Social disadvantage and the self-regulatory function of justice beliefs

by

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I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any

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Abstract

This thesis develops and tests the new theory that beliefs in societal justice offer a distinctive self-regulatory benefit for members of socially disadvantaged groups. Integrating concepts from the social justice and goal motivation literatures I hypothesize that members of disadvantaged groups are more likely than members of advantaged social groups to calibrate their pursuit of long-term goals to their beliefs about societal justice. In Study 1, low but not high SES undergraduates showed greater intentions to persist in the face of poor exam performance to the extent that they believed in societal justice. In Study 2, low but not high SES participants reported more willingness to invest in career pursuits to the extent that they believed in societal justice. In Study 3, ethnic minority, but not ethnic majority, participants who read that societal justice was improving reported more willingness to invest resources in pursuit of long-term goals, relative to control participants. Study 4 replicated Study 3 using a more subtle manipulation of justice beliefs, and demonstrated that the moderating role of ethnic status operates due to a difference in the perceived self-relevance of societal justice. Study 5 examined the moderating role of SES and ethnic status in a large cross-national sample. Two additional studies indicated boundary conditions for the effect, showing that goals which are not perceived as relevant to justice operate in the opposite fashion: In Study 6, low SES participants primed with injustice withdrew their resources from their academic goals, and reinvested them in their social goals. Study 7 replicated this effect, and provided evidence that when the self-relevance of justice information is highlighted, it can influence motivation even among members of advantaged groups. Ethnic majority participants who read about discrimination against their group also withdrew their resources from their academic goals, and reinvested them in their social goals.

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They say it takes a village to raise a child. Applied to my graduate school experience, that familiar saying could read "It takes a department to raise a social psychologist." I feel extremely lucky to have benefited from the support and expertise offered by the entire social division at the University of Waterloo. Students and faculty members alike deserve my thanks for creating such a rich environment, and for inspiring me throughout the various stages of this research with their constructive feedback and stimulating questions. Above and beyond the atmosphere of collaboration and contagious passion which is standard fare at UW, I am especially grateful to have had the opportunity to share my thesis work with so many faculty members. My initial collaborators on this research, Aaron Kay and Gráinne Fitzsimons, were the best team that a young graduate student could hope to join: Their enthusiasm for my ideas and the expert guidance they provided made me feel very well-supported, but at the same time free to work independently. My current advisor, Richard Eibach, has supplied me with praise and criticism in an ideal ratio, but I am the most thankful to him for our many horizon-expanding conversations. My other committee members, Abigail Scholer and Steve Spencer, have also helped improve my work with their insights, and I have enjoyed working independently with them as well as with John Holmes on different projects. Finally, to my family and friends who have put up with and even encouraged my incessant nattering about social psychology: You know who you are, and you know that I am grateful. Thank you.

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CHAPTER 1: INTRODUCTION

An undeserving colleague gets promoted, while a deserving one is laid off. Employees' pension funds are stolen by greedy executives as the company goes under. Thousands of children in third world nations die of illnesses easily treated in the first world. Women receive less pay for equal work. Ethnic minorities face discrimination in the job market. If asked, most people could effortlessly produce a long list of injustices, some drawn from first-hand experience and others from society at large. And yet, despite this knowledge, most people tend to maintain a view of the world as relatively fair and just (Hafer & Bègue, 2005; Jost & Banaji, 1994; Lerner & Miller, 1978). Indeed, even people most at risk for unjust treatment – that is, members of socially disadvantaged groups, such as those low in SES and minority group members – often believe that the world largely operates in a fair and legitimate manner (Crosby, 1982; Glick & Fiske, 2001; Jost, Banaji, & Nosek, 2004; Jost Pelham, Sheldon, & Sullivan, 2003; Major, 1994; but see Major, Kaiser, O'Brien, & McCoy, 2007).

Are there any benefits to believing that the world is reasonably just, even in the face of evidence to the contrary? For those who typically perpetrate or benefit from injustice – members of advantaged groups – the benefits of such beliefs are easy to understand: These beliefs permit continued unjust advantage on an interpersonal level (Walster, Berscheid, & Walster, 1973), as well as guiltless maintenance of the social hierarchy (Montada, Schmitt, & Dalbert, 1986; Sidanius & Pratto, 1999). However, for those who typically suffer from injustice the benefits of believing in societal justice are less obvious (Jost & Burgess, 2000; Quinn & Crocker, 1999; Callahan-Levy & Messe, 1979; Jost, 1997; Jost & Hunyady, 2002; Jost & Thompson, 2000; Major, McFarlin, & Gagnon, 1984; Pelham & Hetts, 2002). Nonetheless, theory and research suggests members of these groups do not wholeheartedly abandon beliefs in societal justice (Jost,

Banaji, & Nosek, 2004) and do not experience only negative outcomes as a result of those beliefs (Dzuka & Dalbert, 2002, 2007; Jost, Glaser, et al., 2003, Study 5; Kluegel & Smith, 1986; Lane, 1962; Lipkus, Dalbert, & Siegler, 1996). This raises an intriguing question: What specific functions, if any, do these beliefs serve for members of disadvantaged groups? To date there have been few attempts to answer this question and especially few that use experimental methods to test causal mechanisms though which justice beliefs might benefit members of disadvantaged groups. In the current research, I hypothesize that belief in societal justice offers a specific self-regulatory benefit for members of socially disadvantaged groups, allowing them to more confidently commit to long-term goals. Specifically, by "disadvantaged groups," I mean those social groups which have historically experienced adverse social and economic conditions, relative to other social groups, sometimes for illegitimate reasons. For instance, many ethnic and religious minority groups can be described as socially disadvantaged groups, as can other groups low in socioeconomic status.

Believing in Societal Justice

According to a substantial literature within social, personality, and organizational psychology, people are motivated to believe that their social worlds operate justly – that is, that people get what they deserve in life (Adams, 1965; Jost et al., 2004; Lerner, 1980; van den Bos & Lind, 2002; Walster et al., 1973). Early empirical investigations of the "belief in a just world" demonstrated that exposure to innocent victims elicits a motivated response: When people cannot restore actual justice, they will restore *psychological* justice by altering their perception of the situation so that it appears just (e.g., Lerner, 1965; Lerner & Miller, 1978). For example, numerous studies have demonstrated that when people cannot provide innocent victims with compensation, they derogate or blame the victims for their misfortune (e.g., Lerner & Simmons,

1966). Based on these early findings, Lerner developed *Just-World Theory*, proposing that people have a need to believe that their world is one in which people get what they deserve and deserve what they get (Lerner, 1980). Subsequent research has supported the pervasive influence of this need to maintain justice beliefs, showing that people tend to rationalize injustice even when it impacts them personally (for better or worse) (see Hafer and Bègue, 2005; Jost & Kay, 2010, for reviews). Research on system justification theory (Jost & Banaji, 1994), in fact, has directly noted the tendency for members of disadvantaged groups to judge their social systems as fair and legitimate, despite the fact that these systems contribute to their disadvantage (Jost, Banaji, & Nosek, 2004).

If humans are motivated to believe that their world is just, this belief likely serves one or more functional purposes, providing benefits to the believer. The present research complements recent social psychological work beginning to explore these benefits. Dalbert and her colleagues (Dalbert, 2002; Dzuka & Dalbert, 2002, 2007; Lipkus, Dalbert, & Siegler, 1996; Otto & Dalbert, 2005) suggest that believing in a just world functions as a positive illusion, and as such is correlated with increased well-being and mental health, as well as decreased delinquent behavior (c.f. Jost & Hunyady, 2002; Jost & Thompson, 2000; Napier & Jost, 2008). Other theorists have suggested that justice beliefs can serve to help people cope with feelings of uncertainty (van den Bos, 2001; van den Bos & Lind, 2002), to help satisfy people's need to feel like autonomous agents (van Prooijen, 2009), to serve needs to identify with and belong to social groups (Lind & Tyler, 1988; Tyler, 1989), and, in the case of system justification, to satiate a range of existential, epistemic, and relational needs (Jost, Banaji, & Nosek, 2004). Thus, research has begun to elucidate benefits that may accompany beliefs in societal justice. In the present set of studies, I contribute to this growing body of research by testing the hypothesis that societal justice beliefs

can also encourage commitment to the pursuit of long-term goals (Hafer, 2000; Hafer, Bègue, Choma, & Dempsey, 2005), especially for members of disadvantaged groups. Before I explain my hypothesis in more depth, I provide a brief background of research on long-term goal pursuit, to situate the contribution of the current research.

Pursuing Long-Term Goals

The pursuit of long-term goals is fundamental to the maintenance of psychological and physical well-being: To build relationships, to provide for family, and to maintain good health, people need to set, initiate, and pursue goals over time (Baumeister, Schmeichel, & Vohs, 2007; Emmons, 1989; Zirkel & Cantor, 1990). However, goals can rarely be accomplished without a considerable investment of resources: Merely hoping for a windfall or a lucky break will likely not help people successfully save for retirement, lower blood pressure, or earn a promotion. Instead, people need to invest effort, self-control, and material resources, and typically over an extended period of time (Baumeister, 1998; Baumeister, Vohs, & Tice, 2007; Carver & Scheier, 1990; Heckhausen & Schulz, 1995). Indeed, the goals most often reported as highly important – career goals, financial goals, family goals, and health goals – can take months, years, and decades to achieve (Emmons, 1989; Zirkel & Cantor, 1990).

Research on self-regulation has uncovered a number of internal psychological processes that predict successful goal-pursuit over time. For example, the beliefs that people hold about their goals, traits, and abilities can have a strong impact on how willing and interested they are in pursuing long-term goals (Bandura, 1986; Dweck, Chiu, & Hong, 1995). Other variables, such as feelings of power, can also influence how well people are able to regulate their behavior in pursuit of their goals. For example, Guinote (2007) induced some participants to feel powerful by asking them to remember a time when they evaluated others and controlled their outcomes, or

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by asking them to assume a managerial role relative to another participant's employee role. Participants led to feel powerful were quicker to both set and act on goals, relative to participants made to feel powerless.

In addition, recent research has uncovered routes through which features of the social environment, external to the individual, can predict successful long-term goal pursuit (Drigotas et al., 1999; Finkel et al., 2006; Fitzsimons & Finkel, in press; Finkel & Fitzsimons, in press; Rawn & Vohs, 2006). For instance, achieving goals over time is easier in a supportive social environment (Fitzsimons & Shah, 2008), and people's motivation to pursue their goals is likely higher in such environments (Fitzsimons & Finkel, 2010). In the current paper, I extend this theorizing about goal-supportive environments to the domain of societal justice. Although justice may not directly help people achieve their goals in the way that supportive others do, justice makes it sensible for people to invest time, effort and material resources in pursuit of their goals. Thus, just as people may prefer to pursue goals when immersed in close relationships that they see as promoting their goal progress, I suggest that they will also be more motivated to pursue goals when in social contexts that they see as operating justly. By "motivated to pursue goals" I mean willing to engage in self-regulatory efforts directed at long-term goals (Baumeister & Vohs, 2007). In the current thesis, I test how people's beliefs about the justice of the social environment impact their motivation to pursue long-term goals.

Linking the Fields of Justice and Self-Regulation: How Believing in Societal Justice May Promote the Pursuit of Long-Term Goals

In an early precursor to the thinking tested in the current paper, Lerner (1980) suggested that people's motivation to pursue long-term goals may be dependent on their beliefs in societal justice. In particular, he theorized that people develop a "personal contract" with society,

whereby they agree to invest time and effort in order to attain long-term rewards (Lerner, 1977, 1980; Lerner, Miller, & Holmes, 1976). Because people's lives are organized around important goals, and because pursuing those goals is a costly endeavor, requiring the investment of substantial time and effort, Lerner argued that people need to be confident that sacrifices made in the present will pay off in the future. The belief that one's environment is just provides exactly this assurance: It gives people confidence that their efforts will be duly rewarded, which allows them to continue investing resources in the absence of immediate gain.

Lerner's theorizing implies that justice is an important part of any goal-supportive environment. Indeed, he suggests that believing in societal justice is actually necessary to commit to long-term goal pursuit. This implication leads to a hypothesis that has as yet not been explored: People's beliefs about societal justice should determine, at least in part, their motivation to pursue their long-term goals. Because achieving most important goals requires the commitment of resources over an extended period of time, people need to believe that their actions will be justly rewarded to commit self-regulatory resources toward a long-term goal (Hafer, 2000; Lerner, 1980). If goal-directed efforts are not generally rewarded with deserved outcomes, setting and pursuing goals is unlikely to be effective. Imagine a woman who hopes to ultimately earn the position of CEO at her father-in-law's company. If she believes that her chances of earning that position are based on her own performance over the years – that is, if she believes that her father-in-law will make an unbiased choice of successor – she will be likely to try hard, putting in extra hours and giving her all to the job, to achieve her long-term goal. However, if she believes that her chances of earning the position are also based on other factors – that is, if she believes that her father-in-law might choose his biological daughter out of family loyalty, or choose a particular colleague because of a long-standing romantic attraction – she will

be less likely to work hard to achieve this long-term goal. In other words, when committing one's efforts to long-term goal pursuit, societal justice should matter (Hafer, 2000; Lerner, 1980).

Prior research provides initial support for the importance of societal justice beliefs in self-regulation. First, in a correlational field study of young male prisoners justice beliefs were positively associated with greater confidence in personal goal achievement (goals such as starting professional training, becoming rich, avoiding future incarceration, etc.; Otto & Dalbert, 2005). Second, research on victim derogation finds that long-term goal focus increases justice concerns. Merely writing about long-term academic goals (which presumably increases one's focus on long-term goals) leads to greater victim derogation (Hafer, 2000). Similarly, people high in chronic orientation toward future goals derogate victims more, but only if they are low in "primary psychopathy," that is, only when they value deserving their obtained outcomes (Hafer, Bègue, et al., 2005). Thus, although experimental evidence for the hypothesis that people actually calibrate their motivation to pursue long-term goals to their beliefs about societal justice does not yet exist, there is good support for the general notion that long-term goal focus and justice concerns are psychologically linked.

The Special Case of Members of Disadvantaged Groups

Here, I hypothesize that this psychological linkage is particularly strong for members of historically disadvantaged social groups. I will unfold the logic underlying this hypothesis in three stages: (1) Group status does in general moderate people's reactions to societal (in)justice; (2) Societal justice carries more personal implications for members of disadvantaged groups than for members of advantaged groups; and (3) One specific consequence of the latter point is that among members of disadvantaged groups, societal justice beliefs should be coupled more

strongly with expectations for personal justice, which should ultimately drive commitment to long-term goal pursuit among members of all groups.

Group membership and reactions to societal justice

First, then, my main hypothesis about the differential links between societal justice beliefs and self-regulation for members of socially advantaged and disadvantaged groups is consistent with extensive findings suggesting that status moderates reactions to societal justice. When members of low status groups, which are typically socially disadvantaged groups, believe that their world is fair, this leads them to also believe that that their low status is justifiable and legitimate. For example, for low status group members, activated or endorsed beliefs in a meritocratic society are associated with reduced feelings of personal entitlement (O'Brien & Major, 2009), increased endorsement of stereotypes that justify their group's low status (McCoy & Major, 2007), derogation of fellow group members who make claims of discrimination (Kaiser & Miller, 2001, 2003), and reduced perceptions of discrimination against their own group members (Major, Gramzow, McCoy, Levin, Schmader, Sidanius, 2002). In contrast, among members of high status groups, which are typically socially advantaged, such justice beliefs are associated with increased feelings of entitlement, increased derogation of outgroup members who claim discrimination, and increased defense of their group's status in general (e.g., Major et al., 2002). These findings, although they do not directly speak to the hypotheses tested in the current research, provide support for the notion that members of high versus low status groups show important differences in their reactions to injustice.

Personal implications of societal justice

Second, a point with more direct relevance to the present purposes is that societal injustice does not carry equal implications for everyone: Objectively speaking, members of

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certain groups – namely, socially disadvantaged groups – are far likelier to be victims of societal injustice than members of other groups. In other words, societal injustice is likely to have more obvious personal implications for the outcomes of members of disadvantaged groups, who have historically been victims of discrimination. For this reason, I suggest that the link between societal justice and self-regulation may be stronger for members of disadvantaged groups. That is, because members of disadvantaged groups are more likely than members of advantaged groups to believe that their ability to successfully achieve goals (and recoup their investments of effort and time) could be negatively impacted by societal injustice, I propose they will calibrate their goal investments tightly to their beliefs about societal justice. Conversely, members of advantaged groups may be aware that societal injustice largely targets others. If so, members of advantaged groups should be less likely than members of disadvantaged groups to consider societal justice when deciding how much to invest in long-term goals.

This notion is consistent with basic theorizing about the role of expectations in the goal pursuit process. According to expectancy-value theories of motivation, people's willingness to pursue long-term goals will be shaped by how much they expect to succeed, in addition to how positively they view the goal end-state (Atkinson, 1957; Eccles et al., 1983; Feather, 1982; Wigfield & Eccles, 1992). Thus, people's beliefs regarding the relative likelihood that effort and hard work will be rewarded justly with success are necessary for motivation – simply finding the goal end state desirable is not sufficient. To the extent that members of disadvantaged groups believe that injustice exists, they may be concerned that their efforts will not determine their achievement. For this reason, their motivation to pursue long-term goals may be more connected with societal justice beliefs than that of members of advantaged groups, who are less likely to see societal justice as relevant for achieving their goals. Note that this account does not suggest that

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members of advantaged and disadvantaged groups differ in the extent to which they may

calibrate their motivation to their beliefs about the extent to which their efforts will determine

their achievements, but only in the extent to which they draw implications for the latter from

their beliefs about societal justice.

Members of disadvantaged versus advantaged groups may also have different

overarching or higher order goals with regards to their position in society, and these higher order

goals may explain the differential effects of justice beliefs. Members of socially disadvantaged

groups may pursue their long-term achievement goals primarily to serve an ultimate goal of

increasing their position in society. Because a change in social status would only be possible if

society is fair and just enough to permit such upward mobility, members of disadvantaged

groups may see societal justice as more relevant to their long-term goal pursuits. In contrast,

members of advantaged groups may primarily be concerned with maintaining their positive

status, or with small upward change. Because the stakes of this pursuit are lower, in many ways,

and because maintaining status is easier than changing status, advantaged group members may

not feel that societal justice is as relevant to these long-term pursuits.

Global versus personal justice

Third, one specific instance of the more general point about group membership and the

personal implications of societal justice highlights the distinction between global justice beliefs,

personal justice beliefs, and justice beliefs for others (Lipkus, Dalbert, & Siegler, 1996).

Members of disadvantaged versus advantaged groups are likely to show different patterns of

association between global justice beliefs and personal justice beliefs, and I suggest that these

differential linkages will result in distinct effects on self-regulation. Because members of

disadvantaged groups know that they and their fellow group-members are likely targets for

discrimination, they know that societal justice has implications for their own likelihood of just treatment. Thus, members of disadvantaged groups likely connect their global, or societal, justice beliefs to their personal justice beliefs. As such, the more these individuals believe their society is just, the more they should expect and perceive just treatment for themselves. Members of disadvantaged groups who believe in societal justice should therefore have greater confidence that their personal efforts will be justly rewarded. This confidence should in turn support their motivation to pursue long-term goals. Members of disadvantaged groups who see their society as less just, however, should lack the confidence that their personal efforts will be justly rewarded, and thus be less motivated to pursue their long-term goals. Members of advantaged groups, on the other hand, may lack the personal and group experiences that would lead them to see societal justice as relevant to their own treatment and outcomes. Instead, they may view societal justice as more relevant to *others'* just treatment – specifically, to the just treatment of members of disadvantaged groups. Thus, their beliefs about societal justice should have relatively little influence on their own motivation.

The distinction I am emphasizing here is that global justice beliefs should be closely coupled with personal justice beliefs for members of disadvantaged, but not advantaged, groups; and this distinction is at the core of my hypothesis about group differences in the societal justice beliefs – motivation link. That being said, the distinction between global and personal justice beliefs highlights a secondary hypothesis: When societal justice beliefs are made to be explicitly self-relevant – in other words, when the link between global and personal justice beliefs is imposed – they may lead members of both advantaged and disadvantaged groups to adjust their long-term goal motivation. My main hypothesis rests on the assumption that members of disadvantaged groups see societal, or global, justice beliefs as more relevant to their own

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personal goals than do members of advantaged groups. But when societal justice information is directly self-relevant, and carries clear implications about the likelihood of members of advantaged groups themselves being treated justly, I predict that it may influence motivation even among members of these groups.

This global versus personal justice hypothesis may appear at first glance inconsistent with a body of research suggesting that members of disadvantaged groups are motivated to avoid perceiving themselves as vulnerable to discrimination. Indeed, even when people perceive discrimination against their own group, they hesitate to admit that they themselves have been victims of discrimination (e.g., Crosby, 1982; Taylor, Wright, & Porter, 1994). This research directly suggests that the global and personal justice beliefs of members of disadvantaged groups do differ, which may seem to run counter to the logic I unfolded in the preceding paragraph. However, closer scrutiny shows this inconsistency to be superficial only.

First, although the global and personal justice beliefs of members of disadvantaged groups may differ in absolute terms, they still may be positively related. That is, even if members of disadvantaged groups sometimes perceive themselves as being less at-risk for discrimination, compared to their group as a whole, it is still likely that those perceptions of risk will vary together. Second, the suggestion that perceiving oneself as vulnerable to discrimination is debilitatingly frightening is precisely the thrust of my argument, although I have been more specific about how that fear is expressed. While the research I mentioned above suggests that people try to protect themselves by minimizing their feelings of vulnerability, proponents of this research generally do not suggest that these feelings can be eliminated completely. Indeed, members of disadvantaged groups generally do not perceive that they are at no risk of discrimination (e.g., Taylor, Wright, Moghaddam, & Lalonde, 1990), and not surprisingly they

routinely perceive their risk of discrimination as much higher than do members of advantaged

groups (e.g., Operario, & Fiske, 2001). In fact, others have argued that under some

circumstances members of disadvantaged groups are motivated to perceive that they have been

victims of discrimination, because this can protect their feelings of self-worth following failure

(Crocker & Major, 2003; Crocker, Voekl, Testa, & Major, 1991; Major & Crocker, 1993).

In any case, the fact that certain motivational states push people to endorse higher or

lower levels of belief notwithstanding, what concerns me here is the consequences of those

levels of belief. My prediction is that the societal justice beliefs of members of disadvantaged

groups relate to their personal justice beliefs, or their expectations about their own just treatment,

and that these expectations then act as the key mediator in the link between societal justice

beliefs and long-term goal motivation.

Two final caveats

In summary, then, I suggest that because members of socially advantaged and

disadvantaged groups differ in the extent to which they see societal injustice as holding potential

implications for their own outcomes, there should be differences in the extent to which

perceptions of societal justice will facilitate commitment to goal pursuit for members of

advantaged and disadvantaged groups. Specifically, I hypothesize that, relative to members of

advantaged groups, members of disadvantaged groups should show a tendency to calibrate their

motivation to pursue long-term goals to their beliefs about societal justice[1]. That being said, this

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[1]Note that I am *not* suggesting that members of disadvantaged groups, who perceive societal unfairness as

more personally relevant, are more motivated to see the world as fair than members of advantaged groups, who view

societal unfairness as less personally relevant. Both groups of people might be equally motivated to perceive the

world as fair, but this motivation might serve different functions for members of advantaged versus disadvantaged

groups.

primary hypothesis can be qualified in at least two ways, leading to two additional sub-hypotheses.

First, the justice beliefs – motivation link is likely to emerge particularly strongly for goals that people intuitively see as relevant to justice. For example, academic goals and career goals may be ones that members of disadvantaged groups are particularly likely to calibrate to their beliefs about societal justice, because they may see obvious ways that societal justice can impact those goals. In contrast, people may see fewer connections between societal justice and other goals such as spiritual goals or health goals, and as a result members of socially disadvantaged groups may be less likely to calibrate the pursuit of those kinds of goals to their justice beliefs. Therefore, I chose to focus on academic and career goals for the first tests of my main hypothesis, and then later I expand on my sub-hypothesis regarding the justice-relevance of the goal domain.

Second, I suspect that members of advantaged groups may not always be completely immune to societal justice beliefs, when it comes to their motivation. I expect that these individuals will calibrate their long-term goals to their beliefs justice when these beliefs are explicitly self-relevant. Therefore, my second sub-hypothesis is that when societal justice information carries unambiguous implications for members of socially advantaged groups themselves, then they will calibrate their long-term goals in the same way as members of disadvantaged groups.

Overview of Studies

Five studies tested my primary hypothesis that beliefs in societal justice facilitate and encourage the commitment to long-term goal pursuit, especially for members of socially disadvantaged groups. Study 1 examines whether participants' beliefs in societal justice interact

with their socioeconomic status (SES) to predict their intention to resume goal pursuit after failure (a hallmark of motivation, Atkinson, 1957; Carver & Scheier, 1990; Heckhausen, 1991; Lewin, 1926; Wicklund & Gollwitzer, 1982). Study 2 employs the same design but a different measure of motivation, specifically motivation to pursue long-term career goals. Study 3 uses experimental manipulations of societal justice beliefs to test my hypothesis about their causal impact on career motivation among members of low but not high status groups. This study also broadens the definition of advantaged group status by testing the hypothesis with members of ethnic majority or minority groups. Study 4 examines whether participants' motivation to pursue long-term career goals is affected by (a) a priming manipulation that manipulates societal justice beliefs via a scrambled-sentence task, and (b) their status as members of ethnic majority or minority groups. This study also examines whether the effect of societal justice beliefs on disadvantaged group members' motivation to pursue long-term goals is mediated by their beliefs about personal unjust treatment. Finally, Study 5 tests whether my hypotheses about the interactive effects of groups status and justice perceptions on motivation generalizes to a large international sample of respondents.

Following this initial set of studies, two additional studies examine my two sub-hypotheses. In Study 6, I predict that reminders of injustice will lead individuals with low SES to plan to spend less time on academic pursuits, but I draw on a sizeable literature on the dynamics of multiple goal-regulation (e.g., Kernan & Lord, 1990; Schmidt & Deshon, 2007; Shah, Friedman, & Kruglanski, 2002) to predict a reverse pattern for individuals' plans to invest in activities related to non-justice-relevant goals. In Study 7, I replicate that finding, while at the same time examining more closely the role that justice beliefs can play in determining the motivation of members of advantaged groups. Specifically, I expose members of advantaged

groups to information about discriminatory practices that specifically target their group, and

measure their subsequent motivation towards both academic goals as well as non-justice-relevant

goals.

CHAPTER 2: Socioeconomic status, justice beliefs and persistence following failure

In Study 1, I examined the relationship between motivation to pursue long-term goals and the belief that the world operates in a fair and just manner, and how membership in a socially disadvantaged group moderates this relationship. In this study, I measured socioeconomic status (SES), a straightforward indicator of membership to a socially disadvantaged group. I also measured belief in ultimate justice, or the belief that justice prevails *in the long-term*. This belief is distinguished from the belief in immanent justice, which is concerned with the immediate justice of short-term outcomes (see Maes, 1998; Maes & Kals, 2002; Maes & Schmitt, 1999). As noted by Hafer and Bègue (2005), it is a belief in ultimate justice, with its focus on eventual, future outcomes, which is most likely to encourage investment in long-term goals. I predicted that SES and justice beliefs will interact to predict motivation to pursue long-term goals.

I operationalized motivation to pursue long-term goals as undergraduates' commitment to their academic achievement goals after performing poorly on an examination. Specifically, after students received their grades for a course midterm, I asked them to report both how well they felt they did on the test, and how committed they were to performing well on the next test. Persistent motivation in the face of challenges, negative feedback, or poor performance is a hallmark feature of motivation (Atkinson, 1957; Carver & Scheier, 1990; Heckhausen, 1991; Lewin, 1926; Wicklund & Gollwitzer, 1982). Such motivation is also necessary for the pursuit of long-term goals – if the goal pursuer disengages after encountering difficulty, success (in all but the easiest of tasks) is impossible (Carver & Scheier, 1990; Blackwell, Trzesniewski, & Dweck, 2007; Dweck et al, 1995). Thus, I predict that for students who felt they performed poorly on the midterm, justice beliefs will be positively related to commitment to performing well on the next midterm. I expect this relationship to be stronger among participants who report low SES,

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relative to participants who report high SES. My predictions are specific to intentions to persist *following poor performance*, which discriminates those high from those low in motivation (Atkinson, 1957; Carver & Scheier, 1990; Heckhausen, 1991; Lewin, 1926; Wicklund & Gollwitzer, 1982). Persistence following good performance is in fact often *reduced* among people high in motivation, and thus would be hard to distinguish from the already-low persistence of people low in motivation (Förster, Liberman, & Higgins, 2005; Liberman & Förster, 2000; Marsh, Hicks, & Bink, 1998; Marsh, Hicks, & Bryan, 1999; Zeigarnik, 1927).

Method

Participants. Forty-six undergraduate students (9 male, 37 female; average age 21.1 years) participated in this study. They were recruited by the teaching assistants for their courses (Social Psychology, Interpersonal Relationships), who requested volunteers at the beginning of lecture and posted the study website url on the overhead projector. Students participated on a volunteer basis, receiving no compensation. All participants agreed to complete an initial set of questionnaires, and to complete a follow-up questionnaire after a midterm examination in the course. The sample described above excludes two participants who failed to complete the follow-up questionnaire.

Procedure. Participants first accessed a website where they could complete the initial questionnaire set, which included two of my independent variables. As a measure of justice beliefs, participants completed the Belief in Ultimate Justice (BUJ) scale (see Anderson, Kay, & Fitzsimons, in press). The scale was validated in a large sample ($N = 800$) as part of mass testing administered at the beginning of the semester. In that sample, the scale showed high internal consistency (Cronbach's $\alpha = .83$) and a .50 correlation with scores on Lipkus' (1991) Global

Belief in Just World scale, a measure of justice beliefs that has been used extensively in past research.

The BUJ scale consists of seven items rated on a seven-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*); see Appendix A for specific items. The BUJ scale showed high internal consistency (Cronbach's α = .80). I obtained scores by reverse-scoring the two items worded in the direction of weak beliefs in ultimate justice, and then averaging scores from all seven items.

Participants subsequently answered questions about their demographic characteristics, including a question about their socio-economic status (SES). Because I was interested in the psychological effects of participants' sense of their membership in advantaged (high social status) or disadvantaged (low social status) groups, I used a subjective indicator of SES, as opposed to the objective indicators, such as family income or parental educational achievement. Subjective indicators have been used successfully by other researchers (Kraus, Piff, & Keltner, 2009; Singh-Manoux, Marmot, & Adler, 2005); but more importantly my theoretical reasoning emphasizes people's perceptions that they belong to a disadvantaged group, which is better captured by subjective SES than by objective measures of SES. Participants rated the following item: "If you had to position yourself on a scale of socioeconomic status (SES), where would you place yourself?" They did so using a seven-point scale ranging from "extremely low SES" to "extremely high SES". In a separate sample of 72 participants, I found that responses on the subjective SES measure were positively correlated with annual family income (rated on a six-point scale ranging from 1 [*below $25,000*] to 6 [*above $125,000*], r = .70, $p < .001$, mother's occupational prestige, r = .29, $p < .02$, and father's occupational prestige (both prestige measures taken from Barratt, 2006; see Appendix B), r = .35 $p < .004$.

Approximately one week after participants completed the initial measures, and after they received their grade on a class midterm, they completed a follow-up online questionnaire assessing the third independent variable (perceived performance on the midterm), as well as the dependent variable (commitment to performing well on the next midterm). Participants first rated three items measuring their perceived performance on the midterm. I measured performance as a subjective perception, rather than use participants' actual grades, because the experience of success or failure depends on whether the individual meets his or her own standards or expectations. To some students, a grade of seventy percent might represent significant success, whereas to others, that same grade represents utter failure.

Participants first used a five-point scale to complete the following statement: "Was your grade…" The points on the scale ranged from "much lower than expected" to "much higher than expected." They then used two scales to indicate how happy they were with their grade and how satisfied they were with their grade, using seven-point scales ranging from "extremely unhappy / dissatisfied" to "extremely happy / satisfied." I standardized all three of participants' ratings to make the different scales comparable, and combined them into a single index of perceived performance, producing a measure with high internal consistency (Cronbach's $\alpha = .89$).

Participants also rated three items assessing their commitment to perform well on the next midterm. Specifically, participants used a seven-point scale ranging from 1 (*not at all*) to 7 (*extremely*) to respond to the following items: "Please rate the extent to which you plan to work hard to do well on the next midterm," "Please rate how important it is to you to do well on the next midterm," and "Please rate your willingness to make sacrifices in order to do well on the next midterm." Items were averaged into a single index of commitment, producing a measure with high internal consistency (Cronbach's $\alpha = .91$).

Results

Means, standard deviations and intercorrelations of the independent variables are presented in Table 1[2].

Table 1

Means, standard deviations, and intercorrelations of independent variables (Study 1)

	Descriptives		Correlations	
	Mean	(SD)	SES	BUJ
Socioeconomic status (SES)	4.35	(1.06)	-	-
Belief in Ultimate Justice (BUJ)	4.43	(0.98)	.15	-
Perceived performance	0.00	(0.94)	-.07	-.14

$^t p < .10$ $* p < .05 ** p < .01$

To test my prediction that intentions to persist would be related to justice beliefs for those low (but not high) in SES, I regressed participants' commitment to perform well on the next midterm on centered scores for subjective SES, BUJ, perceived performance, as well as all possible interactions (see Table 2). I used the Aiken and West (1991) method to examine all interactions.

Table 2

Unstandardized regression coefficients for predictors of participants' commitment (Study 1)

Predictor	Unstandardized Coefficient (*B*)	SE	Conf. Int. (95%)	t^a	p-value
Subjective SES	0.05	0.15	(-0.27, 0.36)	0.29	.77
Perceived performance	-0.13	0.15	(-0.44, 0.18)	0.85	.40
BUJ	0.13	0.14	(-0.31, 0.56)	0.58	.57
SES X performance	-0.24	0.18	(-0.61, 0.12)	1.34	.19
SES X BUJ	-0.37	0.28	(-0.94, 0.20)	1.32	.19
Performance X BUJ	-0.33	0.24	(-0.81, 0.15)	1.39	.17
SES X performance X BUJ	**0.59**	**0.31**	**(-0.03, 1.21)**	**1.94**	**.06**

[a] The degrees of freedom are 38.

[2] Note that in this study, as in all subsequent studies, the standard deviations of all variables are quite similar between social groups, and that if anything, there is a slight trend toward *more* variability among members of advantaged groups. Thus, a weaker relationship between fairness beliefs and motivation among members of advantaged groups, compared to members of disadvantaged groups, cannot be explained by insufficient variability among members of advantaged groups.

Although the three-way interaction was only marginally significant, $\beta = .49$, $t(38) = 1.98$, $p = .06$, the pattern of data largely supported my predictions. Among participants who felt they had done poorly on the test, justice beliefs positively predicted commitment for participants low in subjective SES, $B = 1.33$, $t(38) = 2.21$, $p < .04$, but not for participants *high* in subjective SES, $B = -.75$, $t(38) = 1.52$, $p = .14$ (see Figure 1). The interaction between subjective SES and BUJ – attained marginal significance, $B = -0.83$, $t(38) = 1.88$, $p < .07$. A parallel analysis revealed that when participants felt they had done well on the test neither SES, justice beliefs, nor their interaction significantly predicted commitment, all Bs $< .21$, all ts$(38) < 1.07$, all ps $> .29$.

Figure 1. Relationship of participants' commitment to doing well on the second test and justice beliefs, depending on self-reported socioeconomic status (SES), only for participants who felt they had performed poorly on the first test
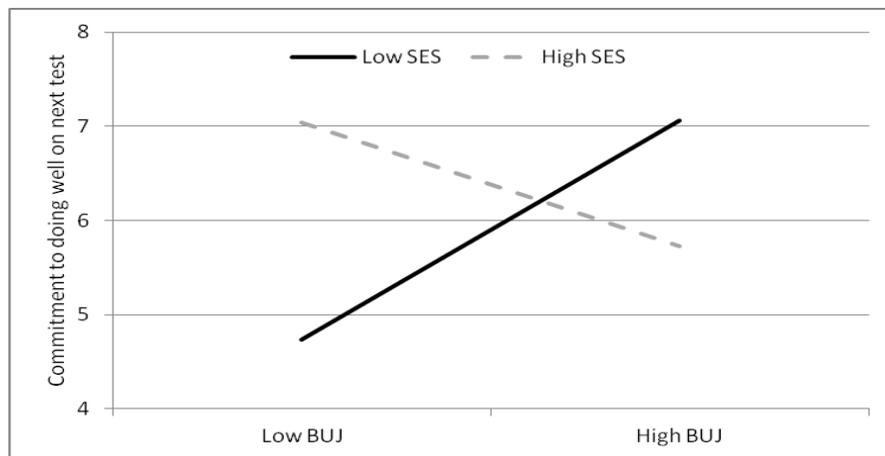
Discussion

This first study provides preliminary evidence that justice beliefs may increase the motivation to pursue long-term goals among members of socially disadvantaged groups. Among students who felt that they had performed poorly on a test, a positive relationship between justice beliefs and commitment to performing well in the future was observed, but only among those who perceived themselves as belonging to a low-SES group. Attesting to the everyday relevance

of this phenomenon, these results were found using participants' impressions and intentions regarding real university courses.

Some features of Study 1 limit the conclusions that can be drawn from its findings. First, although the most critical predicted effect, demonstrating the influence of justice beliefs on the motivation of low SES participants, reached conventional levels of significance, the predicted interaction effects were only marginally significant. Second, since this study tested participants' reactions to real world successes and failures there was a lack of the experimental control that is needed to draw conclusions about causal influences. And finally, although I did predict that the relation between justice beliefs and goal pursuit would be strongest among participants who reported low SES, I expected it would still be present, albeit significantly weaker, among participants who reported high SES. Contrary to this expectation, these latter participants' justice beliefs did not predict their persistence following poor performance. Given that Study 1 employed just one of many possible measures of justice beliefs, disadvantaged group membership, and motivation to pursue long-term goals, conclusions about this null effect, and the other effects in Study 1, require replication with other measures and greater experimental control. The next studies overcome these limitations by including more diverse operationalizations of the critical variables (Studies 2 through 7) and experimentally manipulating justice beliefs to test their causal relations (Studies 3, 4, 6 and 7).

CHAPTER 3: Socioeconomic status, justice beliefs and willingness to invest effort

In Study 1, I found that the belief that the world is just – that is, a place in which people get what they deserve and deserve what they get – is positively associated with the motivation to pursue long-term goals, and that this is particularly true for members of disadvantaged groups. In Study 2 I sought to test the generalizability of this finding by using different measures of justice beliefs and motivation to pursue long-term goals.

Specifically, rather than examining participants' persistence in the face of poor performance as in Study 1, Study 2 investigated participants' willingness to invest resources in pursuit of desirable long-term outcomes. Willingness to commit resources of time and energy to achieve a given end-state is a particularly relevant measure of motivation to pursue long-term goals. People find many end-states to be very desirable, but not everyone is equally willing or able to put in sufficient effort over time to achieve them. For example, many people may desire to look attractive in a swimsuit at the beach. However, not all of these individuals are motivated enough to expend the necessary effort – to eat fewer unhealthy foods and spend more time at the gym – to obtain this desired outcome. The same is true of career goals. If everyone could stroll into the nearest hospital and become a highly-paid surgeon tomorrow, without the grueling years of medical school, many more people would wield the scalpel. Thus, assessing people's willingness to invest resources in pursuit of a goal offers a better sense of their motivation to achieve that goal than simply asking them to rate the desirability of the goal outcome (Atkinson, 1957). Much as purchase intentions are seen as a closer predictor of actually owning a given product than are product evaluations (Armitage & Conner, 2001; Godin & Kok, 1996; Li & Petrick, 2008), people's willingness to put in the required time, effort and material resources

over time to achieve a goal, as opposed to their evaluation of the goal's end-state, provides a closer estimate of their motivation.

Thus, in Study 2, I measured participants' willingness to engage in the behaviors necessary to achieve various career goals. I first asked participants to rate their interest in a number of careers given the years of schooling and training required to obtain each career. I expected that participants' answers would reflect two factors: Both (i) their willingness to invest resources in long-term goal pursuits, and (ii) the value they place on the specific rewarding careers themselves. For example, the response of a participant who indicated that she was not very interested in investing effort towards the goal of becoming a lawyer might reflect her general unwillingness to invest resources in pursuit of long-term goals, or it might also reflect her lack of specific interest in the law profession. Only the first factor is relevant to my hypotheses. To isolate this factor, I included another item, designed to purely measure the second factor – participants' preferences for the specific careers. This item asked participants to rate how interested they would be in each of the careers if they could begin immediately, with no need to invest the time and energy usually required to attain the positions. By statistically partialling out participants' interest in the specific rewarding careers, I was left with only their willingness to invest resources – a measure of motivation uncontaminated by idiosyncratic differences in preferences for specific careers.

Participants in Study 2 completed this career interest measure immediately following a measure of chronic justice beliefs. Participants also completed a demographics questionnaire that measured SES. I predict that a strong positive relationship between justice beliefs and motivation to pursue long-term goals should emerge for low SES participants, and that a weaker relationship should emerge for high SES participants. However, given the results from Study 1, I was alert to

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the possibility that this relationship would be not just weaker but absent among high SES participants.

Method

Participants. One hundred and eleven undergraduates (52 male, 59 female; mean age 19.7 years) participated in this study in exchange for course credit.

Procedure. Participants completed the study online by answering a survey containing questions about participants' subjective SES, their justice beliefs, and their motivation to pursue long-term goals. The same subjective socioeconomic status item used in Study 1 served as the group membership measure, and was among other demographics items. Next, Lipkus' (1991) eight-item Global Belief in a Just World (BJW) scale assessed participants' justice beliefs, a more widely-known measure than the one used in Study 1. This scale consists of eight items (Cronbach's α = .90) rated on a six-point scale ranging from 1 (*strong disagreement*) to 6 (*strong agreement*). Sample items are "I feel that people get what they deserve" and "I feel that people who meet with misfortune have brought it on themselves".

After completing the BJW scale, participants completed the career interest measure, which assessed their willingness to invest resources in long-term goals. Participants saw a list of four professions (lawyer, stockbroker, politician, and company president), that pilot testing[3]

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[3]A separate sample of 45 participants was given a list of fifty professions, selected at random from those listed at http://online.onetcenter.org/, a popular job search website. Professions with which I thought my undergraduate participants would be completely unfamiliar (e.g., extruding and forming machine setter, control and valve installer and repairer, slot key person, etc.) were excluded in advance, leaving a list of 50 professions which I thought most students would recognize. Participants selected the professions they thought were desirable and highly-regarded by others. We selected the professions used in the dependent measure from the top 20th percentile of participants' ratings; at least 60% of participants had selected each one as desirable and highly-regarded.

suggested were desirable and well-regarded. Participants rated their interest in completing the

years of schooling typically required to practice each profession, and also rated their interest in

pursuing each profession assuming they could start the next day, with no training required. The

order of these two sets of questions was counterbalanced: Half of the participants first rated their

interest in the professions assuming they could start the next day, while the other half first rated

them taking into account the necessary schooling. Question order had no effect on results in this

or subsequent studies, and is therefore not discussed further. To form the dependent measure, I

partialled out participants' ratings of their interest in each career from their ratings of their

interest in investing efforts in order to achieve that particular career. Specifically, I used multiple

regression to compute the unstandardized residuals, and then averaged these residuals across

careers[4]. This measure yielded an internal consistent measure of participants generalized

willingness to invest resources in pursuit of long-term goals (Cronbach's α = .72).

Results

Means, standard deviations, and intercorrelations between the independent variables are

presented in Table 3.

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[4] I also conducted analyses using other statistical procedures aiming to remove the influence of participants'

interest in the particular careers we chose from their interest in investing resources in order to attain them. For

instance, in one analysis I used participants' interest in investing resources averaged across careers as the dependent

measure, and conducted my analyses with their interest in the careers themselves, also averaged across careers,

entered as a covariate. In another analysis I computed a difference score (interest in investing resources minus

interest in the careers themselves, averaged across careers) to serve as the dependent measure. In all cases, results

were very similar. I chose to report the analyses using residualized scores, because it is the only method that allows

me to report both an appropriate index of reliability and adjusted means that are readily interpretable.

Table 3

Means, standard deviations, and intercorrelations of independent variables (Study 2)

| | Descriptives | | Correlation |
	Mean	(SD)	SES
Socioeconomic status (SES)	4.24	(0.78)	-
Belief in Just World (BJW)	3.48	(0.92)	.02

[t] $p < .10$ * $p < .05$** $p < .01$

I predicted that participants' motivation to invest resources towards long-term goals

would be greater to the extent that they believed in justice, and that this relationship would be

especially strong among participants who reported lower SES. To test this prediction, I used

multiple regression, with centered scores for subjective SES and BJW, as well as the two-way

interaction, predicting willingness to invest resources in long-term goals (See Table 4). I

predicted that a significant interaction would emerge[5].

Table 4

Unstandardized regression coefficients for predictors of participants' motivation (Study 2)

Predictor	Unstandardized Coefficient (*B*)	SE	Conf. Int. (95%)	t[a]	p-value
Subjective SES	-0.01	0.11	(-0.22, 0.21)	0.06	.44
BJW	0.23	0.10	(0.03, 0.42)	2.27	.03
SES X BJW	-0.29	0.13	(-0.54, -0.04)	2.27	.03

[a] The degrees of freedom are 38.

This analysis revealed a main effect of BJW, such that overall, the more participants

believed in societal justice, the greater their motivation, $\beta = .23$, $t(107) = 2.27$, $p < .03$. However,

consistent with my prediction, this main effect was completely qualified by a significant

interaction between BJW and SES, $\beta = -.23$, $t(107) = 2.27$, $p < .03$ (see Figure 2). I probed this

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[5] For this study and all subsequent studies, for ease of presentation, I converted the within-cell means,

which reflected an average of residualized scores, back into adjusted means. I did this by adding to each cell mean

the interest in investing resources predicted by the mean level of interest in the careers themselves, as indicated by

the regression equations obtained during the calculation of the dependent measure. The number obtained thus

reflects, for each cell, the average rating of interest participants reported in investing resources in the desirable

careers, adjusted for their interest in the careers themselves.

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interaction by comparing the simple slopes relating justice beliefs to willingness to invest resources in long-term goals among higher and lower SES participants, where higher and lower SES were defined as being one standard deviation above and below the mean, respectively. As expected, among participants low in SES, BJW scores strongly predicted willingness to invest resources in long-term goals, $\beta = .47$, $t(107) = 2.71$, $p < .01$. Among participants high in SES, however, this relationship did not emerge, $\beta = .00$, $t(107) < 1$, *ns*. Consistent with my hypothesis, lower SES students' motivation was stronger to the extent that they believed in the general justice of society. In contrast, as in Study 1, this relationship was absent among higher SES students.

Figure 2. Relationship of participants' willingness to invest effort in long-term goals and justice beliefs, depending on self-reported socioeconomic status (SES)
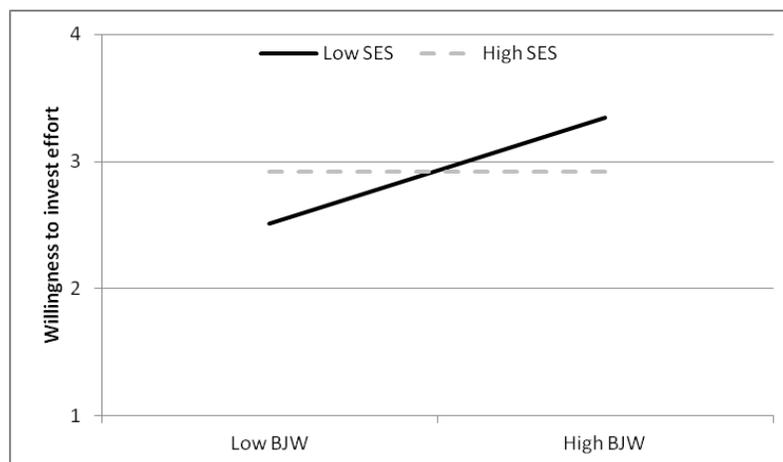
Discussion

Study 2 provides a conceptual replication of Study 1. People who viewed themselves as low SES reported more willingness to invest resources in their long-term goals to the extent that they believed that the world is just. This relationship was absent among people who viewed themselves as high SES. Study 2 also involved a different measure of motivation to pursue long-term goals (willingness to invest resources), which speaks to the generalizability of the effect.

It is surprising, given the strong theoretical precedent for thinking that justice beliefs motivate long-term goal pursuit, that I have twice found socially advantaged groups to be unconcerned with societal justice when considering how much to invest in their long-term goals. I predicted advantaged groups to show a weaker relationship between justice beliefs and goal pursuit, but not necessarily no relationship. However, it may be the relatively abstract notion of *societal* injustice, which is not attached to any particular domain or individual, which members of advantaged groups fail to consider in the context of goal pursuit, because societal injustice may not appear to them to be personally relevant. There may be other ways to describe injustice that might be seen by these individuals as more relevant – either by emphasizing that injustice is likely to affect them, or by making the injustice relevant to their specific goals – which might then influence their motivation. In any case, I note that motivating goal pursuit is but one of a number of functions fulfilled by justice beliefs (e.g., see Dalbert, 2002; Lind & Tyler, 1988; van den Bos & Lind, 2002; van Prooijen, 2009). So in no way should my results be interpreted as indicating that members of advantaged groups have no motivation to care about societal injustice.

CHAPTER 4: Ethnic status, induced justice beliefs and willingness to invest effort

In two studies, I found consistent evidence that for members of disadvantaged groups, beliefs in societal justice are positively associated with the motivation to pursue long-term goals. In Studies 3 and 4, I studied a different type of disadvantaged group. I suggest that members of any socially disadvantaged group should more readily draw personal implications from their beliefs about societal justice, and therefore should be especially attuned to justice beliefs when planning goal directed behavior. Most social groups possess a variety of features that can distinguish them from the rest of the population (Betancourt & Lopez, 1993; Snibbe & Markus, 2005). My use of pre-existing socioeconomic status as a marker of disadvantage is thus both a strength and a weakness. The resulting applicability of my findings to the real world constitutes a strength of this strategy. However, low SES individuals possess a number of unique characteristics beyond social disadvantage, and any one of those features could have been the crucial moderator of the justice-motivation link. I believe that low SES participants calibrated their motivation to their justice beliefs because their group is chronically disadvantaged. But I cannot rule out the possibility that the crucial moderator is some other distinguishing characteristic of individuals with low SES; for example political orientation, religious beliefs, or cultural values.

To address these alternative explanations, I sought to test the generalization of this effect beyond socioeconomic measures of group membership. To this end, Studies 3 and 4 examined the moderating role of ethnic minority status. Members of ethnic minority groups may differ from individuals with low socioeconomic status in a number of important ways; nonetheless, one feature common to both types of individuals is membership in a group which is socially disadvantaged. Thus, if ethnic minority group members show the same tendency as individuals

with low SES to calibrate their long-term goal motivation to their justice beliefs, I can be increasingly confident that the conceptually important variable is indeed membership in a disadvantaged group.

In Studies 3 and 4, I also used an experimental paradigm, which would allow me to explore the causal nature of the relationship between societal justice beliefs and long-term goal motivation. By manipulating justice beliefs and assessing the effects on the motivation to pursue long-term goals, I can ensure that the correlational effects I uncovered in Studies 1 and 2 could not be completely accounted for by alternatives to my hypothesis. Participants in Study 3 first read either a justice passage (describing that justice in Canada is improving) or a control passage (describing that living conditions for a rare animal species were improving). They then completed a brief demographics form, which included the critical question about ethnicity, and then finally they completed the same career interest measure employed in Study 2. I predicted that ethnic minority participants who read the justice passage would be more willing to invest resources in pursuit of a desirable, well-regarded profession. For ethnic majority participants, although my initial hypothesis predicted a significant but weaker effect of justice beliefs on willingness to invest effort in long-term goals, in light of results from Studies 1 and 2, it seemed likely that this effect would be absent for ethnic majority participants.

Method

Participants. Seventy-four undergraduates (29 male, 44 female, 1 gender unspecified; $M_{age} = 21.0$ years) participated in this study. They volunteered to participate in exchange for course credit. Forty-seven participants belonged to the ethnic majority (defined as European-

Canadian) and 27 belonged to ethnic minority groups (2 Arabic, 1 Hispanic, 14 East Asian, 1 Hispanic, and 8 South Asian).[6]

Procedure. Participants were led to believe that the purpose of the study was to examine the attention students pay to current events. Participants completed the study online, where they first read an article, ostensibly taken from a major daily newspaper, which constituted my manipulation of justice beliefs[7]. Half of the participants – those in the justice condition – read an article that described improving conditions of justice in their country. The other half – those in the control condition - read an article that also had a positive and optimistic message, but which was irrelevant to justice. Specifically, they read about improving conditions for a rare species of tree frog (See Appendix C for the text of both articles.) In keeping with the cover story about the purpose of the study all participants then answered some reading comprehension questions about the current events story that they read.

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[6]Reflecting the typical composition of my university's undergraduate population, the ethnic minority category in this study and in Study 4 was highly diverse, including students from a number of different backgrounds, but predominately South and East Asian. Nation-level data indicates that Asian ethnic groups are indeed not only historically but currently disadvantaged groups in Canada (NARCC, 2007).

[7] A separate sample of 33 participants read one of the two articles, and completed two measures relating to their beliefs in societal justice. These measures included a) Kay and Jost's (2003) eight-item system satisfaction measure (sample item: Society is set up so that people usually get what they deserve; response provided on a 7-point scale ranging from 1 [*strongly disagree*] to 7 [*strongly agree*]), and b) a one-item measure of societal justice beliefs ("how optimistic are you about the future of fairness in Canada?"; response provided on a 7-point scale ranging from 1 [*not at all optimistic*] to 7 [*extremely optimistic*]). On both of these measures, participants who read the justice article reported stronger fairness beliefs than participants who read the control article (system satisfaction: $M_{justice\ article} = 5.64$, $SD_{justice\ article} = 1.40$; $M_{control\ article} = 4.54$, $SD_{control\ article} = 1.14$; $t(31) = 2.44$, $p = .02$; one-item measure: $M_{justice\ article} = 4.78$, $SD_{justice\ article} = 1.22$; $M_{control\ article} = 3.73$, $SD_{control\ article} = 1.53$; $t(31) = 2.18$, $p = .04$).

Following the manipulation, participants completed a demographics questionnaire, which included an open-ended question about their ethnicity ("What is your ethnicity?"). I used responses to categorize participants into socially advantaged (i.e., ethnic majority, defined as European-Canadian) and socially disadvantaged (ethnic minority). The experimenter then told participants we wanted to see how various personal characteristics might influence their attention to current events, and asked them to complete the career interest measure, which assessed their willingness to invest resources in long-term goals, with scores computed in the same way as in Study 2 (Cronbach's α = .74).

Results

I predicted that ethnic minority participants would report higher willingness to invest resources in long-term goals when they were exposed to the justice passage as compared to the control passage. In contrast, on the strength of the results from Studies 1 and 2, I predicted that this relationship would not appear among ethnic majority participants. To test these predictions, I submitted participants' scores on the computed measure of willingness to invest resources to a two-way ANOVA, with condition (justice vs. control) and ethnic status (ethnic majority vs. ethnic minority) as between-subjects factors.

The analysis revealed a main effect of condition, such that overall, participants who had just read about improving societal justice showed greater motivation (adjusted M = 2.80, SD = 1.10), compared to those who had just read a control article (adjusted M = 2.41, SD = 0.72), $F(1, 70)$ = 6.12, $p < .02$, η^2_p = .08. However as illustrated in Figure 3 the predicted interaction qualified this effect, $F(1, 70)$ = 6.25, $p < .02$, η^2_p = .08. Ethnic majority participants were virtually unaffected by the manipulation, $F(1, 70) < 1$, ns, with those in the justice condition being just as willing to invest in long-term goals (adjusted M = 2.45, SD = 0.91) as those in the

control condition (adjusted $M = 2.45$, $SD = 0.70$). In contrast, ethnic minority participants

showed greater willingness to invest in long-term goals in the justice passage condition (adjusted

$M_{justice} = 3.36$, $SD_{justice} = 1.07$) than in the control condition (adjusted $M_{control} = 2.25$, $SD_{control} =$

0.74), $F(1, 70) = 9.79$, $p < .003$, $d = 1.21$. Viewed from another angle, in the control condition

ethnic majority and minority participants showed a similar degree of willingness to invest in

long-term goals, $F(1, 70) < 1$, ns, while in the justice condition, ethnic minority participants

reported greater willingness than ethnic majority participants, $F(1, 70) = 9.82$, $p < .003$, $d = 0.92$.

Figure 3. Participants' willingness to invest effort in long-term goals, depending on ethnic minority status and justice condition.
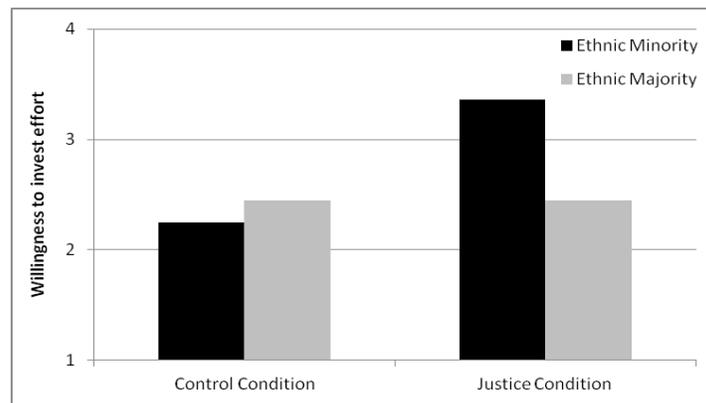
Discussion

I have hypothesized that justice beliefs function to enhance motivation to pursue long-

term goals, especially among members of socially disadvantaged groups. Study 3's experimental

design built on the findings of Studies 1 and 2 by providing evidence that justice beliefs play a

causal role in shaping motivation for members of disadvantaged groups. After reading that

Canadian society was becoming increasingly just, ethnic minority participants' motivation to

pursue long-term goals was increased (relative to reading an irrelevant control article). As in

Studies 1 and 2, advantaged (in this case, ethnic majority) participants' motivation was unrelated

to justice beliefs. Study 3 also involved a different set of social groups, which is important given

that I hypothesize that my predictions should extend to members of any disadvantaged group.

It is also worth noting that in the control condition, ethnic majority and minority participants showed a similar degree of willingness to invest in long-term goals, and that a boost to justice beliefs actually increased ethnic minority participants' motivation to a level higher than that of ethnic majority participants (this pattern of means is also observed in Study 4). Although this finding rules out the possibility that my results can be explained by a ceiling effect, whereby the justice manipulation failed to increase the motivation of advantaged group members because they are already motivated to a maximal degree, one might expect that, at baseline conditions, the motivation of ethnic minority group members would be lower than that of ethnic majority group members. My hypotheses, however, focused on the extent to which members of socially advantaged and disadvantaged groups would be differentially attuned to justice beliefs, not on absolute differences between these groups. As Biernat and her colleagues (Biernat & Manis, 1994; Biernat, Manis, & Nelson, 1991) have noted, it is problematic to compare scores between members of different groups using the type of scales I used here, because of shifting standards: The same point on a scale might have one meaning for a member of one group and another for a member of another group.

Alternatively, the main effect difference in willingness to sacrifice may be due to cultural differences between social groups. It may be the case that the members of socially disadvantaged groups in my sample were predisposed to invest effort in order to achieve long-term goals. Importantly, this cultural explanation would not account for my main finding, whereby members of socially disadvantaged groups were more sensitive to justice information when making investments in their long-term goals. Thus, what is meaningful, despite shifting standards and cultural differences, is to consider how the motivation of members within the different groups varies as a function of justice beliefs, as I have done here.

CHAPTER 5: The mediating role of perceptions of personal just treatment

In Study 4, I aimed to replicate the experimentally-obtained results of Study 3 using a different manipulation, and also to directly test my hypothesized mechanism. To achieve these aims, I altered the design of Study 3 in two important ways. First, I used a more subtle priming methodology (McCoy & Major, 2007) to activate the notion of justice, instead of the direct, explicit beliefs manipulation used in Study 3. The use of such a procedure eliminates demand characteristics, and convergent results would suggest that the results from Study 3 could not be entirely explained by participants' beliefs about the experimenter's expectations regarding how they should respond to justice information.

Second, I included a potential mediating variable in Study 4. I hypothesized that members of socially disadvantaged groups are more attuned to justice information when setting goals because they are more concerned that they might personally be affected by societal injustice, as compared to members of advantaged groups. In other words, I hypothesized that the general justice beliefs of members of socially disadvantaged groups would influence their long-term goal motivation indirectly through their personal justice beliefs (see Lipkus, 1991). To add substance to this speculation, Study 4 tests whether beliefs about personal (un)just treatment mediate the link between societal justice beliefs and motivation. After the justice manipulation, participants rated three items designed to measure their beliefs about their own likelihood of unjust treatment. I expected that priming the abstract concept of justice would decrease the extent to which ethnic minority participants' believe that they are or could be treated unjustly, and that this decrease would produce greater motivation, as reflected by greater willingness to invest resources in long-term goals. I expected this effect to be absent for ethnic majority participants.

Method

Participants. Ninety-one undergraduates (24 male, 67 female; M_{age} = 18.8 years) participated in this study in exchange for course credit. Thirty-nine participants belonged to the ethnic majority (defined as European-Canadian) and 52 belonged to ethnic minority groups (6 Arabic, 3 Black, 32 East Asian, 1 Hispanic, and 10 South Asian).

Procedure. Participants completed the study online, where they first encountered a demographics questionnaire, which included an open-ended question about their ethnicity ("What is your ethnicity?"). I used responses to categorize participants as either ethnic majority or ethnic minority. Participants then completed a scrambled sentence task, which served as the priming manipulation. I used materials developed by McCoy and Major (2007) to prime what they term a *meritocratic ideology*, or the belief that outcomes are distributed justly, based on merit (e.g., "effort positive prosperity leads to," and "people are merit judge on," could respectively be unscrambled into "effort leads to prosperity," and "judge people on merit;" see Appendix D for full list of sentences). All participants read 20 sets of 5 words, and had to use 4 of the 5 words from each set to form a grammatically correct English sentence. The instructions required them to spend approximately 5 minutes on the task.

After completing the scrambled sentence task[8], participants completed a measure of personal (in)justice beliefs—that is, a measure of the extent to which they believed that they were currently, or might in the future be treated unjustly. Specifically, participants used a seven-point scale ranging from 1 (*not at all*) to 7 (*extremely*) to answer the three following questions:

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[8] A separate sample of 49 participants completed one of the two scrambled sentence tasks and then completed a one-item measure of societal justice beliefs ("How optimistic are you about the future of fairness in Canada?"). Participants who completed the justice version of the task reported stronger justice beliefs (M = 5.35, SD = 0.79) than participants who completed the control version of the task (M = 4.75, SD = 0.95); $t(47)$ = 2.24, p = .03).

"How likely do you think it is that you will suffer negative consequences due to unfairness at some point in your life?" and "To what extent do you feel that people like you are treated differently than they would be in a perfectly fair world?". Participants' responses to these questions were averaged together to form a single index of their beliefs about personal unjust treatment, $r = .54$; and I reverse-scored the index into a measure of beliefs about personal just treatment, for ease of presentation. Finally, participants completed the same career interest measure, and an index of general willingness to invest resources in long-term goals was computed in the same way, as in Studies 2 and 3 (Cronbach's $\alpha = .70$).

Results

  Replicating Study 3. I predicted that ethnic minority participants would report more willingness to invest effort in long-term goals after the justice prime than after the control prime, but, based on the balance of results from Studies 1 through 3, that this relationship would not appear among ethnic majority participants. To test this prediction, I subjected participants' computed scores of general willingness to invest resources in long-term goals to a two-way ANOVA, with priming condition (justice prime vs. no prime) and ethnic status (ethnic majority vs. ethnic minority) as between-subject factors.

  The only significant effect to emerge from this analysis was the predicted interaction between priming condition and ethnicity, $F(1, 87) = 7.68$, $p < .01$, $\eta^2_p = .08$. Ethnic majority participants did not show a reliable effect of the manipulation; indeed, their responses revealed a marginally significant pattern in the opposite direction, such that they showed *less* willingness to invest when justice was primed (adjusted $M = 2.76$, $SD = 0.68$) than when justice was not primed (adjusted $M = 3.08$, $SD = 0.87$) $F(1, 87) = 3.49$, $p < .07$, $d = 0.41$. In contrast, as predicted, ethnic minority participants showed more willingness to invest when justice was primed (adjusted $M =$

3.54, $SD = 0.72$) than when justice was not primed (adjusted $M = 3.04$, $SD = 0.75$), $F(1, 87) = 4.33$, $p = .04$, $d = 0.68$.

Mediational analysis. I also predicted that the extent to which ethnic minority participants thought they were or could be in the future treated unjustly would mediate the effects of the justice prime on their willingness to invest effort in long-term goals. More precisely, my prediction corresponds to a moderated mediation model, where the link between justice condition (the independent variable) and beliefs about personal just treatment (the mediator) is moderated by participants' ethnic status.

I tested this multiple regression using the procedure recommended by Preacher, Rucker and Hayes (2007), and their MODMED (Model 2) syntax. I first conducted a regression using condition (0 = control; 1 = justice), ethnic status (0 = ethnic minority; 1 = ethnic majority), and their interaction to predict beliefs about personal unjust treatment. Consistent with my predictions, the interaction (marginally) significantly predicted beliefs about unjust treatment, $B = -0.82$, $SE = 0.47$, $t(87) = 1.76$, $p = .08$. The sign of this interaction suggests that, as predicted the justice condition increased beliefs about personal just treatment to a greater extent for ethnic minority participants, relative to ethnic majority participants. A second regression then used the same predictors plus beliefs about personal just treatment (centered) to predict motivation. In this analysis, the condition X ethnic status interaction (which had a significant effect on motivation in the ANOVA described above) emerged as only marginal, $B = -0.94$, $SE = 0.56$, $t(86) = 1.68$, $p = .10$, and beliefs about personal just treatment positively predicted motivation, $B = 0.24$, $SE = 0.13$, $t(86) = 1.90$, $p = .05$.

To summarize, ethnic status moderated the effect of condition on beliefs about personal just treatment, and including the latter variable as a mediator in the model appeared to reduce the

direct effect of the condition X ethnic status interaction on motivation. The combination of these two findings confirms my prediction of moderated mediation. The indirect effect of condition on motivation (through beliefs about personal just treatment) among ethnic minority participants was significant, $CI(95) = [0.005, 0.48]$, but not significant for ethnic majority participants, $CI(95) = [-0.19, 0.10]$. The results of this meditational analysis for ethnic minority participants are displayed in Figure 4. Thus, beliefs about personal unjust treatment mediated the effect of priming condition on ethnic minorities' motivation to achieve rewarding careers.

Figure 4. Mediation model showing the direct effect of a justice prime on willingness to invest effort in long-term goals, and its indirect effect through beliefs about personal just treatment (ethnic minority participants only).
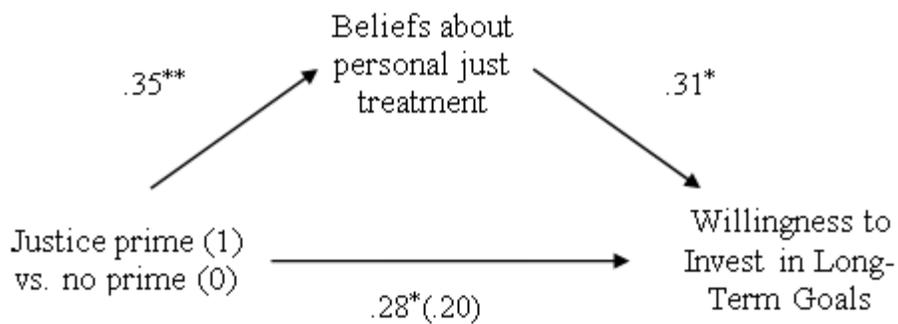
Discussion

Study 4 replicated the effect found across the first three studies using a subtle manipulation of justice beliefs: Priming the abstract concept of justice using a scrambled sentence methodology led ethnic minority (but not ethnic majority) participants to express an increased willingness to invest resources in their long-term goals. In addition, a mediational analysis tested the mechanism of this effect, and found that the justice prime decreased ethnic minority participants' beliefs that they were and would continue to be treated unjustly, which in turn led to greater willingness to invest efforts in long-term goals. In contrast, this effect was not reproduced among ethnic majority participants. Importantly, a manipulation check conducted by

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McCoy and Major (2007) demonstrated that the priming manipulation I used was effective in influencing ethnic majority participants' beliefs about *societal* injustice. Thus, my results are unlikely to have emerged because these ethnic majority participants were simply insensitive to the priming manipulation: Like ethnic minority participants, they felt that society was more just following the prime (McCoy & Major, 2007). Unlike ethnic minority participants, however, in the present study ethnic majority participants' beliefs about their own personal just treatment were unaffected by the prime. Taken together, these results suggest there is a disconnect between advantaged group members' beliefs about societal injustice and their beliefs about their own personal outcomes.

I predicted and found that the more members of disadvantaged groups believe in societal justice, the more they believe in their own personal just treatment, and thus the more motivated they are to pursue long-term goals. In contrast, neither previously-held beliefs about societal justice (Studies 1 and 2), nor manipulations which increased them (Studies 3 and 4) had any bearing on the motivation of members of advantaged groups. But what of the beliefs that these individuals hold about their own personal just treatment? A regression analysis revealed no evidence that ethnic majority members' beliefs about personal just treatment predicted their motivation, $\beta = .06$, $t(35) < 1$, *ns*. As mentioned in the discussion of Study 2, this may be due to the general nature of my just treatment items. These items concerned just and unjust treatment in the abstract, with no reference to a specific context. It may be that members of advantaged groups only view justice information as relevant to their goal pursuit if the justice information is tied to the specific goal in question. In other words, it may be that members of advantaged groups only view justice information if it is made directly relevant both to them and to their specific goal pursuits. If this were true, then had I measured beliefs about personal just treatment

in career domains, I might have found that this measure predicted career motivation even among members of the ethnic majority.

Unexpectedly, the justice prime marginally impacted the motivation of members of ethnic majority participants in the reverse direction. It is possible that members of advantaged groups see desired outcomes as *more* attainable in an unjust world, because they know that injustice might prevent some qualified others from competing with them for these outcomes. However, given the inconsistency of this effect – it attained only marginal significance, and in only one out of four studies thus far – I am not confident that this is a meaningful result.

CHAPTER 6: A global perspective: Archival data from the World Values Survey

In Study 5, I used data from the World Values Survey to test my main hypothesis in a sample that spans the globe. Because, on average, the university students in my previous studies might be expected to be more advantaged than the average citizen, and because ethnic minority or low SES university students may differ in a number of ways from members of other disadvantaged groups, it is important to test my hypotheses with a broader sample. Thus, in Study 5, I aim to conceptually replicate the findings from the earlier studies in a broad sample with different operationalizations of justice beliefs and investment in goals. In addition, because of the rich information about respondents available in the WVS, using this data set allows me to control for various factors that could potentially be confounded with membership in a disadvantaged group or with the motivation to pursue long-term goals. For example, these data allow me to better isolate disadvantage from other associated variables, such as group differences in political views or religious beliefs.

The WVS contains a wealth of items that could potentially be relevant to either justice beliefs, disadvantaged group membership, and the motivation to pursue long-term goals. In the analyses I report, I focus on the available items that most closely match the conceptualizations of the three variables used in the present research. To measure justice beliefs, I used items that assess individuals' belief in meritocratic justice, or the notion that hard work is rewarded with success. To measure membership in disadvantaged groups, I used two different items. First, I used a subjective item asking respondents to identify their social class. Second, I used respondents' ethnicity. Because certain ethnicities might be advantaged in some parts of the world but disadvantaged in others, I restricted this latter analysis to citizens of nations where Caucasians formed the largest ethnic group. In such nations, the Caucasian group is typically

relatively advantaged, whereas the non-Caucasian groups are typically relatively disadvantaged. To measure motivation to pursue long-term goals, I used items that assessed individuals' prioritization of hard work, over other activities such as leisure. Indeed, willingness to sacrifice relaxation and enjoyment is considered a necessary component of long-term goal pursuit and a hallmark feature of self-regulation (Atkinson, 1957; Bargh et al., 2001; Fishbach, Friedman, & Kruglanski, 2003). I chose to assess work motivation because it seems most clearly linked with meritocratic justice, compared with other common domains of motivation (like health and relationships), which may be less obviously related to societal justice.

I predicted that self-reported social class would moderate the relation between justice beliefs and motivation, such that those lower in social class would most strongly calibrate their effort investment to their beliefs in societal justice. I also predicted that ethnic status would moderate the relation between justice beliefs and motivation, such that non-Caucasian minority respondents would most strongly calibrate their effort investment to their beliefs in societal justice, compared to Caucasian majority respondents. I also predicted that both patterns of moderation would hold when controlling for other individual difference variables that could covary with my variables of interest. Finally, because in this study I had a large sample and measures of both social class and ethnicity, I was able to test whether the effects of each were independent of each other. Because ethnic minorities tend to have lower socioeconomic status than ethnic majorities, it could be that the results of Studies 3 and 4 occurred as a result of the lower SES of ethnic minorities in the sample, or, conversely, it could be that the results of Studies 1 and 2 occurred because many of the students who reported lower SES were ethnic minorities. To test whether both social class and ethnic status independently moderate the justice beliefs – motivation link, I examined the moderating role of social class separately among both

ethnic minority and ethnic majority groups, and the moderating role of ethnic status separately at all levels of social class.

Method

Data for this study came from the second wave of the World Values Survey. These surveys were conducted by face-to-face interviews between 1994 and 1999, and the samples are designed to be approximately representative of the relevant country's populations (see Inglehart et al., 2004, for a more detailed description of datasets typical of this survey). I present results from this particular wave because it was the only wave that contained all the items relevant to my hypothesis.

Participants. The variables that were relevant to the present study (described below) were available for 53,394 individuals from 49 countries[9]. Their mean age was 40.9 years (range = 15 to 95); see Table 5 for all other demographics.

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[9]Specifically, the sample consisted of participants from the following countries (stars represent countries where Caucasians represented the largest ethnic group in the sample): Albania ($N = 820$), Argentina* ($N = 840$), Armenia ($N = 1629$), Australia* ($N = 1635$), Azerbaijan ($N = 1522$), Bangladesh ($N = 1299$), Belarus ($N = 1662$), Bosnia and Herzegovina ($N = 983$), Brazil* ($N = 1090$), Bulgaria* ($N = 702$), Chile* ($N = 897$), China ($N = 1176$), Croatia ($N = 895$), Czech Republic ($N = 915$), Dominican republic ($N = 377$), Estonia ($N = 871$), Finland* ($N = 724$), Georgia* ($N = 1734$), Germany* ($N = 1321$), Hungary ($N = 538$), India ($N = 1462$), Japan ($N = 611$), Latvia ($N = 964$), Lithuania ($N = 821$), Macedonia ($N = 733$), Mexico ($N = 1925$), Moldova ($N = 898$), New Zealand ($N = 714$), Nigeria ($N = 1546$), Norway ($N = 916$), Pakistan ($N = 434$), Peru ($N = 1005$), Philippines ($N = 1150$), Poland* ($N = 760$), Puerto Rico ($N = 1050$), Romania* ($N = 978$), Russian Federation ($N = 1607$), Serbia and Montenegro ($N = 1266$), Slovakia ($N = 943$), Slovenia* ($N = 791$), South Africa* ($N = 2279$), Spain* ($N = 921$), Sweden* ($N = 661$), Taiwan ($N = 644$), Turkey ($N = 1668$), Ukraine* ($N = 2081$), United States* ($N = 1120$), Uruguay* ($N = 838$), Venezuela ($N = 978$).

Table 5

Demographics for the World Values Survey sample (Study 5)

		N	%
Gender	Female	27,253	51.0
	Male	26,086	48.9
Ethnicity	Arabic	4,017	7.5
	Black	4,384	8.2
	Caucasian	19,060	35.7
	East Asian	1,249	2.3
	South Asian	1,868	3.5
	Southeast Asian	1,141	2.1
	Mixed ethnicity	1,231	2.3
	Other	1,819	3.4
	(Not specified)	(18,625)	(34.9)
Social class	Lower	6,213	11.6
	Working	16,234	30.5
	Lower middle	20,967	39.3
	Upper middle	8,999	16.9
	Upper	931	1.7
Highest level of education	Incomplete elementary	4,432	8.3
	Complete elementary	7,342	13.8
	Incomplete secondary	9,350	17.5
	Complete secondary	18,988	35.6
	Some university	3,568	6.7
	University with degree	7,918	14.8
	(Not specified)	(1,796)	(3.4)
Current employment status	Full-time	19,637	36.8
	Part-time	3,888	7.3
	Self-employed	4,509	8.4
	Retired	7,479	14.0
	Homemaker	5,838	10.9
	Student	3,366	6.3
	Unemployed	4,639	8.7
	Other	1,053	2.0
	(Not specified)	(2,985)	(5.6)

Summary of procedure. In the WVS, I found items that allowed me to compute indices for my independent variables (societal justice beliefs, social class, and ethnic status), my dependent variable (motivation to pursue long-term goals), and a series of control variables. I used these variables to conduct two different sets of tests. First, I tested the hypothesis that social class would moderate the relation between justice beliefs and motivation, and verified that the pattern of moderation held up even when I included the control variables, and among members of both Caucasian majority and non-Caucasian minority groups. Then, I tested the hypothesis that ethnic status would moderate the relation between justice beliefs and motivation, and

verified that the pattern of moderation held up even when I included the control variables, and among respondents at all levels of social class.

Independent variables. I used items from the WVS to create measures of societal justice beliefs, membership in a socially disadvantaged group, and prioritization of work over leisure. I used three items to compute scores for societal justice beliefs, or the extent to which respondents believed that outcomes are distributed as a function of merit. One item asked respondents to use a 1-to-10 scale to rate their beliefs about the efficacy of hard work (1 = "In the long run, hard work usually brings a better life" and 10 = "Hard work doesn't generally bring success – it's more a matter of luck and connections"). Two additional items asked respondents to indicate which of two opinions about the poor were closest to their view. Respondents chose one of the following two options to explain why some people are poor: "because of laziness and lack of willpower" (score of 1), or "because of an unfair society" (score of 2). They then chose one of the following two options regarding the chances that the poor have of escaping poverty: "they have a chance" (score of 1) or "they have very little chance" (score of 2). I reverse scored all three items such that higher scores indicated stronger beliefs in societal justice. I then standardized the items to make them comparable, and averaged them together to form a composite index of societal justice beliefs (Cronbach's α = .55)[10].

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[10] In the interests of thoroughness, I also examined the WVS dataset for items that might measure other conceptions of justice beliefs. Respondents indicated their confidence in institutions designed to ensure a fair society, such as the justice system, courts, and government. They also indicated their happiness with the political system now as compared with ten years ago (a good parallel to my manipulation of justice in Study 3). Because I believe that meritocracy beliefs most closely match my conceptualization of societal justice beliefs, I report analyses using respondents' endorsement of meritocracy as my measure of societal justice beliefs. However, it may be useful

I used two measures of disadvantaged group membership. First I used respondents'

reports of their social class. In this measure interviewers told respondents "people sometimes

describe themselves as belonging to the working class, the middle class, or the upper or lower

class." Respondents then reported their own social class using a 5-point scale (1 = upper class, 2

= upper middle class, 3 = lower middle class, 4 = working class, 5 = lower class). I reverse

scored this item such that higher scores indicated higher class[11].

I also used ethnic minority status as a measure of membership in a disadvantaged group.

Given that the WVS uses samples designed to be at least approximately representative of each

country's population, I searched for countries where Caucasians represented the largest ethnic

group contained in the sample. Of the countries where the WVS measured respondents'

ethnicity, I identified 17 where this was the case (see footnote 9). Wherever possible, I used the

full array of countries, but in all analyses involving ethnic status I restricted my analyses to these

countries. This procedure left me with a total of 14257 respondents for these analyses, of whom

72.4% were Caucasian (ethnic majority) and 27.6% were non-Caucasian (ethnic minority).

Dependent measure. To compute scores for motivation to pursue long-term goals, two

relevant items were available in the WVS. Respondents rated how much they prioritize work vs.

leisure or recreation, using a 5-point scale (1 = "it's leisure that makes life worth living, not

work" and 5 = "work is what makes life worth living, not leisure"). Respondents also rated the

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to note that all analyses reported here also hold (and indeed, are stronger) when using these other measures of justice

beliefs.

[11] Respondents also indicated their household income on a scale with points tailored to each country's

typical household income, which represents economic status. All analyses reported here replicate when household

income was substituted as the measure of membership in a disadvantaged group.

importance of work in their lives, using a 4-point scale (1= "very important" and 4 = "not at all important"). I reverse scored the second item such that higher scores indicated more prioritization of work. I then standardized the items to make them comparable, and averaged them together to form a composite index of prioritization of work, $r = .19$, $p < .001$.

Control variables. I included a number of variables that could potentially be confounded with either group membership or motivation to work hard. As variables that could be confounded with group membership, I considered a measure of political views (1 = left, 9 = right, centered around 0 for analyses), and religiosity (1 = a convinced atheist, 2 = not a religious person, 3 = a religious person, centered around 0 for analyses; identical results were obtained using a continuous measure of religious participation as the covariate). As variables that could be confounded with motivation to work hard, I included respondents' selection of "good pay" and "respected job" from a list of potential factors that they might find important when looking for a job (coded as 0 = not selected, 1 = selected). All analyses reported below were first conducted without the inclusion of any control variables. Those analyses were then repeated, including all the above-mentioned variables as covariates.

Results

Means, standard deviations and intercorrelations of the independent variables are presented in Table 6. I predicted that respondents who reported lower social class would show an especially strong relationship between their beliefs in societal justice and their willingness to make sacrifices to achieve long-term goals. I also predicted that non-Caucasian respondents living in countries where Caucasians formed the largest ethnic group would show an especially strong relationship between their beliefs in societal justice and their willingness to make sacrifices to achieve long-term goals.

Table 6

Means, standard deviations, and intercorrelations of independent variables (Study 5)

Sample for analyses that did not include ethnicity

	Descriptives			Correlations				
	N	Mean	(SD)	1	2	3	4	5
1. Social class	53,394	2.67	(0.95)	-	-	-	-	-
2. Justice beliefs	53,594	0.00	(0.69)	.13**	-	-	-	-
3. Political views	42,509	5.60	(2.31)	.09**	.15**	-	-	-
4. Religiosity	50,173	2.67	(0.54)	.00	.06**	.13**	-	-
5. Value: good pay	50,981	0.84	(0.36)	-.02**	-.06**	.01*	.00	-
6. Value: respected job	50,681	0.51	(0.50)	.03**	.05**	.09**	.05**	.13**

$^t p < .10$ $* p < .05 ** p < .001$

Sample for analyses where ethnicity was a predictor

	Descriptives			Correlations					
	N	Mean	(SD)	1	2	3	4	5	6
1. Ethnic status (1 = Caucasian; 0 = non-Caucasian)	14,257	0.72	(0.45)	-	-	-	-	-	-
2. Social class	14,257	2.69	(0.96)	.20**	-	-	-	-	-
3. Justice beliefs	14,257	0.00	(0.70)	-.06**	.10**	-	-	-	-
4. Political views	12,148	5.43	(2.26)	-.02*	.09**	.12**	-	-	-
5. Religiosity	13,985	2.69	(0.55)	-.07**	.02^t	.09**	.15**	-	-
6. Value: good pay	11,978	0.79	(0.41)	-.09**	-.01	.00	.00	.01	-
7. Value: respected job	11,978	0.46	(0.50)	-.03**	.02^t	.02^t	.04*	.08**	.12**

$^t p < .10$ $* p < .05 ** p < .001$

Moderating role of social class. I used the Aiken and West (1991) method for multiple regression, using centered scores for justice beliefs and social class, as well as their interaction, predicting prioritization of work, first with no covariates, and then adding each covariate separately, and then adding all the covariates together (see Table 7 for the regression coefficients from the first and last of these steps; see Table 8 for the simple slopes tests from each step separately). Given the similarity of the results across analyses, in the text I present results from the analysis with no covariates, which allowed me to use the full sample.

As predicted, the interaction between justice beliefs and social class attained significance, $\beta = -.012$, $t(53390) = 2.68$, $p < .01$. I probed this interaction by examining the relationship between justice beliefs and prioritization of work at one standard deviation above and below the

mean of social class. These analyses revealed that justice beliefs positively predicted willingness to sacrifice to achieve long-term goals at both low, $\beta = .12$, $t(53390) = 19.55$, $p < .0001$, and high, $\beta = .10$, $t(53390) = 16.28$, $p < .0001$, social class. However, this relationship was strongest at low social class.

Table 7

Unstandardized regression coefficients for social-class-as-moderator analyses (Study 5)

Predictor	Unstandardized Coefficient (B)	SE	Conf. Int. (95%)	t[a]	p-value
Social class	-0.03	0.004	(-0.04, -0.02)	8.42	< .001
Justice beliefs	0.12	0.11	(0.11, 0.13)	25.24	< .001
Class X beliefs	**-0.02**	**0.005**	**(-0.02, -0.004)**	**2.68**	**.01**
Political views	0.01	0.002	(.01, .02)	8.54	< .001
Religiosity	0.10	0.007	(.09, .11)	14.24	< .001
Value: good pay	0.01	0.004	(.002, .02)	2.55	.01
Value: respected job	0.08	0.004	(.07, .09)	20.20	< .001
Social class	-0.03	0.004	(-.04, -.02)	6.93	< .001
Justice beliefs	0.09	0.006	(0.08, 0.10)	16.14	< .001
Class X beliefs	**-0.01**	**0.006**	**(-0.03, -0.003)**	**2.18**	**.03**

[a] The degrees of freedom are 53390 for the upper panel; 39292 for the lower panel.
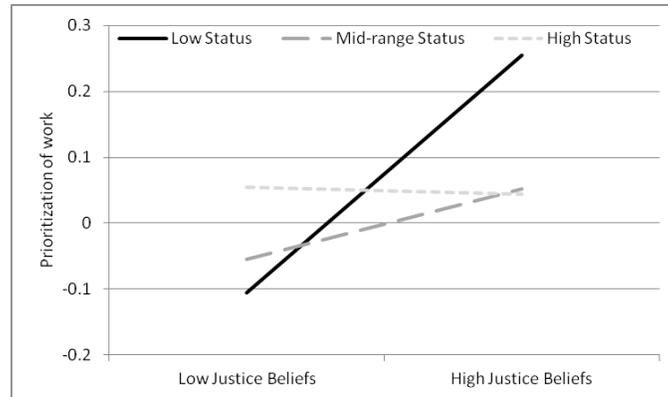
Table 8

Moderating role of social class – covariates (Study 5)

Covariate	Interaction β (class X beliefs)	t	p	Class	Justice beliefs β	t	p
				low	.15	11.53	<.001
None	.012	2.68	.008	**middle**	.10	22.49	<.001
				high	-.01	1.70	.87
				low	.13	8.70	<.001
Political views	-.014	2.82	.005	**middle**	.09	16.61	<.001
				high	-.05	1.26	.21
				low	.15	2.97	<.001
Religiosity	-.013	2.97	.003	**middle**	.09	15.11	<.001
				high	-.003	.10	.92
				low	.14	10.42	<.001
Value: good pay	-.009	2.02	.04	**middle**	.10	21.58	<.001
				high	.02	.43	.67
				low	.13	9.75	<.001
Value: respected job	-.008	1.85	.06	**middle**	.10	20.59	<.001
				high	.01	.35	.72
				low	.11	6.87	<.001
All	-.011	2.18	.03	**middle**	.09	15.11	<.001
				high	-.06	1.53	.10

More strikingly, I conducted analyses separately at three levels of social class: The lowest, the highest and collapsing across the three middle levels. Figure 5 illustrates how the relationship between justice beliefs and the prioritization ranges from robust at the lowest social

class, $\beta = .15$, $t(6211) = 11.53$, $p < .0001$, to completely absent at the highest social class, $\beta = -.006$, $t(929) < 1$, *ns*, with the intermediate social classes showing an intermediate sized relationship, $\beta = .10$, $t(46248) = 22.49$, $p < .0001$.

Figure 5. Relationship between respondents' willingness to make sacrifices to achieve long-term goals and their endorsement of meritocratic beliefs, for self-identified lower- and upper-class respondents.

Finally, I repeated my analyses separately for Caucasian and non-Caucasian respondents, using respondents from countries where Caucasians formed the largest ethnic group. Results are summarized in Table 9.

Table 9

Class X beliefs interaction across majority(Caucasian) and minority (non-Caucasian) respondents (Study 5)

	No covariates				All covariates			
	β	t	df	p	β	t	df	p
Minority (non-Caucasian)	-.03	3.52	3933	< .001	-.03	2.81	1845	.01
Majority (Caucasian)	-.013	2.10	10316	.04	-.011	2.02	8169	.04

Whether I used no covariates or all covariates, I found that the class X belief interaction consistently and negatively predicted motivation across both Caucasians and non-Caucasians. Thus, social class moderates the justice belief – motivation link in the predicted fashion among both advantaged and disadvantaged ethnic groups. However, I did note that the effect appeared larger and more significant among ethnic minority respondents, compared to ethnic majority respondents. Thus, it may be that majority ethnic group status provides even individuals with low SES some degree of perceived immunity to societal injustice.

Moderating role of ethnic status. To test the second prediction, I again used the Aiken and West (1991) method for multiple regression, using centered scores for justice beliefs, dummy coded ethnicity (0 = non-Caucasian, 1 = Caucasian), and their interaction predicting prioritization of work, first with no covariates, and then adding each covariate separately, and then adding all the covariates together (see Table 10 for the regression coefficients from the first and last of these steps; see Table 11 for the simple slopes tests from each step separately). Given the similarity of the results across analyses, in the text I present results from the analysis with no covariates, which allowed me to use the full sample. This analysis was restricted to countries where Caucasians formed the largest ethnic group.

Table 10

Unstandardized regression coefficients for ethnic-status-as-moderator analyses (Study 5)

| Predictor	Unstandardized Coefficient (*B*)	SE	Conf. Int. (95%)	t[a]	p-value
Ethnic status	-0.32	0.02	(-0.35, -0.29)	21.64	< .001
Justice beliefs	0.12	0.02	(0.08, 0.16)	6.53	< .001
Ethnicity X beliefs	**-0.12**	**0.02**	**(-0.16, -0.07)**	**5.44**	**< .001**
Political views	0.02	0.004	(0.01, 0.02)	4.48	.01
Religiosity	0.07	0.01	(.04, 0.09)	5.05	< .001
Value: good pay	-0.03	0.01	(-0.05, -0.02)	4.52	< .001
Value: respected job	0.06	0.01	(0.04, 0.07)	7.21	< .001
Ethnic status	-0.14	0.02	(-0.18, -0.10)	6.94	< .001
Justice beliefs	0.08	0.02	(0.05, 0.13)	4.32	< .001
Ethnicity X beliefs	**-0.10**	**0.02**	**(-0.14, -0.05)**	**4.45**	**< .001**

[a] The degrees of freedom are 14253 for the upper panel; 10022 for the lower panel.

Table 11

Moderating role of ethnic status – covariates (Study 5)

Covariate	Interaction β (ethnicity X beliefs)	t	p	Ethnicity	Justice beliefs β	t	p
None	-.09	5.44	<.001	**Caucasian**	.005	< 1	ns
				Non-Caucasian	.11	6.57	< .001
Political views	-.08	4.33	<.001	**Caucasian**	-.001	< 1	ns
				Non-Caucasian	.09	5.00	< .001
Religiosity	-.09	5.82	<.001	**Caucasian**	-.003	< 1	ns
				Non-Caucasian	.11	6.55	< .001
Value: good pay	-.07	3.41	<.001	**Caucasian**	-.005	< 1	ns
				Non-Caucasian	.08	4.30	< .001
Value: respected job	-.07	3.57	<.001	**Caucasian**	-.006	< 1	ns
				Non-Caucasian	.08	4.41	< .001
All	-.08	4.45	<.001	**Caucasian**	-.008	< 1	ns
				Non-Caucasian	.08	4.69	< .001

As predicted, the interaction between justice beliefs and ethnicity attained significance, β = -.09, $t(14253) = 5.71$, $p < .001$. I probed this interaction by examining the relationship between justice beliefs and prioritization of work among Caucasians and non-Caucasians. These analyses revealed that justice beliefs positively predicted willingness to sacrifice to achieve long-term goals among non-Caucasians, $\beta =.11$, $t(14253) = 6.57$, $p < .001$, but not among Caucasians, $\beta =$ .005, $t(14253) < 1$, ns. This relationship is depicted in Figure 6.

Figure 6. Relationship between respondents' willingness to make sacrifices to achieve long-term goals and their endorsement of meritocratic beliefs, for Caucasian and non-Caucasian respondents living in countries where Caucasians form the largest ethnic group
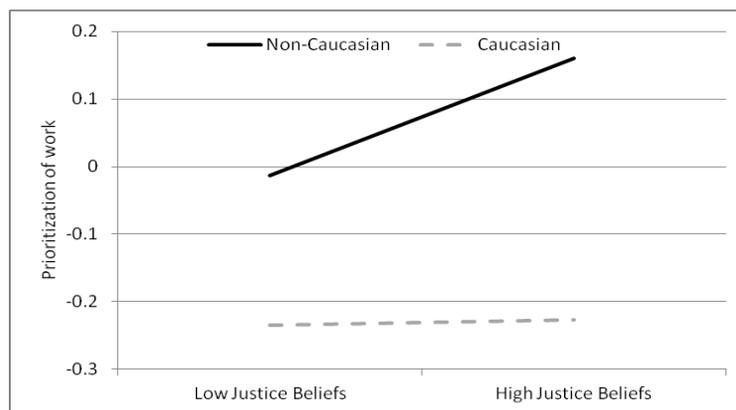
Finally, I repeated my analyses separately for three levels of social class: The lowest, the highest and collapsing across the three middle levels. Results are summarized in Table 12.

Table 12
Ethnicity X beliefs interaction across levels of social class (Study 5)

	No covariates				All covariates			
	β	t	df	p	β	t	df	p
Lower class	-.07	2.28	1685	.02	-.16	2.48	1284	.01
Intermediate classes	-.10	5.26	12366	<.001	-.11	4.16	10472	< .001
Upper class	-.05	0.30	194	.76	-.08	0.34	169	.73

Whether I used no covariates or all covariates I found that respondents who reported that they belonged to the lower or middle classes showed an ethnicity X beliefs interaction consistent with my predictions. Unexpectedly, however, I found that respondents who reported that they belonged to the upper class did not. Thus, ethnic status moderates the justice belief – motivation

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link in the predicted fashion among both lower and middle class individuals, but I did not find that relationship among upper class individuals. This null effect could have arisen because of the much smaller sample of upper class respondents, compared to the other categories. In support of this possibility, the non-significant interaction is in the predicted direction. Alternatively, it could be a true null effect. Very few respondents categorized themselves as upper class (only 2.2% in the overall sample), and it could be that participants' whose socioeconomic background is so extremely privileged feel immune to societal injustice even when they belong to minority ethnic groups. This suggestion parallels the idea that being a member of the ethnic majority offers even individuals with low SES some degree of perceived immunity to social injustice.

Discussion

I have hypothesized that justice beliefs function to enhance motivation to pursue long-term goals, especially among members of socially disadvantaged groups. In Studies 1 and 2, I found evidence that justice beliefs predict motivation to pursue long-term goals, and that this relationship was strong among participants low in SES, but non-existent among participants high in SES. In Studies 3 and 4, I found that this same relationship was strong among members of ethnic minority groups, but non-existent among members of ethnic majority groups. In Study 5, I replicated both of these findings using data from a cross-national sample containing a much wider range of relatively advantaged and disadvantaged groups. In this sample, justice beliefs continued to predict motivation to pursue long-term goals even among survey respondents who reported high social class, but the relationship was much stronger among respondents who reported low social class. Moreover, as in Studies 3 and 4, the relationship was strong among members of ethnic minority groups, but non-existent among members of ethnic majority groups. Importantly, the moderating role of social class held across both ethnic statuses, and the

moderating role of ethnic status held across social classes, with the exception of the upper class.

This suggests that the two variables exert independent effects, and provides evidence against the

idea that the effects of one are due to the other. Taken together, these results complement the

findings from Studies 1 through 4 but importantly they extend them to a much broader

population and provide convergent validity using a set of measures different from those in the

preceding studies.

CHAPTER 7: The importance of the justice-relevance of different goal domains

The first five studies have demonstrated that the belief that the world is just sustains people's motivation to pursue long-term goals, but only among members of disadvantaged groups, specifically members of low socioeconomic status or ethnic minority groups. In all studies reported here, I deliberately chose to measure self-regulation in school- and career-related domains. These types of goals – performing well at school, achieving a desired profession – are objectively dependent on justice: Grades can be readily attributed to causes which are either just (e.g., knowledge of course material) or unjust (e.g., a student's ethnic background or physical appearance). Calibrating academic and career goals to societal justice beliefs is a rationally sensible thing to do, to the extent that societal justice can affect one's own academic and career outcomes.

I do not believe that academic and career-related goals are the only ones for which motivation can be calibrated to societal justice beliefs; as long as a goal is perceived to be justice-dependent – that is, so long as it makes sense to say that the goal was achieved either justly or unjustly, or that the failure to achieve it was either just or unjust – then the principles I have uncovered here should apply. However, there may be many goals that people do not perceive as justice-dependent, and for these goals, I have different predictions.

Specifically, I hypothesize that disadvantaged group members' motivation to pursue goals that they believe to be non-dependent on societal justice should relate to justice beliefs in the reverse direction. That is, I hypothesize that disadvantaged group members' motivation to pursue these goals is heightened when they perceive societal injustice, and reduced when they perceive societal justice. This hypothesis draws on a sizeable literature on the dynamics of multiple goal-regulation: The processes that govern people's allocation of their motivational

resources across the multiple goals they are pursuing at any given time. This research generally suggests that people have a limited set of resources that they distribute in a hydraulic fashion among their goals. As a result, when people turn resources away from one of their goals – whether because they feel they have made sufficient progress towards that goal (Schmidt & Deshon, 2007) or because they feel they are unlikely to succeed at that goal (Kernan & Lord, 1990), they direct those resources towards a different goal. Conversely, when people focus their attention on one goal, they draw their resources away from other, competing goals (Shah, Friedman, & Kruglanski, 2002).

Put differently, when members of disadvantaged groups draw their motivational resources away from their achievement goals in response to perceived injustice, they may not simply cease pursuing goals, but rather goals they believe to be non-justice-dependent may receive a motivational boost. Conversely, when members of disadvantaged groups perceive societal justice, and become more motivated to invest effort in pursuit of achievement goals, they may withdraw those resources from goals they believe to be non-justice-dependent.

I tested this hypothesis in Study 6, by exposing participants to justice or injustice primes, and assessing their motivation towards not only academic goals, but also other goals that people perceive as relatively independent of societal justice. I measured participants' motivation by asking them how much time they planned to spend on several activities on a hypothetical weekend, with some activities being related to their academic goals, related to their other similarly high-level goals, or not related to any important goals. I predicted that low SES participants primed with injustice, compared to those primed with justice, would plan to spend less time on activities related to their academic goals, but more time on activities related to non-justice-relevant goals, and the same amount of time on non-goal-related activities.

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Method

       Participants. Ninety-six undergraduates (23 male, 73 female; mean age 20.4 years) participated in this study in exchange for course credit.

       Procedure. Participants signed up for an online study on "goals and verbal tendencies". They first completed a demographics form, where they rated their SES on the same scale used in Studies 1 and 2. They then completed the "verbal tendencies" portion of the study, which constituted the manipulation of justice beliefs. We used a scrambled sentence paradigm, with the same justice condition described in Study 4. Instead of a neutral condition, though, I included an injustice condition (see Appendix D for the full list of sentences). Thus far I have focused on justice-enhancing manipulations, to avoid the possibility, supported by many justice theories (e.g., Jost, Banaji, & Nosek, 2004; Lerner, 1980), that people would respond defensively to justice-decreasing manipulations, and come away from those manipulations with increased, rather than decreased, justice beliefs. However, I thought that the scrambled sentence paradigm might be subtle enough to avoid evoking this reactive justice defense response. I wanted to include an injustice condition to rule out a potential alternative explanation for the results of Study 4. The sentences in the justice condition make references to money and success, therefore it could be that it was the salience of those constructs in the minds of participants which led them to report increased motivation. This alternative explanation does not account for the moderation by group membership; nonetheless, to be prudent, in Study 6 I used an injustice condition that also makes references to money and success.

       Following the scrambled sentence manipulation, participants completed the dependent measure, which assessed how much time on a hypothetical upcoming weekend they planned to spend on activities related to academic goals, activities related to non-justice-relevant goals, and

activities not related to long-term goals. To identify non-justice-relevant goals, I conducted a pilot test (see Appendix E for details), and found that people perceive academic and professional goals as more justice-relevant than health, social and spiritual goals. Because I suspected that spiritual goals would occupy a very small amount of most students' weekend time, I chose to focus on health and social goals as my non-justice-relevant goals.

I created a list of activities that were typical of students' weekends, and related to either their academic goals (e.g., studying for tests), their social goals (e.g., catching up with friends via phone or email), their health goals (e.g., plan a healthy meal), or no long-term goal (including both chore-type activities [e.g., doing laundry] and pleasant but not clearly goal-relevant activities [e.g., watching TV]). See Appendix F for the full list of activities. I asked participants to indicate the number of minutes they planned to spend on each activity. Because participants varied considerably in how much total time they reported they would spend on the listed activities, I converted the raw numbers of minutes into a proportion, relative to the total amount of time each participant indicated for all 18 activities (see Appendix F for reliabilities). These proportion scores formed my dependent measures.[12]

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[12] The use of proportion scores in this context is not ideal: Because I am using proportion scores, if low SES participants primed with injustice plan to spend less time on activities related to their academic goals, the reduction in the academic proportion score will necessarily entail an increase in at least one other proportion score. This would be a serious problem if I was predicting an increase in any or all of the other prediction scores; however my prediction is that this increase will happen specifically for the proportion scores that represent non-justice-relevant goals. Moreover, the total amounts of time allocated by participants across all activities varied considerably, from about 300 minutes to about 3000 minutes, resulting in extremely large error terms. I chose to account for that variability by using proportion scores; however the same significant results emerged from a parallel set of analyses using raw scores and controlling for the total amount of time allocated by each participant.

Results

I predicted that low SES participants primed with injustice, compared to those primed with justice, would plan to spend less time on activities related to their academic goals, but more time on activities related to non-justice-relevant goals, and the same amount of time on non-goal-related activities. I tested this prediction with a series of multiple regressions, using condition (justice = 1; injustice = 0), SES (centered) and their interaction to predict each of the proportion scores. Results are presented in Table 13.

Table 13

Unstandardized regression coefficients for all proportion scores (Study 6)

| Predictor	Unstandardized Coefficient (*B*)	SE	Conf. Int. (95%)	*t*[a]	p-value
Proportion: ACADEMIC activities					
SES	0.01	0.02	(-0.02, 0.05)	0.73	.47
Condition	-0.01	0.03	(-0.07, 0.05)	0.33	.75
SES X condition	**-0.09**	**0.03**	**(-0.15, -0.04)**	**3.22**	**.002**
Proportion: SOCIAL activities					
SES	-0.02	0.02	(-0.05, 0.02)	0.99	.33
Condition	-0.01	0.02	(-0.05, 0.04)	0.20	.84
SES X condition	**0.06**	**0.02**	**(0.02, 0.11)**	**2.61**	**.01**
Proportion: HEALTH activities					
SES	0.01	0.01	(-0.01, 0.02)	1.27	.21
Condition	-0.01	0.01	(-0.03, 0.02)	0.55	.58
SES X condition	0.00	0.01	(-0.02, 0.02)	0.18	.86
Proportion: PLEASANT activities					
SES	0.00	0.004	(-0.01, 0.01)	0.57	.57
Condition	0.00	0.01	(-0.01, 0.02)	0.85	.40
SES X condition	0.01	0.01	(-0.01, 0.02)	0.99	.33
Proportion: CHORE-TYPE activities					
SES	0.00	0.002	(-0.01, -0.001)	2.48	.02
Condition	0.00	0.002	(-0.004, 0.005)	0.20	.84
SES X condition	0.00	0.002	(-0.002, 0.01)	1.26	.21

[a] The degrees of freedom are 92.

First, replicating my basic pattern of results, there was a significant SES X condition interaction predicting the proportion of time participants planned to spend on academic activities, $\beta = -.42$, $t(92) = 3.22$, $p < .01$ (see Figure 7[13]). I probed this interaction by comparing the simple slopes representing the effect of the justice versus the injustice prime among higher and lower

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[13] The figure displays the proportions converted into minutes based on the average number of total minutes.

SES participants, where higher and lower SES were defined as being one standard deviation above and below the mean, respectively. Participants low in SES planned to spend more time on academic activities when primed with justice, compared to injustice, $\beta = .28$, $t(92) = 2.03$, $p < .05$; but participants high in SES showed the reverse pattern, $\beta = -.34$, $t(92) = 2.48$, $p < .02$.

Figure 7. Number of minutes high and low SES participants planned to spend on academic and social activities as a function of priming condition (Study 6)
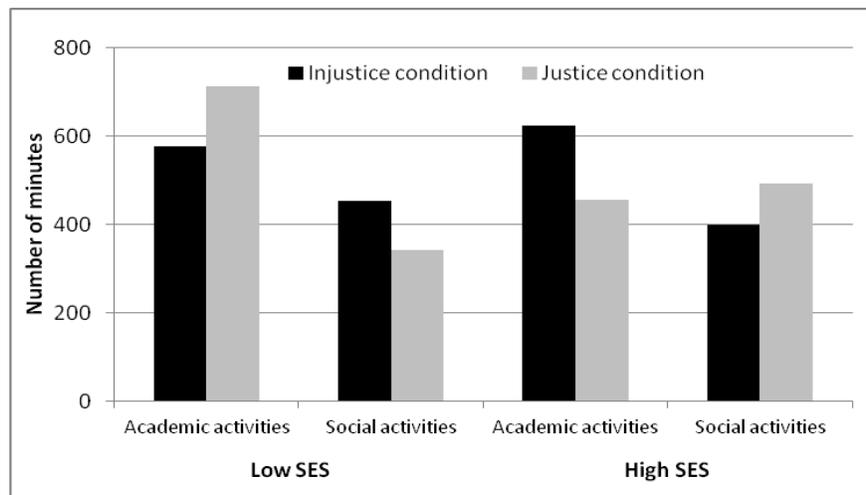
When I examined activities related to non-justice-relevant goals, I found only one significant interaction, predicting the proportion of time participants planned to spend on social activities, $\beta = .36$, $t(92) = 2.61$, $p = .01$. I probed this interaction as above, and found that participants low in SES planned to spend more time on social activities when primed with injustice, compared to justice, $\beta = -.28$, $t(92) = 1.98$, $p = .05$; but participants high in SES showed the reverse pattern, with marginal significance, $\beta = .24$, $t(92) = 1.68$, $p = .10$. Neither SES, nor priming condition, nor their interaction predicted the amount of time participants planned to spend on health activities. When I examined non-goal-related activities (i.e., chores and pleasant activities), I found no significant interactions[14].

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[14] Because the reliabilities for these two proportion scores were so low, I conducted the same regression analysis for each of their component individual activities. These analyses revealed no significant interactions.

Discussion

In Study 6, I replicated my main hypothesis using a different dependent measure: Injustice primes, compared to justice primes, led low SES participants to say they would spend less time on academic activities during an upcoming hypothetical weekend. I also found that the injustice primes made these same participants say they would spend *more* time on social activities, but no more time on other goal-related activities. In other words, when members of disadvantaged groups draw their motivational resources away from their academic and career-oriented goals in response to perceived injustice, they do not simply cease pursuing goals, or distribute them randomly across all other potential pursuits, but rather they seem to reinvest specifically in social goals. This may suggest that there is something about social goals that makes them an ideal substitute for academic- and career-oriented goals; however Study 7 will have to replicate this effect before I speculate as to the reasons why.

In Study 6, I found a fully significant replication of the unexpected marginal effect from Study 4: Participants with high SES responded to injustice primes by increasing their long-term academic goal motivation – or at least by reporting that they would spend more time on school-related activities during an upcoming hypothetical weekend. This reverse pattern among members of advantaged groups is not something I had predicted, but it offers an intriguing opportunity for speculation. I return to this point in the General Discussion.

CHAPTER 8: Advantaged groups' motivational responsiveness to self-relevant justice

In six studies, I have found evidence supporting the notion that members of socially disadvantaged groups calibrate their long-term goal motivation, at least in academic and career-related domains, to their beliefs about societal justice. Twice I found hints of a reverse pattern among members of advantaged groups, but in none of the studies did I find even a trace of a positive relationship between societal justice beliefs and motivation among people with high socioeconomic status, or among people who belong to the ethnic majority. In Study 7, I sought to examine members of advantaged groups in more depth; more specifically, to investigate the conditions under which they might calibrate their motivation to their justice beliefs similarly to members of disadvantaged groups.

In the introduction, in a hypothesis supported by Study 4, I proposed that the group difference in the justice–motivation link occurs because members of disadvantaged groups perceive a tighter link between societal justice and their personal expectations of just treatment, compared to members of advantaged groups. However, I hypothesized that members of disadvantaged groups and members of advantaged groups should be equally likely to calibrate their motivation to societal justice information when that information is made personally relevant – that is, their motivation should respond to how justly and fairly they expect others will treat them personally. In my final study, I sought to test this prediction using an experimental paradigm. I reasoned that having participants read information about injustices that specifically targeted their ingroup would force even ethnic majority participants to draw personal implications from this information. For example, I suspected that reading about anti-white discrimination would affect white participants' motivation to pursue long-term goals.

Thus, in Study 7, I attempted to manipulate white participants' personal justice beliefs, by having them read a web post about injustices perpetrated specifically against white workers. I then measured participants' academic motivation, as well as their motivation towards other, non-justice-related goals as in Study 6. I predicted that white participants who had read about specifically anti-white injustices would show less motivation towards their long-term academic goals – that is, that they would plan to spend less time on school-related activities – but more motivation towards non-justice related goals, such as their social and health goals. Based on the findings from Study 6, however, I held my prediction about social goals with more confidence than my prediction about health goals.

Method

Participants. Ninety-nine undergraduates (26 male, 73 female; mean age 20.3 years) participated in this study in exchange for course credit. Participants were only invited to participate if they had self-identified as Caucasian during a Mass Testing session conducted at the beginning of the semester, but they had no knowledge of this selection criterion.

Procedure. Participants volunteered to complete an online study purportedly about goals and knowledge. Participants first completed a demographics form. They then completed the "knowledge" portion of the survey. The website showed them a screenshot ostensibly taken from a human resources blog called iSight. Participants in the injustice condition saw a post entitled "Discriminatory hiring practices are increasingly common" (see Appendix G). This post explained to participants that more and more senior executives endorse the hiring of Asian candidates over white candidates, ultimately quoting an anonymous executive as saying, "If we have to choose between an Asian candidate and a similar White candidate, we'll pick the Asian every time." Participants in the control condition saw a post entitled "Use of internet reported to

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be increasingly common" (see Appendix G). This post explained to participants that both employers and prospective employees are using the internet more and more during the job search and hiring processes. After reading the post and answering a few questions about it (e.g., "How often do you read internet blogs on these kinds of topics?" and "Do you think you may have heard or seen in other media coverage of the phenomenon described in the article?"), participants completed the dependent measure from Study 6.

Results

I predicted that white participants who had read about specifically anti-white injustices would plan to spend less time on school-related activities, but more time on social goals, and perhaps also more time on health goals, but the same amount of time on non-goal-related activities. I tested this prediction with a 2 (condition: neutral vs. anti-discrimination) X 5 (type of activity: academic vs. social vs. health vs. pleasant vs. chore) mixed-model ANOVA, with condition as the between-subjects factor and type of activity as the within-subjects factor.

This analysis revealed the predicted interaction, $F(4, 97) = 4.12$, $p = .003$, $\eta^2_p = .04$. Given that the proportion scores of each participant added up to 0, the between-subjects error term in the analysis above was constrained to be near 0 which could distort standard simple effects tests, so I used t-tests to compare each proportion score as a function of condition (in the end, though, examining simple effects in the standard way revealed the same effects; see Table 14 for means, standard deviations and t-tests). Participants who read about anti-Caucasian discrimination wanted to spend less of their time on school-related activities ($M = .31$, $SD = .11$) compared to participants who read a neutral article ($M = .36$, $SD = .08$), $t(97) = 2.14$, $p < .04$. These same participants who read the anti-discrimination article instead wanted to spend more of their time on social activities ($M = .31$, $SD = .09$), compared to participants who read the neutral

article, ($M = .25$, $SD = .11$), $t(97) = 2.35$, $p < .02$. None of the other comparisons approached

significance, all ts < 1.19, all ps$> .24$[15].

Table 14
Means and standard deviations for activity types per condition (Study 7)

	ACADEMIC		SOCIAL		HEALTH		PLEASANT		CHORE	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Proportions										
Neutral article	.36	.11	.25	.09	.05	.04	.06	.01	.03	.01
Anti-Caucasian discrimination article	.31	.08	.31	.11	.04	.04	.06	.01	.02	.01
Minutes[a]										
Neutral article	621		421		81		103		46	
Anti-Caucasian discrimination article	528		529		74		108		39	
t-tests (df = 97)										
Neutral vs.disc.	2.13*		2.35*		0.21		0.49		1.19	

[a] To obtain these figures, I converted the proportions back into minutes based on the average number of total minutes
[t] $p < .10$ * $p < .05$** $p < .01$

Discussion

The results of this experimental study confirm that members of high status groups do

sometimes take justice considerations into account when determining their motivation to pursue

long-term goals. Specifically, when participants from the socially dominant ethnic group read

about a societal injustice towards their group that could affect their own personal outcomes, they

responded by decreasing their motivation towards academic goals. However, replicating what I

found in Study 6, they did not simply cease pursuing goals; rather, they specifically reinvested

the time they withdrew from school-related activities into social activities.

It is noteworthy that Study 7 replicated Study 6's null effect for health goals. This adds

strength to the possibility that social goals are a particularly strong candidate for replacing the

school- and career-oriented goals that people disengage from when they perceive injustice that

might affect them. Neither Study 6 nor Study 7 was designed with the aim of investigating why

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[15] Because the reliability statistic for the "pleasant activity" proportion score was so low, I conducted a

separate ANOVA on each pleasant activity individually. This analysis yielded no significant effects.

this might by, but I can speculate nonetheless. First one might wonder whether my findings arose from the fact that the social activities included in the measure (e.g., hanging out with friends, going to a party) may have been perceived as more fun than the health-related activities (e.g., going to the gym, planning a healthy meal). In other words, one might wonder whether participants presented with injustice may simply have opted to replace their academic activities with "fun". This alternative explanation, however, does not hold up to scrutiny: the pleasant activities I included (e.g., watching TV, surfing the internet) are activities that are also perceived as fun, and yet they showed no trace of an effect in either study.

Thus it does appear that there may be something special about connecting with people that stands out as an ideal candidate for replacing school and career-related goals. One possibility is that people's social goals are simply more important than their health goals, which would explain why they would reinvest newly available resources fully in their social goals, and not at all in their health goals. Another, perhaps more interesting, possibility is that interpersonal relationships may offer the unique advantage of being able to replace many of the benefits people might hope to obtain from their academic and career goals. For example, extended social networks can provide some of the material resources that people gain by achieving their career goals (e.g., Wills, 1985). Likewise, just as achieving important academic and career goals can result in a boost to self-esteem, so can the feelings of belongingness that come with close relationships (Baumeister & Leary, 1995; Leary & Baumeister, 2000). Finally, close others can provide emotional support that may help people cope with the aversive feelings that may arise when one abandons one's professional aspirations (e.g., Wills, 1985). Future research might examine why social goals may become particularly attractive in the face of societal injustice.

CHAPTER 9: General Discussion

The present research tested the hypothesis that societal justice beliefs confer a special motivational benefit on members of socially disadvantaged groups. Across five studies, I consistently found evidence that beliefs in societal justice enhanced the motivation to pursue long-term goals, particularly academic and career-related goals, and that this effect was more consistent and stronger among members of socially disadvantaged groups. Members of advantaged groups showed somewhat inconsistent effects, ranging from no effect to a significant effect in the reverse direction. Although this latter observation was unexpected (I had anticipated a weakened, but still significant, effect for members of advantaged groups), and is discussed below, my predicted general pattern of data. The stronger association between societal justice beliefs and motivation to pursue long-term goals for members of disadvantaged, compared to advantaged, groups was highly consistent. It emerged regardless of whether justice beliefs were measured or manipulated (Studies 1, 2 and 5 vs. 4 and 6); whether group membership was operationalized in terms of socioeconomic status or ethnicity (Studies 1, 2, 5 and 6 vs. Studies 3, 4, 5 and 7); and whether motivation was assessed in terms of persistence in the face of academic failure (Study 1), willingness to invest resources in and make sacrifices for long-term career goals (Studies 2 through 5), or desire to spend time pursuing academic goals (Studies 6 and 7). Thus, believing in societal justice appears to enhance the motivation to pursue long-term academic and career goals specifically among members of socially disadvantaged groups.

Studies 6 and 7 suggested that some goals do not follow the same pattern as academic and career goals. Specifically, social goals appear to operate in the reverse direction: When members of disadvantaged groups are reminded of injustice, they reinvest in their social relationships. Study 7 also indicated that when societal justice information is made personally

relevant to members of high status groups, these individuals show the predicted response of calibrating their motivation to their justice beliefs. Thus, whereas justice beliefs may offer a benefit to members of both high and low status social groups when they are personally relevant; the motivational benefits offered by societal justice beliefs appear to be unique to disadvantaged groups, and provide one potential answer to the question I raised in the introduction about the functionality of believing in a just world for those who are disadvantaged.

Accounting for two alternative explanations

      A cognition-based explanation. In my studies I have found that members of disadvantaged groups, when they believe society is not fair, show less motivation to pursue long-term goals; specifically, academic and career-focused long-term goals. I have interpreted that to as evidence that societal justice beliefs enable goal motivation among members of these groups. However a social identity theorist might prefer a different, more cognitive explanation based on the salience of group identity. When people's ingroup is threatened, the salience of their membership to that ingroup increases (Branscombe, Ellemers, Spears, & Doosje, 1999). For example, people who have suffered an injustice that placed their group in a relatively low-status position subsequently identified more strongly with their ingroup (Ellemers, Wilke, & Van Knippenberg, 1993). Thus, when disadvantaged participants in my studies were presented with societal injustice, their membership in a disadvantaged group could have become more salient. As a result, they may have shifted their attention from individualistic academic and professional goal pursuits towards more group-based goals, which could explain some of my findings. The possibility that injustice galvanizes collective goals is fascinating and I consider it in more detail below; however I do not think that this alternative explanation can entirely account for my results. Although this explanation could potentially explain the results I found using acute

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reminders of societal injustice, it is less clear that it would predict the same effects for chronic beliefs in societal injustice. More critically, without a series of additional assumptions, this cognitive explanation has no way of accounting for the results I found using manipulations which enhanced justice beliefs. My hypothesis offers a more parsimonious explanation of the entire set of findings.

A different motivated explanation. A different but related alternative implicates a more motivated process. Members of disadvantaged groups who achieve on an individual level within unjust systems may be worried about "selling out" their group (Fordham, 1988; Fordham & Ogbu, 1986). If an unjust system places my group at a disadvantage, I may fear that if I implicitly endorse the system by striving to achieve within its parameters, my fellow group members will resent me. Although this explanation could potentially account for some of my results, the bulk of the research that does support this alternative explanation comes from African American samples, whereas my disadvantaged group samples were low socioeconomic status groups in some studies and predominantly Asian Canadian ethnic minorities in other studies. There is no research showing that these group frame individual success as "selling out." More importantly, many scholars have found that disadvantaged group members do not in fact fear repercussions from engaging with unjust systems (e.g., Cook & Ludwig, 1997; Spencer, Noll, Soltzfus, & Harpalani, 2001), casting serious doubt on the credibility of this alternative explanation. On the basis of this reasoning, then, I tentatively conclude that the evidence favors my hypothesis as the most plausible account of the set of results presented here.

Implications for the Study of Justice

The present studies elaborate on and expand one of the foundations of Just World theory (Lerner, 1980): That the motive to perceive one's surroundings as fair and just may stem from

the need to pursue long-term goals. Implicit in this view of the origin of the justice motive is the idea that just environments are supportive of long-term goal pursuit, and that believing in justice serves to encourage people to engage their motivational systems and exert efforts directed towards the achievement of long-term gains. The studies described in the present article substantiate this idea, by showing that both chronic and experimentally induced beliefs about justice can promote increased motivation to pursue such important long-term goals as academic success and career achievement.

In addition to providing novel empirical support for Lerner's theorizing about the function of the justice motive, this research also contributes new insights to our understanding of the effects of group membership. My findings suggest that the motivational function of justice beliefs is qualified by individuals' group membership, applying especially to members of socially disadvantaged groups. I found evidence that this group membership effect arises in part because it is usually only members of socially disadvantaged groups who translate their general justice beliefs into beliefs about their own personal just treatment. Societal injustice has different consequences for members of socially disadvantaged and advantaged groups. Discrimination and prejudice, and other forms of systemic societal injustice may prevent the disadvantaged from achieving their goals; thus, societal injustice may be more personally relevant for members of disadvantaged groups than for members of advantaged groups.

Group differences in this justice – motivation link may also stem from differences in the higher-order or overarching motivations that underlie individuals' motivations to pursue academic and career goals. Members of disadvantaged groups may see these goals as means serving the ultimate purpose of dramatically improving their place in society—of changing position from a low-status to a high-status group. Members of advantaged groups, in contrast, do

not need to improve their social standing, and may instead see academic and career goals as means to maintain (or slightly improve) their place in society. Achieving large improvements in one's social position may be both more important and more difficult than simply maintaining or minimally improving it. Thus, relative to members of advantaged groups, members of disadvantaged groups may have more riding on long-term goals that are also more difficult to achieve. Because members of disadvantaged groups have larger stakes associated with their long-term goals, they might be especially interested in calibrating their motivation to factors that will impact their success, such as societal justice.

Interestingly, some previous research had addressed Lerner's original hypothesis about the functionality of just world beliefs from a different angle. Focusing on long-term goals, either as a result of a chronic orientation or a situationally-induced state, makes people more likely to derogate seemingly innocent victims, presumably in an effort to restore their belief in a just world (Hafer, 2000; Hafer, Bègue, et al., 2005). Whereas my findings suggest that societal justice is, for some people, a necessary prerequisite for long-term goal motivation, Hafer and colleagues' findings suggest that people may at least on some level understand this idea, and care more about justice in their world when focused on their long-term goals. Combining our two sets of findings, I suspect that the phenomenon documented by Hafer and her colleagues might also apply most particularly to members of disadvantaged groups. Future research might examine whether individuals from disadvantaged socioeconomic backgrounds, or who belong to ethnic minority groups, are especially prone to enhanced victim derogation when focused on their long-term goals.

Although my results suggest that members of disadvantaged groups care more about justice when pursuing goals, they do not necessarily suggest that members of socially advantaged

groups are indifferent to justice. First, Study 7 demonstrated that members of high status groups

do indeed calibrate their motivation to what they know about societal justice, as long as this

societal justice information bears clear relevance to their own outcomes. Second, there are a

multitude of other motivations unrelated to personal goal motivation that may cause members of

socially advantaged groups to be concerned with justice (as discussed in the introduction, justice

beliefs can enhance well-being and mental health, help people cope with feelings of uncertainty,

and satisfy a broad range of needs including needs to feel like autonomous agents, to identify

with and belong to social groups, and other existential, epistemic, and relational needs; Dzuka &

Dalbert, 2002, 2007; Jost, Glaser, Kruglanski, & Sulloway, 2003; Jost, Napier, Thorisdottir,

Gosling, Palfai, & Ostafin, 2007; Kay, Gaucher, Napier, Callan, & Laurin, 2008; Lind & Tyler,

1988; Lipkus et al., 1996; Montada et al., 1986; Sidanius & Pratto, 1999; Tyler, 1989; van den

Bos, 2001; van den Bos & Lind, 2002; van Prooijen, 2009).

That being said, some research has suggested that members of socially advantaged

groups may not have the same need to believe in societal justice as members of socially

disadvantaged groups (Jost, Pelham et al., 2003). Drawing on system justification theory, Jost

and his colleagues (Jost & Hunyady, 2002; Jost, Pelham et al., 2003) have argued that members

of low-status groups experience cognitive dissonance arising from the conflict between their

belief that the system unjustly disadvantages them, and their belief that they themselves are, by

their acquiescence, contributing to the stability of this system. According to this model, low-

status group members thus have a strong need to reduce this ideological dissonance through

system justification, which explains the observation that at least some of the time, members of

low status groups appear more motivated to maintain their belief in the justice of their system

than members of high-status groups (Jost & Hunyady, 2002, Jost & Thompson, 2000). The

research I present here offers a complementary explanation for this phenomenon: Perhaps another reason why members of socially disadvantaged groups may be more motivated to maintain their societal justice beliefs is that for them, especially, these beliefs serve to enable long-term goal pursuit.

Implications for the Study of Self-Regulation

Research on the effectiveness of self-regulation has typically focused on individually-based psychological processes and mechanisms that predict successful goal-pursuit over time. For instance, self-efficacy (Bandura, 1986), implicit theories (Blackwell, Trzesniewski, & Dweck, 2007; Dweck, Chiu, & Hong, 1995), self-regulatory strength (Muraven, Tice, & Baumeister, 1998), and individuals differences in the ability to delay gratification (Mischel, 2008; Mischel, Shoda, & Rodriguez, 1989) and general self-control (Tangney, Baumeister, & Boone, 2004) have received major attention in the literature on successful self-regulation. It is clear that internal, intrapersonal, processes impact self-regulatory success. However, because goal pursuers are often immersed in social and interpersonal environments, and because their efforts are often impacted by other individuals and social structures, it is also important for self-regulation researchers to learn about how external, interpersonal processes may impact self-regulatory success. The present research contributes to growing efforts to understand social influences on self-regulation (Drigotas et al., 1999; Finkel et al., 2006; Fitzsimons & Finkel, 2010) by examining how one particular feature of the social environment – the extent to which it is seen as operating justly – can influence people's motivation to pursue long-term goals.

Thus far, efforts to examine social effects on self-regulation have primarily focused on investigations of close interpersonal and commonly dyadic processes, such as the influence of instrumental friends and family members on people's achievement (Fitzsimons & Shah, 2008)

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and the influence of smooth dyadic interaction on subsequent self-control resources (Finkel et al., 2006). In contrast, the current research contributes a broader perspective, examining how general social structures may impact individual-level motivation toward personal goals via internalized beliefs about justice. In this fashion, the current work extends the important research on the performance effects of being a target of a stereotype, or being conscious of being a member of a stigmatized group (Pinel, 1999; Steele, 1997). Understanding the group dynamics and structural features that shape basic processes in self-regulation is an important area for future research.

Implications for Personal Well-being, Social Equality and Politics

Perhaps the most interesting implications of the present research are practical. Successful goal pursuit is one of the foundations of psychological health and well-being. My research suggests that the motivation of members of socially disadvantaged groups to achieve important goals is dependent on their beliefs about societal justice. It follows then, that for members of socially disadvantaged groups, psychological health and well-being are at least to some degree dependent on justice beliefs. Such individuals need to believe in societal justice to engage in the kinds of long-term goal efforts that are theorized to enhance well-being. While I am not the first to note the connection between justice beliefs and well-being (e.g., Dzuka & Dalbert, 2002, 2007), the current perspective and my emphasis on group differences presents some important novel implications.

First, the well-being of members of socially disadvantaged groups may be more constrained by conditions of societal justice than that of members of socially advantaged groups. Although societal injustice obviously limits the accomplishments of disadvantaged group members via discrimination and other unjust practices that objectively impact how they are

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perceived and treated, my research suggests that even the mere perception of societal injustice may constrain the goals and self-regulatory resources needed to achieve well-being. Perhaps more importantly, from a societal perspective, perceived injustices may end up legitimizing the status quo and further hindering the prospects of members of disadvantaged groups. If members of disadvantaged groups are demotivated by injustice in society, and as a result work less hard and ultimately achieve less, then this may reinforce the notion that members of these groups deserve their inferior status, and make it even more difficult for them to achieve their goals.

Second, the current research highlights the relevance of distinguishing between the consequences of actual justice and beliefs about justice, a point which is made evident in the disturbing possibility raised in the paragraph above. Actual, objective justice has obvious implications for well-being: Members of socially disadvantaged groups are the ones who suffer under conditions of injustice. But empirical attention to the impact of subjective justice on well-being should not be neglected. Although the benefits of justice beliefs in the absence of actual justice are likely limited, the same is likely true of the reverse. It is obviously important to change the *objective* social landscape if one hopes to make strides towards social equality; however, my research suggests that doing so may not reap all the expected benefits if that change is not reflected in the *perceived* social landscape. Changing a company's policies, for example, to more ardently ensure equal treatment of all employees regardless of class, race, or gender will be helpful; but the findings reported here suggest that doing so without also communicating these changes will necessarily limit its effectiveness.

This does not imply, however, that people need to always be kept abreast of the state of social justice if one hopes to encourage more social equality. Although attempts to end injustice and discrimination often involve raising awareness of injustice, the present research suggests a

potentially ironic consequence of such strategies. According to the present research, this strategy may ultimately compound, rather than alleviate, inequality. That is, attempts to raise the public's awareness of societal injustice may increase the discrepancy between the achievements – or at least the motivation to achieve – of members of advantaged and disadvantaged groups. Perhaps focusing on the relative differences in societal injustice ("we have come a long way, but more progress needs to be made") would be an effective means of circumventing this potential unintended consequence of awareness campaigns.

Integrating these implications with existing literature. The implications I have just sketched follow directly from my findings on the link between justice beliefs and goal pursuit, for members of disadvantaged groups. However, real-world implications must ultimately be drawn not from one set of findings, but from an integration of a whole body of literature. How does the balance sheet of the costs and benefits of perceiving justice come out when one considers all existing social psychological research? It is beyond the scope of this dissertation to make an exhaustive list; however at this juncture it is appropriate to describe at least a portion of the broader context within my research is situated, to illustrate the complexity of this question.

First, my research is not the only perspective which suggests that perceiving justice is beneficial – and injustice deleterious – for members of disadvantaged groups. The findings described here suggest that perceiving injustice can reduce these individuals' motivation particularly in academic and career domains. Stereotype threat research (Steele & Aronson, 1995) suggests a different but complementary pathway via which perceiving the potential for prejudice reduces performance in these domains. According to this body of research, when members of negatively stereotyped groups encounter a scenario where they could potentially confirm the negative stereotype in the eyes of observers – for instance, when members of certain

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ethnic minority groups enter into an academic testing situation – their performance drops. This drop occurs as a result of stress, performance monitoring and the suppression of negative affect, which distract negatively stereotyped individuals from the task at hand (Schmader, Johns, & Forbes, 2008). In other words, the stereotype threat phenomenon does not implicate reduced motivation as an immediate response to situational threat, which makes it distinct from my research – in fact, if anything the stereotype threat prediction should be that individuals experiencing stereotype threat are more, not less, motivated to perform well. That being said, the high levels of motivation I found among members of disadvantaged groups under high perceived societal justice show a nice parallel to the stereotype threat notion that members of many disadvantaged groups have strengths that remain hidden until they are confident that they will be treated fairly and non-prejudicially (see Walton & Spencer, 2009).

Another body of research that speaks indirectly to the benefits of perceiving justice for members of disadvantaged groups was discussed briefly in the introduction. A number of researchers have identified a so-called personal/group discrimination discrepancy: A phenomenon whereby members of stigmatized groups, even when they acknowledge discrimination against their group, can be more reluctant to accept that discrimination happens to them as individuals (Crosby, 1982; Taylor et al., 1994). In the words of Claude Steele, this discrepancy arises because of the negative consequences of perceiving injustice: "One of the most devastating things is to think, 'This is a racist situation and my prospects really will be affected by racism.'… It's devastating to think, 'I'm dealing in a world where the deck is stacked and there's nothing I can do'" (Cose, 2011, p. 14). While the personal/group discrimination discrepancy does not directly speak to the processes I have identified here, the devastation

described by Claude Steele is precisely what I hypothesized leads to decreased motivation among members of disadvantaged groups with low societal justice beliefs.

Other research, though, has illustrated the opposite side of the justice belief coin, and documented the negative effects of believing in justice – and the positive effects of believing in injustice – for members of disadvantaged groups. Abundant research has demonstrated the benefits for members of disadvantaged groups of being able to attribute failures to discrimination, thus protecting their feelings of self-worth (Crocker & Major, 2003; Crocker, Voekl, Testa, & Major, 1991; Major & Crocker, 1993). It follows, then, that because believing in societal justice precludes this protective mechanism, it might lead to feelings of frustration and low self-worth among members of disadvantaged groups (Jost & Thompson, 2000). This effect is likely strongest when objective societal justice is low and members of disadvantaged groups who nonetheless believe in societal justice experience frequent failures which they cannot otherwise explain. Even worse, these latter circumstances might be particularly likely to lead to John Henryism (James, 1994), a phenomenon whereby members of disadvantaged group members encounter repeated unjust failures which they fail to attribute to discrimination, and respond with the investment of even greater efforts. While these efforts might sometimes be rewarded with material success, they take their toll when it comes to health, leading to hypertension as well as other health-related problems. This phenomenon fits my findings regarding the motivational effects of justice beliefs, and illustrates further the dangers of exaggerated beliefs in societal justice.

The final balance. Research, then, is mixed when it comes to the positive and negative effects of believing in societal justice. The contrasting effects are illustrated nicely in recent work on the effects of anticipating prejudice. When ethnic minority individuals encounter others

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whom they expect to be prejudiced, their own experience of the interaction is more negative. However by the same token, because they become more concerned with behaving in ways that their interaction partner will approve of, their interaction partner ends up with more positive impressions of them (Shelton, Richeson, & Salvatore, 2005). In other words, ethnic minorities who anticipate the injustice of prejudice experience interpersonal gains at intrapersonal costs.

In summary, I must conclude that there is no clear answer to the question "Is it better for members of disadvantaged groups to believe in societal justice or societal injustice?" Each belief comes with a distinct set of advantages and disadvantages, and which set is most beneficial depends on the person and situation in question. To tie this notion to the present thesis' focus on self-regulation, one could imagine an integrative model whereby the question is analyzed separately for each phase of goal pursuit. Such a model might posit that while setting goals and pursuing them, believing in societal justice would give members of disadvantaged groups the most motivation and therefore the greatest chance of success. It might even grant them the greatest degree of approval from observers. In contrast, when looking back on one's past attempts, believing in societal injustice might protect members of disadvantaged groups from feeling incompetent when setbacks are experienced and, where applicable, from feeling that they had confirmed a negative stereotype about their group. However even this two-step formulation is likely too simplistic, given what we know about observers' interpretations of invested effort (Hong, Chi-yue, Dweck, Lin, & Wan, 1999) and about perceptions of those who claim to have been victims of discrimination (Kaiser & Miller, 2001, 2003). More elaborate integrative models might be formulated and tested in future research.

Limitations and future directions

      The question of behavior. Although the studies described here provide reasonably persuasive evidence that the motivation of members of disadvantaged groups is sensitive to their beliefs about societal justice, they are silent on the question of the downstream consequences for behavior. I did try to go beyond simple self-report measures of motivation – in Studies 2 through 4 I used a statistical technique to isolate a motivation component from a more complex response, and in Studies 6 and 7 I used a behavioral intention measure. Nonetheless, none of the seven studies examine how societal justice beliefs affect the behavior of members of disadvantaged groups. Although this may have been a necessary first step in order to differentiate my findings from the stereotype threat literature, the question remains as to whether members of disadvantaged groups actually try harder, and perhaps perform better, when they believe in societal justice. Future research could employ laboratory paradigms as well as longitudinal designs in real-world settings to further explore this question. Preliminary results from a lab study show that ethnic minority participants presented with a manipulation similar to the one used in Study 7 (but targeted at their group) showed less persistence on an anagrams task, and showed marginally worse performance (Laurin, 2012a); however this effect must be replicated to assess its reliable. Another interesting way of testing for behavioral effects of justice beliefs might be to design an intervention for college students based on the principles described here, and investigate whether this intervention can improve academic performance among members of targeted disadvantaged groups.

      Motivated by *in*justice? Throughout this paper, I have reasoned that it is functional for members of disadvantaged groups to calibrate their motivation on long-term goals to their beliefs about societal justice. However, there is also reason to believe that this calibration tendency may

also have negative consequences for members of disadvantaged groups, and, relatedly, that there may be times when the effect can be reversed. With regards to the negative consequences, it is true that in a completely unjust world where members of disadvantaged groups are routinely and without exception barred from breaking into certain careers, for instance, it makes little sense to work towards achieving these careers. In such a case, tying motivation to perceptions of societal injustice would save disadvantaged group members from working fruitlessly. However, it is also true that for the most part modern societal injustice is rarely so blatant as to completely exclude people based on their social group membership. In all but the most discriminatory societies, unambiguously outstanding candidates can often overcome biases against their social groups (see Dovidio & Gartner, 2000). In other words, even in an unjust job market, some members of disadvantaged groups might be able to attain many career goals. If instead they work *less* hard toward their career goals when they perceive a discriminatory tendency in the job market, though, then they will be less likely to achieve the goals that they *might*, albeit with great difficulty and against steep odds, have attained. Thus, my research suggests that believing in societal justice might benefit members of disadvantaged groups in the narrow, goal-specific sense, in that it allows them to direct their energy toward obtaining desired outcomes. Taking a step back and considering the larger social picture, however, makes it less clear whether the tendency of members of disadvantaged groups to calibrate their motivation to their justice beliefs is, on balance, functional or dysfunctional.

With regards to the possibility of reversing the effect, when an obstacle lies in a person's path, whether that obstacle is societal injustice or something completely unrelated, that person can respond in at least two different ways. These roughly correspond to the ideas of "fight" and "flight". First, she can turn away from that path, stop pursuing the goal that lies at its end, and

perhaps choose to instead invest her efforts in pursuit of goals that seem more attainable. This "flight" response is analogous to what I detected in the studies reported here: Participants who perceived that societal injustice threatened their goal pursuits became less motivated to pursue those goals. Her second response option, though, is to attempt to surmount the obstacle, which would require a greater commitment to her original goal and a larger investment of effort. Although I found no sign of this in my studies, I suspect there may be conditions which pull for this "fight" response. For example, it may be that exposure to exemplars who have successfully overcome obstacles leads members of socially disadvantaged groups to be more, rather than less, motivated by unfairness (see Marx, Ko, & Friedman, 2009, for evidence of the positive effects of such exemplars). In a similar fashion, it may be that strong feelings of power or self-efficacy give people the confidence to believe they can overcome the obstacle of injustice. Alternatively, thinking about how the social world is dynamic, and how societal justice is subject to change over time, may inspire members of disadvantaged groups to try to overcome societal injustice in hopes of disproving prejudicial attitudes and eventually overturning systemic discrimination. Future research should investigate these as well as other possibilities.

This notion of being inspired by injustice may also help account for the two occasions where I found marginally significant or fully significant reverse patterns among members of advantaged groups. It may be that these represent the inspirational effects of injustice. Both times I found those effects using a subtle scrambled sentence prime, rather than a more direct or obvious manipulation of societal justice beliefs. Moreover I found the effect most strongly when I used an injustice prime rather than a neutral prime, to contrast with the justice prime. Speaking speculatively, it could be that the injustice primes, although they did not change the beliefs of advantaged group members about personal just treatment, nonetheless activate the concept of

"obstacle" in their minds. It could also be that members of advantaged groups typically feel powerful and self-efficacious – perhaps thanks to their history of having had access to the resources to help them successfully overcome obstacles – and that this allows them to produce the "fight" reaction in response to the mere notion of injustice. I cannot substantiate these ideas with any definitive empirical evidence at this time, but perhaps future research can address them.

Societal justice and collective goals. In all studies reported here, I deliberately chose to measure self-regulation in the context of individual goals. However collective goals – goals that are pursued with or for others – form an important category of goals about which the current research is silent. How do beliefs about societal justice influence collective goal motivation? This question must be answered empirically; however I can offer two speculations. On the one hand, they might operate similarly to individual goals, in which case the key factor might be the extent to which the goal is justice-relevant. Imagine a group of people who aim to improve sustainability within their workplace. If their plan is to approach this goal from within the existing structure of their workplace, then the likelihood of their success depends to a large extent on how justly and fairly that structure operates. If they plan to form committees, attend board meetings and propose motions, then they may be more likely to move forward if they trust that their ideas will be judged on their merits, and not on the gender, ethnicity or status of those who put them forward. Moreover, I would argue based on the same reasoning that underlies the hypotheses I have tested here that they are likely to be especially sensitive to these kinds of considerations if they are members of disadvantaged groups. But if this same group of people aims to approach the same sustainability goal from outside of the existing structure – if their plan involves more radical action than bureaucracy – the degree of justice present in their workplace becomes irrelevant, and is therefore unlikely to influence their motivation.

On the other hand, there are at least two reasons why it might be appropriate to consider collective goals as separate from individual goals, and why injustice might in fact act as a catalyst to them. First, given the results from Studies 6 and 7 which showed how injustice can orient people towards their social goals, because collective goals are pursued with or for others then they might fall into social goal categories. Second, many collective goals are aimed at improving society, or at least a portion of it. Injustice may signal that something is wrong with society, and therefore motivate people towards social improvement goals. This latter possibility flies in the face of much of system justification theory (Jost, Banaji, & Nosek, 2004); however that theory notwithstanding other researchers have begun to identify the conditions under which system improvement becomes a viable goal (Johnson & Fujita, 2012). All in all, how societal justice beliefs influence collective goal pursuit remains an unanswered question in need of future research.

Women as a disadvantaged group. In the present studies, I have tried to stay true to my original hypothesis, which concerned the entire category of socially disadvantaged groups rather than any specific disadvantaged group. In my laboratory studies I used both socioeconomic status as well as ethnicity as markers of disadvantage, and in Study 5 I was able to use both markers in a single dataset. While my hypotheses are consistently supported using both of these indicators, I have repeatedly failed to find my predicted group differences using gender as a marker of disadvantage. Here I offer three speculative explanations for this fact.

First, the absence of gender differences could represent a serious challenge to my theoretical position, and suggest that I have incorrectly identified the moderator of the strength of the effect of justice beliefs on motivation. Indeed, even though SES and ethnic status both moderate the effect, and both are markers of social disadvantage, it is possible that they also

share some other commonality – one which makes them distinct from gender – that explains their apparent similarity in this regard. While this explanation is logically sound, I find it implausible. Women share many of the similarities that exist between people with low SES and members of ethnic minorities – for instance, all three groups tend to be poorer, more religious, and more liberal (e.g., Cohen & Haberfeld, 2003; De Vaus, & McAllister, 1989; Light & Gold, 2000; Lundberg & Startz, 1988; Miller & Stark, 2002; OECD, 2008; US Beureau of Labor Statistics, 2010) – and moreover I controlled for these latter two variables in Study 5, so I am skeptical that the effects I found are driven by something other than social disadvantage.

Second, the absence of gender differences could be taken to mean that women are not – or at least, do not view themselves – as a disadvantaged group. It is true that broadly speaking, gender equality has improved over the last few decades. However, given the (ample) evidence that there are still important status differences between men and women (e.g., Haveman & Beresford, 2012; Skaggs, 2012), it seems unrealistic to think that women simply believe that they are no longer a disadvantaged group (e.g., see Kosslera et al., 2011).

What seems more likely is a third explanation: That women's view of their social status is context-sensitive, and that my studies have generally taken place in contexts where women are not particularly disadvantaged. In all studies except Study 5, female participants were primarily psychology undergraduates. In psychology courses, women typically outnumber the men, and the successful role-models (i.e., the professors and teaching assistants) are often female. Thus it seems plausible to assume that women do not view themselves as disadvantaged in the context of psychology courses. Because my female participants completed the studies for credit in psychology courses, at the time of study completion they may not have been feeling that being a woman made them particularly disadvantaged. Had I recruited my participants in a context that

made gender inequalities more salient, I might have detected the gender effect my hypothesis should predict[16].

This third explanation leads to a prediction I have tested by re-analyzing the WVS sample from Study 5. If women's view of their social status is context-sensitive, one relevant context should be the overall level of gender equality in the environment, which I operationalized as each country's degree of gender equality, as measured by the UN. I predicted that in countries where there is a large degree of gender inequality, women should perceive themselves as relatively disadvantaged, and in those countries I found that, consistent with my hypothesis, women calibrate their motivation to their justice beliefs to a greater extent than men. In countries that have achieved greater gender equality, though, women may not conceive of themselves as disadvantaged, and in these countries I found no gender difference in the justice–motivation link (Laurin, 2012b).

These results notwithstanding, at this point I cannot make firm claims about the absence of gender effects in my studies. Although I view the third explanation as the most plausible, further empirical study is needed to produce more definitive conclusions.

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[16] A similar logic might predict that my primarily Asian samples of ethnic minority students would not have shown the predicted calibration effect had I conducted the studies in the context of engineering or math courses, where at the University of Waterloo many faculty advisors and teach assistants are non-Caucasian, and where Asian students are stereotyped in a positive manner. In psychology courses, though, Asians represent a minority group both in terms of students and role models, and as a result my Asian participants may have been aware of their status as disadvantaged group members. It may also be the case that, for reasons unknown, women's perceptions of their own disadvantage are more context-sensitive than the self-perceptions of ethnic minorities. Further research might test these speculations by directly measuring participants' perceptions of their disadvantaged status.

Conclusion

Although considerable strides have been made over the past two decades in understanding when and for whom justice concerns are aroused, experimental research examining the functionality of justice beliefs remains notably absent (Hafer & Begue, 2005). In the absence of such research, our understanding of the psychological roots and antecedents of justice beliefs will remain incomplete. I believe the studies reported here represent a significant step towards addressing this gap in the literature, and, at the same time, connect the psychology of justice to both processes of self-regulation and group identities.

My findings also carry significant political implications, however I believe these must be placed within the context of a broader body of knowledge. It may appear at first glance that my findings represent an endorsement of the idea that societal unfairness should not be discussed, and that those who heighten awareness of societal injustices may unintentionally exacerbate problems for disadvantaged groups. It is true that I have found that in some contexts, believing in societal justice offers a significant motivational benefit to members of disadvantaged groups. In the long term, however, keeping quiet about discrimination and believing in a fictitious form of societal justice will likely lead to worse, rather than better collective outcomes, such as repeated failure and frustration, poor psychological adjustment, and even poor physical health (Crocker & Major, 2003; Crocker, Voekl, Testa, & Major, 1991; Jost & Thompson, 2000; James, 1994; Major & Crocker, 1993). It is my hope that further research will shed light on how to handle public awareness of societal injustice in a way that will ultimately contribute to enhancing societal justice.

Appendix A

Belief in Ultimate Justice scale items

(R) 1. I believe that many good deeds go unrewarded in the end.

(R) 2. I believe that many bad deeds go unpunished in the end.

3. I believe that, in the long run, the bad things that happen to people are offset by good things.

4. I believe that good people are rewarded in life, although not always immediately.

5. I believe that bad people are punished in life, although not always immediately.

6. I believe that, in the long run, people get what they deserve.

7. I believe that people's efforts are eventually noticed and rewarded in life.

8. I believe that over the course of one's life, justice is always served in the end.

Items marked with (R) are reverse scored

Appendix B

Measure of mother's and father's occupational prestige used to verify measure of subjective SES

Please read through the categories of occupations below, and select the category corresponding to the occupation of each of your parents. You may not find your parents' specific occupations in any of the categories; simply choose for each of your parents the category you feel his or her occupation fits best.

1   Day labourer, janitor, house cleaner, farm worker, food counter sales, food preparation worker, busboy

2   Garbage collector, short-order cook, cab driver, shoe sales, assembly line workers, masons, baggage porter

3   Painter, skilled construction trade, sales clerk, truck driver, cook, sales counter or general office clerk

4   Automobile mechanic, typist, locksmith, farmer, carpenter, receptionist, construction laborer, hairdresser

5   Machinist, musician, bookkeeper, secretary, insurance sales, cabinet maker, personnel specialist, welder

6   Supervisor, librarian, aircraft mechanic, artist and artisan, electrician, administrator, military enlisted personnel, buyer

7   Nurse, skilled technician, medical technician, counsellor, manager, police and fire personnel, financial manager, physical / occupational / speech therapist

8   Mechanical / nuclear / electrical engineer, educational administrator, veterinarian, military officer, elementary / high school / special education teacher

9   Physician, attorney, professor, chemical and aerospace engineer, judge, CEO, senior manager, public official, psychologist, pharmacist, accountant

Appendix C

Text from justice and control conditions in Study 3

Justice condition:

Good news for Canada!

Since very early on, there have always been people who were concerned with justice, fairness and the equal treatment of all human beings. Recent sociological advances have permitted researchers to establish a single unbiased index of fairness using objective indicators such as education levels, individual wealth and health outcomes within a given country. For instance, this index takes into account how well people's financial outcomes and professional success are determined by their hard work and the education they complete, as opposed to being attributable to demographic variables and biased perceptions.

This research has recently focused on Canada, and has found that in the past decade, Canada has become a much more fair place. In other words, it is becoming more and more likely that the hard work of Canadian citizens will translate into occupational success, and less likely that factors such as gender or family connections will have an influence. Furthermore, the inequalities between demographic groups in terms of physical health and emotional wellbeing are becoming smaller and smaller.

Overall then, it seems that Canadian society is becoming more and more fair, and all indicators point to this trend continuing over the next several years.

Control condition:

Good news for the spotted tree frog!

Since the very early days of objective science, ecologists have taken a special interest in the biodiversity of and extinction patterns. Recent biological advances have permitted researchers to establish a single unbiased index of survival rates of various species using objective indicators such as average lifecycle, the slope of population change and the yearly changes in the prevalence of both predators and food sources. For instance, this index takes into account how well increases in population size can compensate for increases in the number of predators, and how well the availability of food sources can support a growing population or an increasing long-lived one.

This research has recently focused on the spotted tree frog, found in the Amazonian rainforests, and has found that in the past decade, its likelihood of extinction has dropped dramatically. While only 15 years ago, this animal figured prominently on the list of the world's most endangered species, it appears that its low population has simultaneously led to a decrease in the prevalence of its predators and an increase in the abundance of food sources. Furthermore, its lifecycle is getting longer and longer, indicating that fewer spotted tree frogs are dying premature deaths.

Overall then, it seems that the spotted tree frog is in less and less danger of extinction, and all indicators point to this trend continuing over the next several years.

Scrambled sentences used in Studies 4 and 6

Justice sentences (Studies 4 & 6)

well independent do people class
goals grow is accomplishing
    satisfying
hat always seatbelt wear your
usually diligence alone rewarded is
fair close usually is life
people are merit judge on
a computer time calculator saves
living opportunity earn good a
agreeable moves ambition you
    forward
effort positive prosperity leads to
healthy crowd very competition is
people responsible carry get ahead
fun exercise can hard be
to try persistence success leads
encourage children dream to people
effective had working
    independently is
lots water of conserve drink
you makes self-reliance strong
    causes
hands keep clean nose your
deserve people rich house it

Neutral sentences (Study 4 only)

cakes she fluffy likes cats
warm are coats winter shiny
football game is a sport
gift is life a sound
movies sad entertaining are action
fun gatherings coffee are social
experience travel is an learning
world around to sail the
by college goes quickly time
priceless friends are short good
a computer time calculator saves
sunsets can beautiful short be
classes offer development
    intellectual promote
books open worlds count new
hat always seatbelt wear your
fun exercise can hard be
encourage children dream to people
lots water of conserve drink
hands keep clean nose your
train romantic rides carriage are

Injustice sentences (Study 6 only)

groups face cat disadvantages some
coat society be unequal can
hat always seatbelt wear your
hard work sound enough isn't
difficult is often achievement
    movies
often unfair is coffee life
hardships face many an people
wise the are people elderly
the advance to it's hard
can people biased be fork
life others make cup difficult
for are opportunities not equal
rewards given should unfairly are
people good get anyway punished
beautiful paintings lead can be
success people few idea achieve
fly bugs light end towards
blocks opportunities personal often
    discrimination
sometimes people bad very succeed
hard often glass fail workers

Appendix E

Pilot test: Which goals do people associate with justice?

With this pilot test I aimed to identify examples of goals which people do not associate with justice – or which they at least associate with justice to a lesser degree than they would academic or career goals. I selected health goals, social goals and spiritual goals as potential candidates, and sought to compare the extent to which people perceived these goals as justice-relevant to the extent to which they perceive academic, professional and financial goals as justice-relevant.

Participants. I recruited fifty-four American residents (33 women, 21 men and one person who did not report gender, M_{age} = 32.4 years) via Amazon Mechanical Turk (www.mturk.com) who participated online in exchange for a small sum.

Procedure. Participants first encountered a list of goals listed in alphabetical order: Academic goals, financial goals, health goals, professional goals, social goals, and spiritual goals). They read that "The researchers are interested in what kinds of things people see as relevant to fairness. Which of the following goals do you see as most relevant to fairness or deservingness? That is, for which of these goals does it make the most sense to say that someone's success or failure was "fair" or "unfair"? Please select up to three (3) goals you see as most relevant to fairness."

On the next page, they then rated a series of specific outcomes according to how relevant they could be to justice. Specifically, they rated statements that took the form "How much sense would it make to say that it was 'fair' or 'unfair' that someone…" on a scale from 1 (*no sense*) to 7 (*a lot of sense*). I included two items relevant to each goal; these items are listed in Table A1.

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Table A1

Items used to measure justice-relevance

Item	Order	Goal type
How much sense would it make to say that it was "fair" or "unfair" that someone…		
... succeeded in getting an A in a course	9	Academic
... failed a test	11	Academic
... got in trouble at work	4	Professional
... succeeded in getting a promotion at work	6	Professional
... succeeded in saving enough to retire	7	Financial
... failed to save enough money for a car	8	Financial
... failed to improve their cardiovascular fitness	2	Health
... succeeded in losing 10 pounds	12	Health
... made a new friend	1	Social
... failed to support a friend in need	5	Social
... failed at communing with God	3	Spiritual
... successfully joined a new church	10	Spiritual

Results

When selecting the goals they saw as most relevant to fairness, a chi square revealed significant differences in the number of participants selecting each goal, $\chi^2(5, N = 139) = 30.1$, $p < .001$. Thirty-eight participants selected academic goals, 33 selected professional goals, and 28 selected financial goals. Only 10 participants selected each of social and spiritual goals, and 20 selected health goals. Thus, academic and professional goals, along with financial goals, appear to be seen as more justice-relevant than health, social and spiritual goals.

When rating the justice-relevance of various goal outcomes, a within-subjects ANOVA (with goal type as the within-subjects factor) revealed significant differences in the perceived justice-relevance of the goals, $F(5, 54) = 29.43$, $p < .001$. Table A2 presents the means and standard deviations, as well as the simple comparisons between each goal.

Table A2

Means and standard deviations, and significance tests comparing justice-relevance ratings for each goal type

Goal type	M	SD	Fs (degrees of freedom: [5, 54]) 1	2	3	4	5
Academic	5.03	1.45	-	-	-	-	-
Professional	5.27	1.53	0.83	-	-	-	-
Financial	4.04	1.72	13.58**	21.12**	-	-	-
Health	3.79	1.71	21.12**	30.34**	0.83**	-	-
Social	3.38	1.58	37.42**	49.41**	5.92**	2.31^t	-
Spiritual	2.51	1.59	87.63**	105.55**	32.23**	11.63**	10.53**

t p < .10   * p < .05   ** p < .01

Appendix F

List of activities given in Studies 6 and 7

Order	Type	Activity	Study 6 α	Study 7 α
	Academic		.50	.39
2		studying for tests		
4		doing readings for class		
16		working on assignments		
	Social		.47	.50
8		hanging out with friends		
12		going to a party		
17		catching up with friends via phone or email		
	Health		.51	.56
10		planning a healthy meal		
13		working out at the gym		
15		going to a group fitness class		
	Pleasant		.09	.13
3		watching TV		
5		eating		
9		surfing the net		
11		shopping		
14		napping		
	Chores		.22	.69
1		doing dishes		
6		showering / shaving / grooming		
7		doing laundry		
18		cleaning your room		

Appendix G

Screenshots used in Study 7

Injustice condition:

Control condition:

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