruenfeld, D. H., & Magee, J. C. 2003. From Power to Action. ***Journal of Personality and Social Psychology***, 85: 453–66.

Gollwitzer, P. M., Heckhausen, H., & Steller, B. 1990. Deliberative and implemental mindsets: Cognitive tuning toward congruous thoughts and information. ***Journal of Personality and Social Psychology***, 59: 1119–27.

Grant, A. M., & Wade-Benzoni, K. A. 2009. The hot and cool of death awareness at work: Mortality cues, aging, and self-protective and prosocial motivations. ***Academy of Management Review***, 34: 600–22.

Griffith, W. I., & Sell, J. 1988. The effects of competition on allocators' preferences for contributive and retributive justice rules. ***European Journal of Social Psychology***, 18: 443–55.

Haidt, J. 2001. The emotional dog and its rational tail: A social intuitionist approach to moral judgment. ***Psychological Review***, 108: 814–34.

_____. 2003. The moral emotions. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith (Eds). ***Handbook of affective sciences***. Oxford: Oxford University Press.

Hernandez, M., Chen, Y., & Wade-Benzoni, K. A. 2006. Toward an understanding of psychological distance reduction between generations: A cross-cultural perspective. In Y. Chen (Ed.), ***Research on Managing Groups and Teams***, vol. 9: ***National Culture and Groups:*** 3–20. Greenwich, CT: Elsevier Science Press.

Hoffman, E., McCabe, K., & Smith, V. L. 1996. Social distance and other-regarding behavior in dictator games. ***American Economic Review***, 86: 653–60.

Kotlikoff, L. J. 1992. ***Generational accounting.*** New York: The Free Press.

Kotre, J. 1984. ***Outliving the self: How we live on in future generations.*** New York: W. W. Norton & Co.

Lamm, H., & Kayser, E. 1978. The allocation of monetary gain and loss following dyadic performance: The weight given to effort and ability under conditions of low and high intra-dyadic attraction. ***European Journal of Social Psychology***, 8: 275–78.

Lantos, G. P. 1999. Motivating moral corporate behavior. ***Journal of Consumer Marketing***, 16: 222–33.

Loewenstein, G. F. 1992. The fall and rise of psychological explanations in the economics of intertemporal choice. In G. Loewenstein and J. Elster (Eds.), ***Choice Over Time:*** 3–34. New York: Russell Sage Foundation.

Loewenstein, G. F, Thompson, L., & Bazerman, M. H. 1989. Social utility and decision making in interpersonal contexts. ***Journal of Personality and Social Psychology***, 57: 426–41.

Mannix, E. A., Neale, M. A., & Northcraft, G. B. 1995. Equity, equality, or need? The effects of organizational culture on the allocation of benefits and burdens. ***Organizational Behavioral and Human Decision Processes***, 63: 276–86.

McAdams, D. P. 1985. ***Power, intimacy, and the life story: Personological inquiries into identity***. New York: Guilford Press.

McAdams, D. P., & de St. Aubin, E. 1992. A theory of generativity and its assessment through self-report, behavioral acts, and narrative themes in autobiography. ***Journal of Personality and Social Psychology***, 62:1003–15.

Mikula, G. 1980. On the role of justice in allocation decisions. In G. Mikula (Ed.), ***Justice and Social Interaction: Experimental and Theoretical Contributions from Psychological Research:*** 127–67. New York: Springer-Verlag.

Mummendey, A., Simon, B., Dietze, C., Grunert, M., Haeger, G., Kessler, S., Lettgen, S., & Schaferhoff, S. 1992. Categorization is not enough: Intergroup discrimination in negative outcome allocation. ***Journal of Experimental Social Psychology***, 28: 125–44.

Northcraft, G. B., Neale, M. A., Tenbrunsel, A., & Thomas, M. 1996. Benefits and burdens: Does it really matter *what* we allocate? ***Social Justice Research***, 9: 27–45.

Okhuysen, G. A., Galinsky, A. D., & Uptigrove, T. A. 2003. Saving the worst for last: The effect of time horizon on the efficiency of negotiating benefits and burdens. ***Organizational Behavior and Human Decision Processes***, 91: 269–79.

Otten, S., & Mummendey, A. 1999. To our benefit or at your expense? Justice considerations in intergroup allocations of positive and negative resources. ***Social Justice Research***, 12: 19–38.

Overbeck, J. R., & Park, B. 2001. When power does not corrupt: Superior individuation processes among powerful perceivers. ***Journal of Personality and Social Psychology***, 81: 549–65.

Peeters, G., & Czapinski, J. 1990. Positive-negative asymmetry in evaluations: The distinction between affective and informational negativity effects. ***European Review of Social Psychology***, 1: 3–60.

Portney, P. R., & Weyant, J. P. 1999. ***Discounting and intergenerational equity.*** Washington, DC: Resources for the Future.

Pratto, F., & John, O. P. 1991. Automatic vigilance: The attention-grabbing power of negative social information. ***Journal of Personality and Social Psychology,*** 61 380–91.

Richards, D. A. J. 1981. Contractarian theory, intergenerational justice, and energy policy. In D. MacLean & P. G. Brown (Eds.), ***Energy and the future:*** 131–50. Totowa, NJ: Rowman and Littlefield.

Rossi, A. S. 2001. ***Caring and doing for others: Social responsibility in the domains of family, work, and community***. Chicago: University of Chicago Press.

Sondak, H., Neale, M. A., & Pinkley, R. L. 1995. The negotiated allocation of benefits and burdens: The impact of outcome valence, contribution, and relationship. ***Organizational Behavioral and Human Decision Processes***, 64: 249–60.

Sondak, H. and Tyler, T. 2007. What shouldn't money buy? The psychology of alternative allocation procedures for benefits and burdens in groups. Working paper, University of Utah.

Tajfel, H. 1982. ***Social Identity and Intergroup Relations***. Cambridge: Cambridge University Press.

Tangney, J. P. 1991. Moral affect: The good, the bad, and the ugly. ***Journal of Personality and Social Psychology***, 61: 598–607.

Taylor, S. E. 1991. Asymmetrical effects of positive and negative events: The mobilization-minimization hypothesis. ***Psychological Bulletin***, 11: 67–85.

Tenbrunsel, A. E., Diekmann, K. A., Wade-Benzoni, K. A., & Bazerman, M. H. Forthcoming. The Ethical Mirage: A temporal explanation as to why we aren't as ethical as we think we are. ***Research in Organizational Behavior.***

Törnblom, K. Y. 1988. Positive and negative allocation: A typology and model for conflicting justice principles. In E. Lawler & B. Markovsky (Eds.), ***Advances in Group Processes:*** 141–65. Greenwich, CT: JAI Press.

Tost, L. P., Hernandez, M., & Wade-Benzoni, K. A. 2008. Pushing the boundaries: A review and extension of the psychological dynamics of intergenerational conflict in organizations. ***Research in Personnel and Human Resource Management***, 27: 93–147.

Wade-Benzoni, K. A. 1999. Thinking about the future: An intergenerational perspective on the conflict and compatibility between economic and environmental interests. ***American Behavioral Scientist***, 42: 1393–1405.

_____. 2002. A golden rule over time: Reciprocity in intergenerational allocation decisions. ***Academy of Management Journal***, 45: 1011–28.

_____. 2003. Intergenerational identification and cooperation in organizations and society. In M. Neale, E. Mannix, & J. Polzer (Eds.), ***Research on Managing Groups and Teams***, vol. 5: ***Identity Issues in Groups***, 257–77. Stamford, CT: JAI Press.

_____. 2006a. Giving future generations a voice. In A. Schneider & C. Honeyman (Eds.), ***The Negotiator's Fieldbook:*** 215–23. American Bar Association Books.

_____. 2006b. Legacies, immortality, and the future: The psychology of intergenerational altruism. In A. Tenbrunsel (Ed.), ***Research on Managing Groups and Teams***, vol. 8: ***Ethics in Groups:*** 247–70. Greenwich, CT: Elsevier Science Press.

_____. 2008. Maple trees and weeping willows: The role of time, uncertainty, and affinity in intergenerational decisions. ***Negotiation and Conflict Management Research***, 1(3): 220–45.

Wade-Benzoni, K. A., Hernandez, M., Medvec, V., & Messick, D. 2008. In fairness to future generations: The role of egocentrism, uncertainty, power, & stewardship in judgments of intergenerational allocations. ***Journal of Experimental Social Psychology***, 44: 233–45.

Wade-Benzoni, K. A., Rousseau, D. M., & Li, M. 2006. Managing relationships across generations of academics: Psychological contracts in faculty-doctoral student collaborations. ***International Journal of Conflict Management***, 17(1): 4–33.

Wade-Benzoni, K. A., & Tost, L. P. 2009. The egoism and altruism of intergenerational behavior. ***Personality and Social Psychology Review***, 13: 165–93.

Weiner, B. 1985. "Spontaneous" causal thinking. ***Psychological Bulletin***, 97: 74–84.

Weiss, E. B. 1989. ***In fairness to future generations: International law, common patrimony, and intergenerational equity***. New York: Transnational Publishers.

Zhong, C., Liljenquist, K. 2006. Washing away your sins: threatened morality and physical cleansing. ***Science***, 313: 1451–52.