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System Justification and the Disruption of Environmental Goal-Setting:

A Self-Regulatory Perspective

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In R. R. Hassin, K. Ochsner, & Y. Trope (Eds.). *Self Control in Society, Mind, and Brain*. [Oxford Series in Social Cognition and Social Neuroscience.] New York: Oxford University Press.

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### **Abstract**

Global warming and environmental destruction pose formidable social dilemmas. Although the contribution of each person to the problem through consumption, utilization, and waste is nearly invisible, the cumulative impact for the well-being of societies and individuals within those societies is potentially devastating. We propose that an important psychological factor contributing to the environmental commons dilemma is the motivation to justify and rationalize the status quo and the extant socioeconomic system. Rather than acknowledge and confront environmental problems, we propose that people may engage in denial of environmental realities as a means to satisfy short-term needs associated with system justification. Denial, in turn, contributes to a failure to set pro-environmental goals and the tendency to perpetuate environmentally harmful behaviors that are detrimental in the long term. Four studies provided support for these predictions. People who exhibit chronically stronger (vs. weaker) tendencies to justify the system reported greater denial of environmental problems, less favorable attitudes toward the environment, and failure to set useful, ambitious goals or to engage in behaviors that would prevent further environmental deterioration. Differences in system justification tendencies helped to explain commonly observed differences in environmental attitudes and behaviors among liberals and conservatives, women and men, and those with more—compared to less—years of education. In addition, our experimental evidence suggested that engaging in denial of environmental realities serves a system-justifying function by re-establishing a view of the system as legitimate and just, but it interferes with setting goals to help the environment. Implications of a self-regulatory perspective on environmental attitudes and potential contributions of a social psychological analysis of commons dilemmas are discussed.

**Keywords:** System justification, commons dilemmas, self-regulation, intention formation, goal setting, global warming, environmental attitudes and behaviors.

*“The individual benefits as an individual from his ability to deny the truth even though society as a whole, of which he is a part, suffers.” — Garrett Hardin, 1968*

Forty years ago, Garrett Hardin (1968) outlined the dynamics of the “Tragedy of the Commons,” a social dilemma in which a group of people must share a limited resource in such a way as to prevent its overuse and disappearance. Hardin pointed out that giving people freedom of action with respect to common or shared resources often produces a tragic spiral: Each individual acts rationally by increasing his or her consumption of the limited resource to maximize personal gain, but the resource cannot be replenished at the high rate of consumption; as a result, the whole group (or community) pays a stiff price for the selfish, albeit rational behavior of its individual members. Thus, what can be seen as rational behavior at the level of the individual decision-maker is irrational from the point of view of maintaining the well-being of the collective and therefore the well-being of each individual as well. There is ample reason to think that the situation posed by climate change and environmental degradation is a particularly worrisome instance of the commons dilemma and that its resolution will require interventions of a social psychological (as well as technological) nature.

#### Global Warming and Environmental Destruction

Hardin’s (1968) analysis of social dilemmas was driven by a concern about the dangerous rate of population growth, which, if permitted to continue at an unregulated pace, would result in making the planet uninhabitable for all people. In addition, he pointed out that unregulated agricultural practices were bringing about destruction of land, uncontrolled fishing was causing extinction of many species of fish and whales, and the byproducts of contemporary production and life were polluting our commons. Not only has there been an abject failure to address these problems in the decades since Hardin’s article appeared, but environmental threats have

dramatically escalated in both magnitude and urgency.

*The Nature and Severity of Environmental Concerns*

Of chief concern are the realities of environmental destruction and global warming, the impact of which spans the entire planet (Keeling & Whorf, 2005; Oreskes, 2004; Watson, 2002; Webster et al., 2005). Current crises include depletion of natural resources, destruction of natural habitats, extinction of species, and loss of biodiversity that supports the intricate interdependence among humans, other animal species, and plant life; and accumulation of hazardous and nonbiodegradable waste that pollutes the air, water, and soil. These problems pale in comparison to global warming, however, which is partly caused by industrial greenhouse emissions that become trapped in the atmosphere and increase its temperature (Weart, 2004). These processes bring about the melting of polar ice, rising of sea levels, and loss of habitats; changes in weather patterns, including escalation in severe weather events, like hurricanes and cyclones; and a powerful effect on agriculture, the extent of which is not yet known but whose effects can already be felt across the globe as food crises and political conflict escalate in response to environmental challenges. There is no genuine doubt remaining in the scientific community that global warming is taking place and that industrial processes are contributing to its progression (e.g., Oreskes, 2004; Scheffer, et al., 2001; Watson, 2002).

Global warming and environmental destruction pose a clear and formidable social dilemma. Each person who consumes goods and utilizes conveniences that result from the industrial process contributes to the emission of dangerous gases into the atmosphere; the chemical pollution of water, air, and soil; the degradation of our natural environment; and climate change at local and global levels. Whereas the contribution of each person is nearly invisible, the cumulative impact for the well-being of societies and individuals within those

societies is potentially devastating. Moreover, the rate and progression of global warming is probabilistic (Heath & Gifford, 2006) and therefore experienced as uncertain. This uncertainty increases the likelihood that people will consume resources selfishly and make overly positive assessments about the state of those resources (Kortenkamp & Moore, 2006; Weber et al., 2004).

### *Global Warming and the Need for Collective Intervention*

As argued by Hardin (1968) and many subsequent researchers of social dilemmas, solutions to a commons dilemma must be developed at the group or collective level of organization (e.g. Dawes & Messick, 2000; Komorita & Parks, 1997; Kramer, 1991; Tyler & Degoey, 1995). That is, a coordinated effort is needed to create a sustainable set of practices and distribution rules that allow individuals to access shared resources while maintaining the well-being of the common good and the collective. In this case and others, it seems to be necessary to transform social institutions and leadership practices to reverse potentially catastrophic outcomes and create a sustainable arrangement.

According to most experts, it is already impossible to stop global climate change, but there are opportunities to slow its progression and prevent its most dire consequences. It is clear that efforts to mitigate the worst effects of global climate change will require a large-scale shift in attitudes and actions. At the governmental level it is imperative to institute policy changes that include incentives for conservation and the development and use of sustainable practices, as well as regulation of harmful processes entailed in production and consumption. That is, the use of exhaustible common resources must be kept in check by rules, procedures, and authorities that account for the aggregate effects of individual choices to prevent detrimental consequences for the community as a whole (Weber et al., 2004). At the level of the economic system, widespread changes are also necessary, and these entail extensive investments in the development of

alternative energy sources and environmentally friendly industrial practices, as well as a sustained commitment and willingness to sacrifice on a global scale. An effective allocation of resources would involve the loss of hundreds of billions of dollars and 1% to 2% of the national capital of the world's richest countries (Nordhaus & Yang, 1996).

In sum, helping the environment will require significant changes and sacrifices at three levels of analysis: individual, group, and system (*see* Stangor & Jost, 1997). Most importantly, social structures and practices will not be transformed or effectively implemented without the initiative, support, and compliance of individuals who make up the collective (Tyler & DeGoey, 1995). Therefore, the key to developing a solution is widespread awareness of the problem, its scope and progression, and one's own contribution and responsibility. Research indicates that this degree of awareness is still lacking in the general public. Despite vast scientific evidence that global climate change is rapidly occurring, caused by human activities, and poses numerous threats to the earth's ecosystems (Hansen, 2004; Keeling & Whorf, 2005; Oreskes, 2004; Scheffer et al., 2001; Weart, 2004; Webster et al., 2005), many people still deny the severity of the problem and resist efforts to address it.

According to public opinion surveys, a majority of U.S. respondents accord minimal importance to the problem of global warming and doubt that it will impact them or their way of life (Carroll, 2007; Gallup Poll, 2007). Many respondents believe that global warming claims are exaggerated and that human activity is not to blame for climate change, and as little as 6% of U.S. respondents believe that the environment should be given priority in policy (Gallup Poll, 2007; Pew, 2006). It is clear that addressing environmental problems will require questioning and altering the societal status quo, as is often the case with respect to commons dilemmas (Hardin, 1968). This raises a question that is of focal interest to us in this chapter – namely:

What are the factors that facilitate or inhibit the successful development and implementation of a collective intervention aimed at changing the current state of affairs?

#### Sources of Self-Regulatory Failure in the Commons Dilemma

To address this broad question it is useful to examine the role of self-regulatory processes that are likely to operate in a commons dilemma situation, which requires an individual to exercise self-control in such a manner that is beneficial rather than detrimental to the collective (and, ultimately, to the individual). There are several interrelated conflicts or trade-offs that reflect the self-regulatory challenges posed by a commons dilemma. First there is a conflict between the short- and long-term interests of the individual (e.g., Loewenstein, 1996; Trope & Fishbach, 2000). Whereas it may seem beneficial in the short run for an individual to fulfill his or her own immediate needs and desires, a long-range perspective reveals that depleting collective resources will eventually be very costly to the self and others. More generally, there is a trade-off between the concrete, immediately accessible needs of the individual and the more abstract – and therefore less accessible – needs of the community as a whole (Fujita et al., 2006; Trope & Fishbach, 2000).

Moreover, the commons dilemma suggests a potential conflict between a “hot,” affectively compelling response to the gratification of those needs that drive consumption of the limited resource, and the results of a “cold,” logical, removed analysis of the implications of the same behavior (Baumeister & Heatherton, 1996; Loewenstein, 1996; Metcalfe & Mischel, 1999). In other words, the satisfaction of a person’s immediate need to consume can give rise to a positive affective response, but a cognitive analysis would suggest that forbearance and control of one’s desires is needed, even if it elicits immediate negative affect. Finally, the pursuit of many goals occur at an implicit or automatic level of awareness (e.g., Bargh, 1990; Bargh et al.,

2001). This could mean that people are apt to satisfy their needs without necessarily engaging in a process of conscious deliberation and that a self-regulatory effort would be required to raise awareness of potentially problematic behaviors. Failure of self-regulation in one or more of these areas could easily lead to the perpetuation of environmentally destructive activities that will inflict lasting if not permanent harm at the level of the collective.

We propose that the self-regulatory challenge in confronting environmental problems is exacerbated by an additional, previously unexplored factor. Although resolving the environmental commons dilemma calls for collective (or aggregate-level) interventions that bring about significant changes to the status quo, extensive research has suggested that people become psychologically invested in current social, economic, and political arrangements and are motivated to defend, maintain, and justify the status quo and to resist major changes to it (e.g., Jost, Banaji, & Nosek, 2004). Questioning current practices and policies and transforming the status quo—both of which may be needed to overcome the commons dilemma with respect to environmental degradation—directly contradict the desire to see the status quo as just, valid, and legitimate. Therefore, a potent self-regulatory challenge that may hinder attitudinal and behavior change with respect to the environment is to overcome the preference for the status quo in favor of abstract, long-term considerations that may require a substantial overhaul of what is presently a flawed system. This challenge can be better understood by considering findings from system justification theory.

#### Motivation in Service of the Status Quo

According to system justification theory, individuals' evaluations of institutions and systems are influenced by epistemic needs to maintain a sense of certainty and stability, existential needs to feel safety and reassurance, and relational needs to affiliate with others who

are part of the same social system (Jost et al., 2004; Jost & Hunyady, 2002, 2005). The motivation to justify the extant system may align with a person's objective social interests if the system works to one's personal or collective advantage (Jost, Burgess, & Mosso, 2001). However, system justification needs may lead people to support and justify the system even in situations in which they are harmed or placed at a disadvantage by the status quo (Henry & Saul, 2006; Jost et al., 2003c).

At an individual level of analysis, system justification can have short-term palliative effects. These include alleviating the anxiety, uncertainty, and fear that arise when the societal system is threatened (Jost & Hunyady, 2002) and providing a means of rationalizing problematic aspects of the status quo (Kay, Jimenez, & Jost, 2002). However, the long-term consequences of pursuing a system justification goal can sometimes be negative, especially for persons and groups who are disadvantaged by the socioeconomic system and its hierarchy (e.g., Jost & Thompson, 2000). Part of the problem is that system justification can interfere with forming intentions or taking action aimed at correcting problems or addressing injustices.

At a collective level of analysis, system justification can have salutary effects by contributing to the perceived legitimacy and stability of groups and institutions (Tyler, 2006) and increasing satisfaction and compliance with authorities (Feygina & Tyler, 2009). However, if there are defects or shortcomings in the system, or if social change is necessary to adapt to new realities or concerns, then system justification can lead to the perpetuation of ongoing problems and detrimental outcomes (e.g., Wakslak et al., 2007). Thus, engaging in system justification can serve to sustain a problematic status quo (Jost & Hunyady, 2005).

#### *Motivational Properties of System Justification*

The deleterious effects of system justification may be better understood by considering

the self-regulatory properties of the goal to justify the system (Jost et al., 2007). The system justification goal is activated whenever there is a need to maintain or restore perceptions of the well-being, legitimacy, or stability of the social system in order to experience a sense of meaning and security. As such, it can be expected to shift focus toward short-term rewards rather than long-term outcomes (Loewenstein, 1996; Miller & Brown, 1991; Trope & Fishbach, 2000). Moreover, the desire to rationalize the status quo can acquire psychological urgency under some circumstances, such as when the social system is perceived as under attack (Jost & Hunyady, 2005; Ullrich & Cohrs, 2007). The need to alleviate emotional distress (Jost & Hunyady, 2002) can exacerbate one's focus on immediate goals, thereby deprioritizing a cognitive and integrative analysis of the situation (Fujita et al., 2006; Metcalfe & Mischel, 1999; Tice, Bratislavsky, & Baumeister, 2001). Because the system justification goal can operate at an implicit level of awareness (Liviatan & Jost, 2009; *see also* Jost et al., 2004), its effects can be especially difficult to recognize and overcome.

#### *Individual and Situational Differences in System Justification Tendencies*

The strength of the goal to justify the system can vary because of dispositional factors (Jost & Hunyady, 2005). Research has indicated that some people are more threatened than others by negative information about the social system and have a stronger need to defend it (e.g., Jost et al., 2003). For example, political conservatives have stronger psychological needs to reduce uncertainty and threat (Jost et al., 2003b), and they are also more likely to engage in system justification and subscribe to fair market ideology (Jost et al., 2003a). Studies summarized by Jost, Nosek, and Gosling (2008) reveal a correlation of between 0.4 and 0.5 between participants' self-reported political conservatism and their scores on a general measure of system justification (see Kay & Jost, 2003). The strength of system justification goals can

also vary as a result of situational factors (Jost & Hunyady, 2005). For example, situational threats directed at the legitimacy or stability of the status quo typically produce an increase in system justification, presumably because people are striving to relieve the negative implications of the threat (e.g., Jost & Hunyady, 2002; Kay, Jost, & Young, 2005; Lau, Kay, & Spencer, 2008; Ullrich & Cohrs, 2007).

It should be pointed out that information about environmental destruction is highly threatening, because it entails a personal threat to the health and well-being of oneself and one's family as well as a system-level threat to the societal status quo. Global climate change threatens both the legitimacy and stability of cultural practices and economic institutions, technological progress, and economic development, and it also challenges assumptions about capitalism and human efforts to master the natural world. Because climate change poses a powerful threat to many core aspects of the socioeconomic system, it is likely to elicit a strong psychological need to defend and justify the status quo (e.g., Jost & Hunyady, 2002). The desire to see national and international leaders, governments, corporations, and institutions as generally fair and legitimate may also prevent realistic assessments of environmental risks posed by common practices and continued environmental neglect (Jost et al., 2003a).

#### *System Justification has the Potential to Disrupt Environmental Self-Regulation*

In this chapter, we propose that system justification motivation has the potential to interfere directly with setting and pursuing goals to develop and implement collective interventions designed to resolve commons dilemmas, such as the problem of global warming and environmental destruction. There are at least three specific ways in which we think that system justification goals could come into conflict with pro-environmental self-regulatory processes (*see* Figure 1). First, system justification could prevent people from acknowledging

the need for change and instead lead them to deny problems with the status quo. This may satisfy short-term hedonic needs, but it clearly inhibits pro-environmental action in the long term. Second, even if people are able to acknowledge environmental problems, the need to maintain and defend the social system may disrupt the process of setting firm pro-environmental goals. This is because people may be resistant—either consciously or unconsciously—to actually making changes in their personal lifestyle or their social and political priorities. Both denial and resistance to change are likely to contribute to the failure to set pro-environmental goals and the tendency to perpetuate environmentally harmful behavior. Third, even if a person does succeed in setting goals to help the environment, the pursuit of these goals may be hampered by goal interference, insofar as the desire to maintain favorable attitudes concerning existing institutions and practices may be incompatible with the execution of environmentally helpful behavior.

In summary, there are several reasons to expect system justification needs to exert a detrimental effect on long-term self-control processes in the environmental domain. The immediate, at times emotionally pressing need to reaffirm the social system may interfere with acknowledging problematic aspects of the status quo, disrupt the setting of goals to change it, and inhibit taking action to change environmental practices that are ultimately detrimental to both the individual and the collective. Moreover, we suggest that persons who chronically experience a stronger need to justify the system will encounter a greater self-regulatory challenge when faced with information about environmental problems; therefore, they are expected to engage in greater denial and to form fewer intentions to help the environment.

#### Overview of Theoretical Approach

The foregoing discussion gives rise to several more specific hypotheses concerning the

effect of system justification needs on environmental awareness and goal setting. First, we expect to find that chronic motivation to justify the system is one antecedent to the denial of environmental problems, as well as a hindrance to forming intentions to help the environment. We predict that people who exhibit stronger tendencies to justify the system will report (1) greater denial of environmental problems; (2) less favorable attitudes toward the environment; and (3) failure to set useful, ambitious goals or to engage in behaviors that would prevent further environmental deterioration. Second, we predict that engaging in denial of environmental realities will serve a system-justifying function by reestablishing a view of the system as legitimate and just, but it will interfere with setting goals to help the environment. The following sections present evidence from four studies that are consistent with these hypotheses (*see also* Feygina, Jost, & Goldsmith, 2010).

#### Empirical Support for the Theoretical Framework

##### *System Justification and the Denial of Environmental Problems*

Our first study was designed to establish the existence of a link between system justification and denial of environmental concerns (Feygina et al., 2010, Study 1). We hypothesized that individuals who report a greater tendency to engage in system justification would be more likely to deny environmental problems. As part of a larger survey, undergraduate participants at the University of Oregon filled out a measure of general system justification (Kay & Jost, 2003), which included items such as: “Most policies serve the greater good” and “Society is set up so that people usually get what they deserve.” Environmental denial was assessed using items from the New Environmental Paradigm scale, including: “The so-called ‘ecological crisis’ facing humankind has been greatly exaggerated” and “If things continue on their present course, we will soon experience a major environmental catastrophe” (reverse-coded) (Dunlap et al.,

2000).

Results indicated that engaging in system justification significantly predicted the denial of threatening environmental problems, as hypothesized. This relationship was observed for several different types of environmental attitudes. Specifically, people who scored higher on system justification were more likely to deny (a) the possibility of an ecological crisis; (b) limits to natural resources and the earth's sustainability; (c) the necessity to abide by the constraints of nature; and (d) the danger of disrupting balance in nature.

This study also helped to clarify the oft-reported (but seldom explained) finding that women report greater concern for the environment and are more willing than men to take action to help the environment (Cottrell, 2003; Dietz, Kalof, & Stern, 2002; Zelezny, Chua, & Aldrich, 2000). Considering prior findings that women report significantly lower levels of system justification than men (Jost & Kay, 2005; *see also* Sidanius & Pratto, 1999), we hypothesized that gender differences in system justification motivation would help to explain gender differences in pro-environmental attitudes. Indeed, we found that men reported greater denial of environmental problems, as well as stronger system justification tendencies. Moreover, a mediational analysis demonstrated that variability in system justification scores partially accounted for the observed relationship between gender and denial of environmental problems.

#### *System Justification and Ideological Differences in Environmental Attitudes*

Our next study was designed to further elucidate the relationship between system justification and denial of environmental problems, as well as to examine whether variability in system justification tendencies could help to account for several known group differences in environmental attitudes (Feygina et al., 2010, Study 2). Much prior evidence has suggested that liberal respondents report greater concern for and engagement with environmental issues, and are

more willing to take action on behalf of the environment, compared to conservative respondents (Cottrell, 2003; Sandahl & Robertson, 1989; Thompson & Gasteiger, 1985; Van Liere & Dunlap, 1980). We hypothesized that this ideological difference in environmental attitudes could result from (at least in part) differences in the strength of the system justification motive as a function of political orientation (*see also* Jost, Nosek, & Gosling, 2008). Similarly, we expected that persons who identified more strongly with the national system, and therefore are more invested in its legitimacy and stability would also be more motivated to deny environmental problems. We also predicted that greater denial of environmental problems resulting from system justification needs would hinder engagement in pro-environmental behaviors – that is, the negative relationship between system justification and behaviors helpful to the environment should have been mediated by denial of environmental problems.

This study made use of Kay and Jost's (2003) measure of general system justification, as well as a measure of economic system justification (Jost & Thompson, 2000), which included items such as: "Economic positions are legitimate reflections of people's achievements," and "There are many reasons to think that the economic system is unfair" (reverse-coded). Participants, who were students at New York University, also completed an ideological self-placement item by placing themselves on a scale ranging from "extremely liberal" to "extremely conservative." We also assessed strength of participants' national identification using items adapted from the Luhtanen and Crocker (1992) collective self-esteem scale, such as: "Being an American is an important reflection of who I am," and "Overall, being an American has little to do with how I feel about myself" (reverse-coded). Denial of environmental problems was again assessed using the NEP scale, and an additional measure assessed environmental behaviors with items such as: "How often do you recycle paper and bottles/cans?"; "How often do you give

money to organizations that help the environment?"; and "How often do you encourage government representatives to adopt policies that are good for the environment?"

Consistent with our prior findings, a structural equation analysis indicated that engaging in general and economic system justification each predicted significantly greater denial of environmental problems. Moreover, respondents who endorsed a conservative political orientation and who had a stronger national identity engaged in greater system justification in general as well as greater economic system justification, and were more likely to deny environmental problems. Moreover, attitudinal differences in environmental denial were partially accounted for by differences in system justification tendencies associated with political orientation and national identification. As hypothesized, the degree to which respondents engaged in system justification, as well as denial of environmental problems, predicted significantly lower rates of engagement in behaviors that could improve environmental conditions. Moreover, denial completely mediated the relationship between system justification motivation and environmental behaviors.

#### *Generalization to a Nationally Representative Sample*

In a third study, we analyzed data from U.S. respondents to the 1999–2001 World Values Survey to determine whether endorsement of system-justifying ideologies such as Protestant work ethic and opposition to equality (*see* Jost & Hunyady, 2005) would be associated with decreased support for environmental causes. We also sought to further investigate the effects of political orientation and education on environmental attitudes and behavioral intentions.

Prior research shows that more highly educated respondents tend to be more concerned about environmental problems and more willing to take action to address them (Cottrell, 2003; Ostman & Parker, 1987; Scott & Willits, 1994; Van Liere, & Dunlap, 1980). Regarding political

orientation, we hypothesized that differences in system justification motivation could provide a partial explanation for the positive effect of education on environmental attitudes (cf. Jost et al., 2003c).

Endorsement of the Protestant work ethic was assessed with items such as: “Work is a duty towards society” and “It is humiliating to receive money without having to work for it.” Regarding opposition to equality, participants were given two response options and asked to indicate how strongly they preferred one response option over another. The first pair of options read: “Incomes should be more equal” vs. “We need larger income differences as incentives for individual effort.” The second pair of options was: “The government should take more responsibility to ensure that everyone is provided for” vs. “People should take more responsibility to provide for themselves.” Political orientation was assessed using a single ideological self-placement item, ranging from “Left” to “Right.”

In this study we were not able to assess denial of environmental problems *per se*, rather, we focused on the holding of environmentally harmful attitudes by asking respondents to choose whether: “Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent,” or “Protecting the environment should be given priority, even if it causes slower economic growth and loss of jobs” and whether “Human beings should master nature” or “Humans should coexist with nature.” In addition, participants reported on the extent to which they embraced the following behavioral intentions: “I would give part of my income if I were certain that the money would be used to prevent environmental pollution” and “I would agree to pay higher taxes if the extra money was used to prevent environmental pollution.”

Results from a structural equation analysis revealed that endorsement of system-justifying belief systems predicted holding more harmful attitudes toward the environment. In

other words, believing more strongly in the Protestant work ethic and opposing equality (or justifying inequality) predicted one's likelihood of prioritizing economic development over environmental protection and agreeing that people should dominate rather than coexist with nature. As before, holding a more conservative political orientation was associated with more negative attitudes toward the environment, and this relationship was partially mediated by endorsement of both types of system-justifying beliefs. Participants with higher levels of educational attainment were less likely to endorse the Protestant work ethic, and they also held more positive attitudes toward the environment. Furthermore, the effect of educational attainment on environmental attitudes was partially mediated by differences in system justification tendencies. With respect to behavioral intentions, endorsing system-justifying beliefs and holding more harmful environmental attitudes were both associated with an unwillingness to provide financial assistance to environmental causes. The holding of harmful environmental attitudes completely mediated the dampening effect of system justification on environmental intentions.

In sum, evidence from three studies involving diverse samples and measures indicates that system justification tendencies exert a powerful negative effect on the acknowledgment of environmental concerns and on the likelihood of developing environmentally beneficial attitudes (see Figure 1). A system justification perspective also sheds light on the psychological underpinnings of known group differences in environmental attitudes, including differences associated with political ideology, gender, and educational attainment. Overall, our research suggests that bringing about attitudinal and behavioral change in the environmental domain requires overcoming a set of self-regulatory challenges posed by system justification needs.

*Denial Can Facilitate System Justification: An Experimental Demonstration*

In the last study we describe in this chapter, we set out to better understand the relationship between system justification, engaging in denial of environmental problems, and the setting of pro-environmental goals. In addition, we wanted to provide further evidence that beliefs about environmental conditions and global warming are related to abstract, ideological beliefs about society and the social system. In particular, we sought to examine whether engaging in denial of environmental realities could influence attitudes about the socioeconomic system and thus serve a system-justifying function.

Using an experimental paradigm, we investigated the hypothesis that providing a situational means of denying environmental problems would allow people to maintain a view of the general social system as legitimate, just, and beneficial, thereby satisfying the system justification goal. Specifically, we exposed New York University students to a fictitious newspaper passage suggesting that the state of the environment was more positive than it really is; that steps were being taken to address environmental problems; and that concern about environmental problems were decreasing. The passage was designed to create an opportunity for participants to engage in denial of environmental problems; we examined whether it affected the degree to which people viewed the socioeconomic system as fair and legitimate. We expected that providing participants with an opportunity to deny environmental problems would allow them to maintain a more positive view of the social system, thereby satisfying the need to justify the system, and that it would weaken their resolve to improve environmental conditions.

In this study, participants were randomly assigned to one of two experimental conditions. In the “denial” condition participants read the following fictitious excerpt allegedly taken from a newspaper article:

These days, many people feel satisfied with the steps being taken to address environmental issues, such as increasing efforts to curb greenhouse gas emissions

and reduce pollution. Many scientists believe that with dedicated effort we can stabilize global warming and create a cleaner natural environment. People feel safer and more secure about the environment than they used to, and there is a sense of confidence and optimism regarding the climate and the natural environment. It seems that, compared with prior generations, current efforts to help the environment are contributing to a reduction in global warming and pollution. Fewer and fewer people feel a need to be concerned about environmental conditions in the future.

Participants assigned to the control condition were not exposed to this (or any other) excerpt. All participants completed Kay and Jost's (2003) measure of general system justification.

Environmental denial was assessed using three items selected from the New Environmental Paradigm scale, including: "The so-called 'ecological crisis' facing humankind has been greatly exaggerated" and "If things continue on their present course, we will soon experience a major environmental catastrophe" (reverse-coded). Participants also completed a measure of behavioral intentions concerning the environment, which elicited agreement or disagreement with items such as: "I intend to give money to organizations that help the environment" and "I intend to better understand how different policies and practices impact the environment."

As hypothesized, participants who read the article that encouraged denial of environmental problems scored higher on the measure of general system justification than participants assigned to the control condition (*see* descriptive statistics in Table 1). In addition, participants who read the excerpt from the newspaper article engaged in greater environmental denial than participants who were assigned to the control condition. They also formed fewer intentions to learn about the impact of individual and societal practices and policies on environmental problems or to engage in helpful behaviors. Moreover, the relationship between exposure to the passage and the degree to which participants intended to help the environment was fully mediated by the denial of environmental problems.

These results indicate that, as hypothesized, the denial of environmental problems appears to serve a system-justifying function and to hinder the formation of pro-environmental intentions. If this is the case, the need to engage in system justification is likely to disrupt the process of acknowledging environmental problems; admitting that there are human causes of global warming and environmental deterioration; and developing and pursuing intentions to take constructive action. The findings from our experimental study suggest that the media may play a crucial role, insofar as newspaper articles and other journalistic efforts can either encourage people to engage in denial or acknowledgement of environmental realities.

#### *Implications of a Self-Regulatory Perspective on Environmental Attitudes*

Based on a model of system justification as conscious and nonconscious goal pursuit (Jost et al., 2007), we hypothesized that system justification goals would interfere with the self-regulatory process of setting and fulfilling goals to help the environment. When faced with threatening information about environmental destruction and climate change, people may be tempted to deny environmental realities. Such a response may satisfy the immediate goal to feel more certain and secure about the societal status quo and allow individuals to avoid the psychologically difficult process of facing up to threatening circumstances; questioning extant practices, institutions, and authorities; and resolving to take corrective action. Moreover, we have predicted (and found) that failures to engage in pro-environmental behavior would be especially common when people are either chronically or temporarily high in the motivation to justify the social system.

#### *Explaining Partisan Differences in Environmental Attitudes*

Although most Americans support abstract proposals to improve environmental conditions in general, support is significantly greater among those who identify as Democrats

than among those who identify as Republicans (Saad, 2007a, 2007b). Public opinion surveys show that Republicans are far less concerned than Democrats about various forms of environmental destruction, including global warming, damage to the ozone layer, water pollution, and species extinction (Carroll, 2006). Republicans are also much less likely than Democrats to believe that environmental destruction is a serious problem, that there is solid scientific evidence of global warming, and that the cause of global warming is human activity (Pew Report, 2006). Moreover, there are prominent differences in response to global warming among liberal and conservative elites, as the August 13, 2007 “Global Warming is a Hoax\*” issue of *Newsweek* made clear. The asterisk on the magazine cover leads the reader to the following qualification: “\*Or so claim the well-funded nay-sayers who still reject the overwhelming evidence of climate change.” The inside article by Begley (2007) documents coordinated efforts among politically conservative business leaders, politicians, think tanks, and others to deny that global warming is a serious concern, and it quotes several liberal activists and politicians who are pushing for collective action to address environmental challenges.

Our analysis of the role of system justification processes in the denial of environmental problems may elucidate public policy debates concerning environmental issues. We found that conservative respondents consistently exhibited stronger system justification tendencies, more denial of environmental problems, and less willingness to engage in behaviors that would help the environment, compared with liberal respondents. Most importantly, we have observed that system justification motivation significantly mediates the effect of political orientation on environmental attitudes and behavior. That is, one of the reasons why conservatives are less likely than liberals to support environmental initiatives is that they are more strongly motivated to defend and justify the societal status quo.

*What Can Be Done? Social Psychological Contributions*

The daunting problem of resistance to pro-environmental action aimed at slowing down environmental destruction and climate change will require the collaborative effort of researchers and activists. NASA scientist James Hansen, a leading climate researcher, warned that we have only a brief window of time (approximately 10 years) to act (Hansen, 2007). It is crucial that we understand and address perceptions and behaviors related to climate change as soon as possible. Psychology has much to contribute in elucidating the underlying dynamics of denial and complacency. The emerging field of conservation psychology (Clayton & Brook, 2005; Saunders, 2003) has recently begun to address this issue, although national and international forums in which problems of environmental behavior and environmental psychology can be adequately addressed are still lacking (Ehrlich & Kennedy, 2005). Given that the United States produces more of the emissions that threaten the environment than any other country, investigation into the many factors that affect our environmental ethics and behaviors has unique national significance.

What suggestions for environmental goal-setting and pursuit, as well as behavioral change, can we glean from the extensive research on self-regulation? With respect to the setting of environmental goals, our research suggests that the very process of learning about environmental problems may elicit a defensive need to justify the system to relieve anxiety and fear, thereby hindering attainment of pro-environmental goals. The design of media messages then, should consider psychological dynamics when framing and presenting environmental information. For example, if information about global warming and the need for system-level change can be paired with messages that reaffirm the system in alternative ways, then goal-setting may be facilitated. Or, as Feygina et al. (2010, Study 3) found, encouraging people to

regard environmental reform as patriotic and consistent with protecting the status quo (i.e., as a case of “system-sanctioned change”) can reduce and even eliminate the negative effect of system justification on environmentalism. Moreover, given that system justification goals can operate implicitly (Liviatan & Jost, 2009), it may be necessary to engage in “unconsciousness raising” as well as consciousness raising when it comes to environmental awareness. This may involve exerting deliberate control over impulsive desires (Baumeister & Heatherton, 1996) and cognitive, rational control over emotional and visceral responses (Loewenstein, 1996; Metcalfe & Mischel, 1999). Self-control can also be fostered by emphasizing the importance of outcomes of environmental destruction over short-term concerns to preserve the status quo (Trope & Fishbach, 2000). Similarly, utilizing global, integrative, overarching construals of the environmental dilemma should improve self-regulatory efforts (Fujita et al., 2006).

With respect to the pursuit of environmental goals, studies on automatic goal pursuit suggest that goals become linked to the behaviors, people, and situations in which they are realized (Bargh et al., 2001). Increasing the accessibility of means that help attain a goal increases the likelihood that the goal will be activated and pursued. Therefore, when individuals and institutions implement environmentally friendly practices, they contribute to the chronic activation of pro-environmental goals. Moreover, continued activation of a goal increases its chronic accessibility (Bargh et al., 2001). The amount of effort needed to exert control to act in accordance with one’s explicit pro-environmental goals, in turn, should greatly diminish with practice. If we exert the effort in the short term to set up situations and practices that take environmental needs into account and pursue environmental goals, then in the long term these more constructive practices will become integrated into the set of automatic behaviors and intentions. Research has also suggested ways to improve self-regulatory efforts in the pursuit of

important, albeit difficult goals. For example, people can make use of implementation intentions that link situational cues to goal-directed behavior, thus helping to increase goal commitment (Gollwitzer & Moskowitz, 1996). Moreover, insofar as goals to justify the system may compete and interfere with environmental goals, people should strive to make use of attention control, emotion control, and motivation control strategies to shield their environmental goals (e.g., Kuhl & Beckmann, 1985).

These self-regulatory strategies should not only be directed at the goals and behaviors of the individual; it is crucial to work toward change at the collective level as well. As citizens become more aware of and more dissatisfied with the status quo when it comes to the environment, they must clearly express their disenchantment to economic and political leaders in order to bring about change in the system. Because politicians, business executives, and other representatives of the current system are especially influential in deciding whether to maintain or transform the status quo, their environmental agendas are of paramount significance. Economic institutions, too, contribute to the norms and structures that people are socialized to follow, thereby shaping the values we hold as well as many of our environmental and other practices. Therefore, the self-regulatory struggle of the individual to recognize problems rather than engaging in system justification and denial has to be carried over to the collective level of organization, so that together we can opt for change rather than perpetuating what has turned out to be a rather destructive state of affairs.

*Authors' Note*

The writing of this chapter was funded in part by the Center for Catastrophe Preparedness and Risk (CCPR) at New York University and the National Science Foundation (Award # BCS-0617558). Some of the research findings were presented at the 2007 International Society of Political Psychology (ISPP) conference in Portland, OR, the 2008 Society for Personality and Social Psychology (SPSP) conference in Albuquerque, NM, and the 2008 Society for the Psychological Study of Social Issues (SPSSI) conference in Chicago, IL. We thank Ran Hassin and Yaacov Trope for providing extensive feedback on an earlier draft.

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Table 1. *Environmental Goal Setting: Experimental Means (and Standard Deviations)*

	System Justification	Denial	Intentions
Denial condition	5.04 (.26)	2.56 (.19)	3.08 (.20)
Control condition	4.06 (.27)	1.91 (.19)	3.73 (.21)

*Note:* We conducted three analyses of variance to examine the effects of the denial manipulation on system justification, denial of environmental problems, and setting of environmentally helpful goals, adjusting for gender and family income. As demonstrated in this table, participants exposed to the denial manipulation justified the system more,  $F(1,44) = 8.53, p < .05$ ; engaged in greater denial of environmental problems,  $F(1,44) = 3.78, p < .05$ , and less intentions to help the environment,  $F(1,44) = 3.71, p < .05$ . The relationship between exposure to the denial manipulation and failure to form intentions to help the environment was fully mediated by the denial of environmental problems, Sobel statistic = 1.96,  $p < .05$ .

Figure 1. *System justification motivation has the potential to disrupt pro-environmental self-regulatory processes at several different phases.*

