CHAPTER 10

PSYCHOLOGICAL IMPORTANCE OF BELIEFS IN CONTROL AND ORDER: HISTORICAL AND CONTEMPORARY PERSPECTIVES IN SOCIAL AND PERSONALITY PSYCHOLOGY

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The scientific study of beliefs in personal control has a long and storied history. Noting a distinct, persistent, and perhaps even stubborn tendency for people to perceive a sense of ownership and control over their actions and the environment (even in situations in which external factors clearly serve as the dominant causal force), scholars from a variety of disciplines have sought to understand the basis of this intrapsychic motive. Perhaps nowhere has this scientific pursuit been more active over the past half century than within the fields of personality and social psychology. Indeed, since at least the 1960s, personality and social psychologists have maintained a consistent focus on this question. During this period, perspectives and approaches to understanding the psychology of personal control have varied, to be sure. But there has also been a consistent accumulation of knowledge, one that has connected beliefs in control and agency to other psychological phenomena and broadened our understanding of control beliefs to fit larger motivational frameworks. As a result, the reasons why people are so often determined to preserve beliefs in personal control have become clearer, and so has our realization of the myriad ways in which need for control can explain social and psychological phenomena that, on the surface, appear to have little to do with personal control.

It has become apparent, over the past several decades, that people see themselves as possessing an unrealistically high degree of control. Although much of this research has focused on the notion of free will and the cognitive processes that give rise to what is perhaps an inflated perception of people's role in generating their own choices, preferences, and actions (Wegner, 2003), a large subset of this research has focused on the extent to which people often falsely believe they control aspects of the environment and world external to the self. Perhaps most notably, Ellen Langer's (1975) classic research on the illusion of control demonstrated a range of factors (including familiarity, competition, choice, and involvement; all of which, according to Langer, act as skill cues) that lead people to feel an inflated sense of their ability to control random or chance outcomes, such as random lotteries or guessing games (also see Jenkins & Ward, 1965). For example, participants given the opportunity to choose a lottery ticket believed they had a greater chance of winning than participants assigned a lottery ticket (Langer, 1975, Study 2). Other research has pushed this phenomenon even further. Investigations of the limits of magical thinking, for instance, have demonstrated that people induced to think encouraging thoughts literally felt a degree of responsibility for the success of a peer's performance on a basketball shooting task and that people induced to think harmful thoughts believed they actually caused harm to another individual (Pronin, Wegner, McCarthy, & Rodriguez, 2006).

Not only do people tend to exaggerate how much they control their environment, they also have an inaccurate and usually inflated perception of how much they control their own thoughts and behaviors. Sometimes people observe their behaviors and infer that they were due to something internal—such as a personal preference or trait—when the behaviors were really due to situational factors. Consider a rather extreme but interesting case of this type of error. Split-brain patients are individuals who, as a treatment for epilepsy, undergo surgery to sever their corpus callosum, the bundle of neurons in the brain that connects and allows communication between the left and right hemispheres. In studies with split-brain patients, researchers Michael Gazzaniga and Roger Sperry were able to communicate with the right and left hemispheres separately by presenting pictures or sounds that could be processed by only one hemisphere (Gazzaniga, 2005). For right-handed people, although the right hemisphere can recognize simple words, the left hemisphere controls sophisticated verbal tasks such as generating spoken sentences. In one study, experimenters presented a written command—"Walk"—exclusively to the patients' right hemisphere. The patients then carried out the command—that is, they stood up and started walking. When asked why they were walking, however, their left hemisphere provided a justification, for example, "I'm going into the house to get a Coke." The patient interpreted his or her own behavior as the result of an internal desire, unaware of the influence of external stimuli.

Studies with split-brain patients have provided vivid examples of individuals whose knowledge of their personal control is impaired by neurological damage, but the truth is that everyone is a little impaired when it comes to accurately judging how situational factors influence what they think and do. In a classic study by Nisbett and Wilson (1977), women were asked to evaluate the quality of four pairs of nylon stockings. For each woman, the pantyhose were randomly ordered, and after evaluating each pair from left to right, each chose the pair she preferred. On the basis of prior research, Nisbett and Wilson knew that the order of the

nylons would influence people's preferences, and in fact, women chose the rightmost pair of nylons almost 4 times more often than the leftmost pair of nylons regardless of which pair was actually placed in those positions (given that most people look from left to right, this preference reflects a recency effect). However, when asked how they made their choice, no participant ever mentioned that the order of the nylons affected her decision, and participants thought the researcher was a little crazy when he asked them directly whether the order had mattered. This study, and dozens like it, gives testament to people's typically inflated view of control and agency.

These are some of the more striking examples of people's exaggerated sense of personal control, but scholars have considered a variety of related phenomena for decades. In this chapter, we trace the history of approaches to investigating the human motives for control and agency, integrating social psychological theory and research with insights from clinical and personality psychology. We begin by summarizing classic and contemporary approaches that focus on primary personal control—the individual's belief that he or she is capable of obtaining desired outcomes—and its role in promoting positive psychological functioning. We then describe a second historical wave of research in the investigation of control processes, which showed that people can derive a sense of control by investing faith in external sources of agency (e.g., deities) seen as influencing personally relevant outcomes. Next, we review more recent theoretical approaches that examine how control motivation relates to other psychological motives (e.g., to maintain well-structured conceptions of reality and a buffer against existential anxiety). Research inspired by these approaches has shown that control motivation shapes social perceptions in far-reaching ways not superficially related to this motive. Throughout the chapter, we emphasize how recent empirical findings have extended and refined early theorizing to afford a richer scientific understanding of the role of control motivation in human affairs. We conclude by addressing some underresearched questions and proposing future directions.

TWO EARLY PERSPECTIVES ON CONTROL: INDIVIDUAL VERSUS ENVIRONMENTAL FOCUS

The diverse scholarly perspectives on control motivation that emerged in the first half of the 20th century can be usefully classified into two broad categories. The first may be referred to as the *Adlerian tradition,* which developed out of (or mirrors) the psychodynamic ideas of Alfred Adler (1956) in its emphasis on a primary sense of individual-level control as being necessary for healthy mental function. The second perspective may be referred to as the *Meadian tradition* because it represents the ideas of George Herbert Mead (1934, 1977) and related sociological thinkers, who emphasized the importance of perceived broader control, structure, and routinization in the social and natural world outside the self. In light of an earlier historical review of psychological control research by Haidt and Rodin (1999), we might associate the Adlerian tradition with more motivational and cognitive perspectives on control and the Meadian tradition with a more systemic perspective.

Alfred Adler, originally one of the first champions of psychoanalysis, was also the first of Freud's circle to break away from him and develop his own system of psychodynamic thought and clinical practice, which he called *individual psychology.* Famous for his notion of the inferiority complex, Adler shifted away from a Freudian influence on sexual motivation and argued that humans have an inherent need for superiority, mastery, and control. Whereas Freud took from Friedrich Nietzsche ideas about unconscious motivation, repression, and masochism, Adler was more influenced by the German philosopher's ideas about an inborn will for power being the primary motivating force of human behavior and cognition.

In his psychology, Adler (1956) focused on the importance of the person's gradual development of ideas about control and his or her struggle to acquire independence and self-direction after initial dependence on caregivers. He believed that toddlers' instinct to gain increased mastery over their body and environment eventually grew into a strong motive to attain perfection and self-reliance in adolescence and adulthood. It is important to note that Adler was less inclined than Freud to speak of inherent, unconscious drives as motivating the individual's behavior and focused more in his theory and therapy on the individual's own understanding of his or her motivations. Especially in later writings, he spoke more of the person's goals for mastery and perfection in particular life areas than of drives. According to Adler, the desire for control determined much of the individual's character, and whether the individual was successfully able to acquire a sense of the self as competent and in control determined whether the individual was mentally healthy or maladjusted. In short, the Adlerian tradition emphasizes the individual's motivation to perceive the self as in control of his or her life.

In contrast to Adler's focus on intrapsychic dynamics at the level of the individual, Mead (1934) developed an influential conception of the person that emphasizes his or her situation in social and cultural contexts (Newcomb, 1954). Mead's primary intellectual focus was on how humans' capacity for symbolic thought and language exerted a profound influence on their social organization. Through culturally transmitted symbolic notions, individuals become immersed throughout development in a stable pattern of human interaction. They are socialized to play certain roles within their cultural group and acquire advanced empathetic knowledge about the expectations others have of them to fulfill their particular role (while simultaneously learning what they can expect of others). In essence, Mead illuminated the microprocesses that sustain control at a level including but also going beyond the individual: how, through culture, individuals become largely locked into routinized patterns of controlled and predictable interaction. Working within this contextualized conception of the self, Mead did not emphasize the individual's goal to acquire greater mastery and personal control, as did Adler. Mead's thought stresses the somewhat more passive socialization of the individual into stable patterns of external control—a notion to which contemporary social psychologists interested in control have recently returned (Kay, Whitson, Gaucher, & Galinsky, 2009). From Mead's social-level perspective, individuals do not typically have to struggle to attain

control; rather, they are continually immersed in largely self-organizing webs of socially regulated interaction. Once individuals have been socialized into acceptance of certain norms and expectations regarding their own and others' behavior, they will experience distress and attempt to restore these patterns if they are disrupted. Mead's work inspired a prolific strand of sociology dubbed *symbolic interactionism* (Blumer, 1969), with proponents such as Garfinkel (1984), Schutz (1970), and Goffman (1959) focusing on how people maintain interpersonal control and secure routines in the often uncertain and shifting world of social interaction.

The primary difference between the Adlerian and the Meadian perspectives on control is that although the former stressed the motive to gain control for its own sake and thus had an individualistic focus, the latter stressed the need for a stable, routinized environment in which to pursue goals and life projects and thus focused more on the individual's perceptions of control in the broader environment. These two different approaches to the study of control have reemerged time and again in social psychological research, as we show throughout this chapter. In the subsequent review of the empirical literature on control, we roughly categorize theories and research by pointing to which of these two foundational perspectives—the Adlerian or the Meadian tradition—they primarily belong. It is important to note that, from the beginnings of modern theory and research concerning control motivation, perspectives focusing on personal, individual-level control and broader, environmental control have been present. However, speaking generally, empirical social psychological research was dominated by the Adlerian tradition until the 1980s, when research developments (particularly in the area of cross-cultural investigation) pointed to a need to revitalize and reorganize control research. These developments allowed for greater voice to be given to the Meadian tradition within mainstream social psychology. Finally, in more recent years, perspectives such as compensatory control theory (Kay, Gaucher, Napier, Callan, & Laurin, 2008) have sought a synthesis of the two perspectives, which were often treated (for historical reasons) as separate but which in fact, as we argue, are highly reconcilable.

EARLY CONTROL RESEARCH IN SOCIAL PSYCHOLOGY: FOCUS ON PERSONAL AGENCY AND NEGATIVE CONSEQUENCES OF LACKING CONTROL

Locus of Control

The first strain of empirical research on control motivation to rise to prominence within mainstream social and personality psychology was the work on locus of control (LOC) done in the 1950s through the 1970s (for a review of the foundational work in this area, see Lefcourt, 1966). This research was rooted in a variant of social learning theory, first presented in detail by Rotter (1954) and later recapitulated by Phares (1976). The social learning theory that guided LOC research emphasized that behavior is a function of (a) the individual's expected reward for a particular action and (b) the individual's expectation that he or she can achieve the desired outcome.

The research done by Rotter (1954), Phares (1976), Lefcourt (1966), and their many colleagues in this tradition typically focused on the consequences of having either an internal or an external LOC in a specific situation. If an individual had a high internal LOC in a situation, this meant that the person felt confident that he or she could influence the situation and achieve a desired outcome (in other words, he or she had personal control over the situation). If an individual had a high external LOC in a situation, this meant the person felt that he or she had little ability to influence the situation and that outcomes would be dependent on external forces beyond the person's control (see also de Charms, 1968). LOC was conceived as a perceptual continuum with high internality on one end and high externality on the other (the internality–externality continuum). Although the LOC construct was originally intended to involve situation-specific expectancies, the research in this area gravitated toward a tendency to measure internality and externality as general traits that would predict a wide array of outcomes (Lefcourt, 1981).

Social learning theory and internal–external (I-E) LOC research clearly follows the Adlerian tradition (Coan, 1974; Lefcourt, 1966). Phares (1976) noted that the theory was rooted in the idea that a motive

for competence is the driving force behind much of human behavior. This notion of a competence motive was largely derived from a highly influential review paper written by White (1959, who in turn derived his notion of effectance motivation partly from the ego psychology of the 1950s, the ideas of which can be largely traced back to Adler (Ansbacher & Ansbacher, 1956). The I-E LOC research highlighted in particular the individual's expectancies regarding her or his capacity to influence a situation, which Adler (1956) referred to as the person's *schemas of apperception*. The LOC researchers also shared with Adler an explicit intent to move away from drive theories of human behavior. As Lefcourt (1992) pointed out, control researchers of the 1950s and 1960s followed Adler in their desire to abandon reductionist theories that treated human behavior patterns as inborn and intractable. Social scientists interested in improving the circumstances of maladjusted or underprivileged people and groups within society were attracted to social learning theory because it highlighted people's expectancies, which seemed relatively easier to alter than instincts in the interest of social improvement.

Naturally, I-E LOC research also shared with Adler's work a focus on personality and how personality is heavily influenced by people's motives for personal control. Adler and the social learning theorists differed somewhat, however, in their notion of the optimal personality. Adler felt that the abnormal individual prioritizes the self and its own interests over socially approved goals. The social learning theorists of the 1950s, however, initiated a tradition that viewed self-focus and self-confidence as a marker of the healthy individual. From the perspective of I-E LOC theory, the abnormal or unhealthy person lacked personal confidence and had a fatalistic outlook on the world.

Many of the findings that emerged from this literature seemed to document the potentially negative motivational effects of having a high external LOC. "Externals" (as individuals with this dispositional tendency were often called in reports of these findings) were generally characterized as passive, fatalistic, and less motivated (and likely) to succeed in a variety of areas. Early studies assessed dispositional externality versus internality with Rotter's

(1966) I-E scale. This scale consisted of 27 binary-response items, each of which asked participants to choose one of two sentences as more descriptive of themselves (e.g., "What happens to me is my own doing" or "Sometimes I feel like I don't have enough control over the direction my life is taking"). Participants scoring high in external LOC on Rotter's I-E scale and other related measures behaved on tasks in ways that suggested they believed the outcomes were governed by chance (Coan, 1974). Externals were believed to strive less to master or change their life situations, presumably because they did not believe they had the capability to do so. For example, Seeman and Evans (1962) conducted research with White male patients in a hospital for patients with tuberculosis and found that those with high external LOC had a less extensive understanding of their condition and were less interested in getting information from experts about their condition than those high in internal LOC.

Studies also suggested that those high in external LOC tended to be more conforming (Coan, 1974). For example, Crowne and Liverant (1963) used an Asch conformity paradigm in which participants were asked to make judgments about the length of lines in a group of confederates. In addition, they asked participants to bet on the likelihood that their responses were accurate. Under these circumstances, participants with high external LOC were more likely to yield to social pressure and conform to the (inaccurate) group judgment. Also, on trials when these participants did in fact go against the majority opinion, they tended to bet less money on the accuracy of response (presumably because they were less confident), a tendency that was not exhibited by individuals high in internal LOC.

The I-E LOC researchers were not only interested in chronicling the motivational deficits of people high in external LOC, they also tended to assert that those high in internal LOC would be more likely to experience a variety of positive outcomes. For instance, it was argued that, because of their expectation that they were in control of their outcomes, individuals with a high internal LOC would show greater levels of academic achievement (Phares, 1976). Surveying U.S. students in their senior year of college, Brown and Strickland (1972)

indeed found a significant positive correlation ($r = .47$) between internal LOC and cumulative grade point average in male students and a nonsignificant positive correlation ($r = .16$) in female students.

Much of the classic research on LOC proceeded as though internals and externals were two hard types, with internals being the higher functioning of the two. Thus, at least until the 1970s, the Adlerian tradition reigned in mainstream social psychology, and the answer to the question of why people tended to have an inflated sense of their own personal control seemed to be that this was a healthy illusion.

It is important to note how the social learning theory that inspired I-E LOC research differed from later theories on control motivation (which we review later). As noted, theorists such as Lefcourt (1981) and Rotter (1954) were ultimately interested in assessing domain-specific control perceptions. This means that LOC theory does not address the possibility that sources of control are intersubstitutable. It does not discuss whether, for example, individuals who have fatalistic expectancies regarding interpersonal relationships might be able to compensate for the threat to control experienced in an interpersonal context by affirming control in another domain, such as an athletic competition. Later theories would consider in detail the possibility that control can be flexibly acquired across a variety of levels and domains.

Self-Efficacy

In a review of the early social psychological research on control motivation, it is critical to mention another perspective that highlighted the importance of individuals' perceptions of their own degree of control, namely Bandura's (1977a) theory of self-efficacy. This theory began to generate an impressive amount of research at the end of the 1970s, around the time when the heyday of I-E LOC research had been reached. As with the latter research program, self-efficacy research was largely derived from a variant of social learning theory.

Social learning theory and *cognitive social learning theory* were broad terms for perspectives that emerged in the 1950s to 1970s emphasizing individuals' capacity to develop expectations about

the environment and their own performance on the basis of experience and the role these expectations played in behavior (Mischel, 1973). Bandura's (1977b) interpretation of social learning theory was somewhat more elaborate than Rotter's (1954). Both scholars highlighted the notion that people's expectancies regarding interactions with the environment influence their behaviors and attitudes and ultimately lead to depression or psychological health. However, according to Bandura (1977a), people have both (a) an efficacy expectation, the expectation that they will be able to cope with certain circumstances, and (b) an outcome expectation, the expectation that a certain behavior will lead to a particular outcome (see also S. B. Klein, 1982). Bandura's broad and sophisticated theory synthesized a variety of perspectives on personal control (and motivation in general), and it has had a massive influence, especially in applied areas of research. Although there is not sufficient space to review this work here, reviews may be found in Stajkovic and Luthans (1998) and, more recently, in Maddux and Volkmann (2010).

The fact that the I-E LOC and self-efficacy literatures are both based in variants of social learning theory has made the two lines of research highly similar in perspective and broad conclusions, if not in precise methodology. Both research programs have highlighted the importance for desirable motivational outcomes of individuals' perception that they have the personal resources necessary for influencing their environment and achieving outcomes. However, Bandura (1977a) argued that LOC research focused almost exclusively on outcome expectations—perceptions that personal actions either reliably lead to predictable results or do not—and ignored the person's sense of personal efficacy. Technically, however, this distinction between the two perspectives was somewhat forced, at least at the level of theory. The major source of the difference between Bandura's version and Rotter's (1954) and Phares's (1976) version of social learning theory is that the latter combined personal efficacy and outcome expectancy into a single construct because it defined an expectancy in general as the expectation that one's own behavior will cause particular outcomes in particular situations (Phares, 1976).

In other words, the earlier version of social learning theory and the resultant I-E LOC research did not completely ignore personal efficacy. However, it failed to clearly separate out efficacy and outcome expectancies in the way that Bandura's (1977a, 1977b) more elaborate social learning theory did. As a result, LOC research did not sufficiently account for the potential interaction between people's beliefs about themselves and their beliefs about the workings of their environment. At around the same time Bandura published his seminal ideas, this same shortcoming was also becoming evident in another research program in the Adlerian tradition, the learned helplessness literature.

Learned Helplessness

Although work in the I-E LOC and self-efficacy traditions was demonstrating the potential positive benefits of perceiving the self as globally (or specifically) capable of influencing outcomes, research into a phenomenon that came to be known as learned helplessness was investigating the negative consequences of an extreme absence of such perceptions. Early investigations in this area (e.g., Hiroto, 1974; Seligman & Maier, 1967) showed that both animals and humans display cognitive, behavioral, and affective deficits when they learn that, in a particular experimental context, behaviors categorically cannot influence outcomes. Humans and dogs who were initially given no control over a (generally negative) task—such as determining when they were exposed to a painful blast of noise—developed the expectation that they would never be able to influence this outcome and subsequently failed to show attempts to change their situation even when they were granted the ability to control it. Supporting the broad conclusions being reached within the other Adlerian research programs of the day, researchers of learned helplessness were demonstrating that when people develop an expectation that their actions cannot alter their circumstances, they exhibit inward-directed, passive behaviors and cognitions that are generally maladaptive.

Research clearly established the conceptual link between learned helplessness and being high in situation-specific external LOC. For example, in studies by D. C. Klein and Seligman (1976) and

Miller and Seligman (1975), participants induced to experience learned helplessness gave lower ratings of expected success on a forthcoming task involving skill (unrelated to the task in which learned helplessness was induced). The alarming suggestion was that even temporary experiences of learned helplessness could cause individuals to generalize their sense of a lack of personal efficacy. Not surprisingly, this work was applied to illuminate how individuals emerging from extremely unstable and traumatic experiences (such as childhood abuse or combat) might express depressive tendencies and a lowered sense of personal control.

By the end of the 1970s, however, it was clear that, as with other contemporary dominant perspectives on control motivation, learned helplessness theory needed to be reworked. The theory was critiqued for an overreliance on simple formulations of cognitive processes that equated human with animal cognition and for not taking account of the elaborate ways in which humans make sense of negative circumstances and often maintain a general sense of efficacy despite such circumstances. Abramson, Seligman, and Teasdale (1978) accordingly published a reformulation of the theory that combined it with attribution theory (e.g., Weiner, 1972). The revised learned helplessness theory accounted for the possibility that people might make either a local or a global attribution of helplessness; in other words, people would not necessarily generalize perceived chronic low efficacy in a particular context to perceptions of efficacy in other areas of their lives. Furthermore, the revised theory made a distinction between perceived personal as opposed to universal helplessness. In a highly unstable and externally controlled situation, people might develop the expectation either that only they personally were unable to determine outcomes or that anyone in the same circumstances would be unable to determine outcomes. The difference between these learned expectations could have important consequences for subsequent behavior, coping, and self-relevant cognitions.

The fact that the pioneers of learned helplessness research (Seligman and colleagues) felt compelled to integrate research on attributional styles into their theory suggests that a second wave of research on

control motivation was emerging in the latter half of the 1970s (a trend also spoken to by the emergence and popularity of Bandura's ideas about self-efficacy). Increasingly, researchers were seeing a need to take into account people's broader notions about how control operates in their environment and for others rather than exclusively focusing on self-related expectancies. The initial body of work within social psychology on control—which had been primarily consonant with and influenced by Adler's individualistic psychology—was being modified to incorporate aspects (e.g., attribution theory) derived more from the Meadian, symbolic interactionist tradition, which highlighted the individual's perceptions and expectations concerning the environment.

SECOND WAVE OF CONTROL RESEARCH IN SOCIAL PSYCHOLOGY: FOCUS ON PERCEPTIONS OF THE ENVIRONMENT AND CULTURAL DIFFERENCES

Just-World Theory

At the same time as I-E LOC and learned helplessness researchers were investigating people's perceptions of personal control and expectancies regarding their own outcomes, a handful of social psychologists were examining people's perceptions of environmental control and their reactions to other people's outcomes. The major perspective guiding much of this work was Melvin J. Lerner's (1980) just-world theory. The kernel of this theory was the idea of a personal contract between the individuals and their social environment that is normatively formed during the course of childhood development (Lerner, 2002).

The personal contract referred to individuals' learned expectation that outcomes in life will be fair and balanced. Drawing inspiration from Meadian ideas, Lerner (2002) argued that this expectation forms the foundation for the individual's ability to delay gratification and plan future behavior. If the person is convinced that postponing satisfaction of one's self-interest and cooperating with others will ultimately result in a larger reward, then the person should willingly do so. To be convinced that this will be the case, however, the person must come to believe that life is fair, that good behavior and

intentions produce good outcomes in the long run. Because Lerner saw this belief as so critical for the socialization process, he agreed with Mead that the social origins of the self instill an abiding concern for the outcomes experienced by others. If other people experience unjust outcomes, this suggests that the social environment might not be stable and the consequences of actions might not be predictable.

Thus, just-world theory paid more attention to individuals' perceptions of control and structure in the environment than to their assessments of their own abilities. Accordingly, research inspired by just-world theory focused less on individuals' reactions to their own experiences and more on their reactions to the experiences of others. Indeed, the prototypic experimental context for examining just-world processes was to expose participants to the apparent unjust suffering of another person. Lerner (1980) asserted that the desire to believe in a just world was so strongly instilled in the average person that participants in such a situation would defensively alter their perceptions of the situation to sustain this belief. This belief leads to the rather counterintuitive defensive process referred to as *victim blaming*: People exposed to the unjust suffering of others will convince themselves that those others must have deserved their suffering, inferring character and moral flaws from their misfortune. This phenomenon had been discussed in the prior writings of Heider (1958) and Weber (1946). However, studying victim blaming from the perspective of just-world theory highlighted the most interesting aspect of the process, namely that it is exactly those individuals who common sense suggests should elicit the most sympathy who actually receive the most scorn—people experiencing the most unjust suffering (because they represent the greatest threat to the belief in a just world).

In an early experiment demonstrating victim blaming (Lerner & Simmons, 1966), participants watched another student receiving shocks in an ostensible learning study. Participants were randomly assigned to (a) receive the opportunity to compensate the victim for his or her suffering (by switching the victim to a task on which he or she received money instead of shocks), (b) not be

allowed to end the victim's suffering, or (c) not be allowed to end the victim's suffering and learn that the victim was suffering on their own behalf (by choosing to participate in the unpleasant task in place of the participant). When participants were then given the opportunity to rate the victim, participants in the second condition rated the target sufferer less favorably than those in the first, but participants in the third condition rated the target least favorably of all. It is interesting to note that in this study, just as in many I-E LOC and learned helplessness studies, participants were put into a situation in which they did not have control over a negative outcome. However, just-world researchers became more interested in documenting the internal strategies people relied on to maintain their conviction that, even though they might not have control in this particular situation, the world is still a controllable, navigable, and just place. Although researchers in the Adlerian tradition tended to see only negative consequences in situations in which the individual was denied all personal agency, the more Meadian approach of the just-world researchers prompted them to see the reality-distorting ways in which people protect their threatened beliefs.

Building on the initial victim-blaming studies, researchers demonstrated the victim-blaming phenomenon across a variety of applied domains. In reviewing this work, Hafer and Bègue (2005) encouraged researchers to go further and delineate the different strategies people use to resolve threats to their belief in a just world. To this end, Anderson, Kay, and Fitzsimons (2010) demonstrated one such alternate technique by showing that people exposed to the hypothetical unjust suffering of another attributed greater eventual positive outcomes to the sufferer (also see Jost & Kay, 2005; Kay & Jost, 2003). This psychological defense of seeing a redemption story in suffering is another common way through which people uphold the conviction that, in the long run, life is fair and good things come to those who are good.

As mentioned, research on the belief in a just world infused scholarship on control motivation with a Meadian emphasis on individuals' perceptions of control and stability in the broader environment. Nevertheless, personal control (or at least the

pursuit of personal life projects) remains paramount for the theory in at least two senses. First, the personal contract on which the belief in a just world is based develops out of the child's burgeoning efforts to exercise self-control (by delaying gratification in anticipation of deserved long-term rewards; Lerner, Miller, & Holmes, 1976). In research supporting this notion, Long and Lerner (1974) showed that children with high dispositional tolerance for delayed gratification were more affected by a deservingness manipulation: When they were unfairly overpaid for a task, they gave away more money (compared with children with less tolerance for delayed gratification) to a hypothetical poor child, but when they were paid a fair amount, they gave less money. In short, the justice motive appears to codevelop with the ability to self-regulate in the interest of achieving desired ends and is thus a function of the individual's own efforts at exerting personal control.

Second, the theory posits that people react to perceived violations of the personal contract and justice for others only to the extent that the fate of those others is perceived to have bearing on their own efforts to achieve their goals (Lerner, 1980, 2002). People are interested in external control and stability (from the perspective of just-world theory) only as a platform from which to exert their personal control. Although just-world theory was an important forerunner of the Meadian tradition in social psychology, it would not be until the 1980s, with the influential work of Rothbaum, Weisz, and Snyder (1982) on secondary control processes, that perceptions of supraindividual control began to be studied in their own right rather than merely as a means to obtain personal control.

Primary and Secondary Control

Throughout the early course of psychological research on control motivation, there were hints of ways in which individuals sought perceptions of control beyond actually trying to influence or take active control over their environment. The psychoanalytic tradition (of which Adler was of course an early representative) stressed that individuals relied for psychological security on illusions of external control obtained through identification with

powerful others or social groups. Early researchers in the LOC tradition had also argued that in some situations an inflated sense of personal control would not always prove adaptive. Especially for people struggling with debilitating absences of control in their everyday lives (such as very elderly or infirm people; e.g., Reid, 1984), these researchers argued, psychological equanimity might be better maintained through a realistic attitude of acceptance of their circumstances. Finally, as just discussed, research inspired by just-world theory suggested that individuals have a need to make interpretive sense of negative events they encounter. If they were unable to do so, they would perceive no solid foundation on which to base their own projects and efforts at asserting personal control.

Each of these ideas and findings presaged the theoretical fleshing out of the construct of secondary (as opposed to primary) control, which involves efforts to seek perceived external control in the environment rather than personal control (Rothbaum et al., 1982). However, from the vantage point of the Adlerian tradition, these early findings concerning responses to threatening situations were generally seen as instances of passive, inward, and unhealthy behavior or cognition. It would remain for Rothbaum et al. (1982) both to explicitly identify secondary control strategies and to argue that relying on them was sometimes in the individual's best interests.

There is a direct line of influence from the symbolic interactionist and phenomenological schools to the secondary control construct that emerged in the 1980s. Both Mead and Schutz were cited by Heider (1958), whose ideas show great similarity in general to those of the symbolic interactionists. Both Heider and Lerner influenced the work of Janoff-Bulman and Wortman (1977) on sense-making processes among victims of trauma and tragedy, and these scholars in turn influenced Rothbaum et al. (1982).

Generally, as presented in Rothbaum et al. (1982) and as operationalized in subsequent research, the construct of secondary control can be interpreted in one of two ways: (a) as adjusting oneself to fit the environment rather than attempting to alter the environment to fit the goals and wishes of the self (the latter process being, according to the

model proposed by Rothbaum et al., attempting to gain primary control) or (b) as attempting to gain primary control through alternate means when typical paths are blocked (Morling & Evered, 2006). In their two classic articles, Rothbaum et al. (1982; Weisz, Rothbaum, & Blackburn, 1984) focused on secondary control in the first sense and remained largely agnostic about whether secondary control strategies are always used in the ultimate interest of restoring primary control. They claimed to offer a two-process model of control maintenance, with both primary and secondary control processes serving to fulfill an overarching motive for establishing controllability (Rothbaum et al., 1982). In this, they anticipated the research derived from compensatory control theory that we review later.

Drawing on a variety of contemporary findings concerning control motivation, Rothbaum et al. (1982) and Weisz et al. (1984) outlined three types of secondary control strategies individuals rely on to make sense of seemingly uncontrollable events in such a way that their perception of the world as controlled and orderly remains intact.

Predictive control. At a basic level, predictive control simply involves investing in situations and structures that are highly predictable to rule out situations of uncontrollability in advance. However, it can also involve more subtle strategic attempts to predict or arrange outcomes to avoid disappointment. Rothbaum et al. (1982) drew on classic research on self-handicapping processes (e.g., Atkinson, 1957; Mettee, 1971) to describe this type of predictive control strategy. Individuals often retrospectively attribute negative outcomes to low personal ability, a tendency that might seem maladaptive from the perspective of theories stressing the importance of perceived personal control. However, Rothbaum et al. reinterpreted these attributions as strategic attempts to circumvent threatening perceptions of uncontrollability. Individuals also sometimes elect not to perform tasks, or to perform very easy or very difficult tasks, to prearrange an outcome in which either success is likely or an external attribution can easily be made for failure. In all such instances, individuals exercise predictive control by anticipating a possible inability

to rise to the demands of a pressing situation and adjusting their cognitions about the situation to soften its impact.

Illusory control.   Building off of Langer's (1975) classic work on illusions of control (reviewed earlier), as well as research on depression and cultural differences in perceptions of fate, Rothbaum et al. (1982) developed the idea of illusory control as a secondary control strategy. In this type of secondary control, individuals align themselves with perceived forces of chance and fate and avoid situations in which personal skill is strongly tested. This strategy affords the perception that, overall, the world and one's life are under the control of certain forces, even if they cannot be directly understood or influenced by the individual.

Vicarious control.   This mode of secondary control is drawn primarily from the psychoanalytic tradition's notion of transference. Because this process came to be interpreted in psychoanalytic theory (as opposed to clinical practice; see, e.g., Becker, 1973), transference refers to the psychological transfer of perceived power to external figures with whom the self is identified to obtain a vicarious sense of power. Thus, vicarious control involves identifying with powerful others or groups, such as political leaders or nations (Rothbaum et al., 1982). Individuals can gain a sense of self-esteem, accomplishment, and—most important—control on the basis of the achievements of the powerful others with whom they identify.

The primary–secondary control distinction represented a conceptual advance beyond just-world theory in the Meadian direction, because, as noted, Rothbaum et al. (1982) argued that secondary control is sometimes sought even if it is in direct conflict with personal strivings for power and agency. People in situations of extreme learned helplessness or instability will often come to perceive these situations as unchangeable, as exactly the way things should be, and even as just. In other words, perceptions of controllability in the environment do not always operate to allow the individual's pursuit of personal projects. Sometimes, it appears that the individual's symbolic needs to perceive the world as controlled take precedent over instrumental aims to influence the world for his or her benefit.

Nevertheless, the secondary control perspective had at least one limitation. The proponents of the secondary control model focused primarily on how individuals would use alternative strategies to maintain perceived controllability and fit with a particular threatening situation. They failed, however, to recognize the intersubstitutability of control affirmations. Later perspectives would propose that people can respond to threats to one form of control simply by affirming an alternate control structure, often one that does not provide any meaningful way of reinterpreting the situation that initially threatened them. Although Rothbaum et al. (1982) recognized that individuals can turn to secondary control sources when their personal control is blocked, they perhaps did not go far enough in acknowledging the flexibility of control maintenance strategies.

Weisz et al. (1984) explicitly recognized the importance of cultural differences in control processes and offered the distinction between primary and secondary control orientations as a way of making sense of these differences. Accordingly, their work set the stage for a rising interest in the relationship between culture and control in social psychology, which has remained prominent in the literature since at least the mid-1980s.

Cultural Differences in Control Processes

Early work on cultural differences in control demonstrated that there were both within-country and between-countries differences in LOC. Work on ethnic differences in LOC in the United States and elsewhere was initially inspired by the goal of early I-E LOC researchers to implement positive social change (Coan, 1974; Lefcourt, 1992). Because early theorizing about control proposed that perceived personal control was critical for achievement, it was believed that ethnic gaps in socially desirable outcomes might be overcome by encouraging individuals to have a more internal LOC. Accordingly, researchers first set about documenting ethnic differences in LOC within the United States. Such differences were observed (through the administration of basic I-E scales) between White Americans on one hand and Black Americans, Native Americans, and Asian Americans on the other, with the majority of findings suggesting that Whites have higher

internal (less external) LOC than all other ethnic groups (for review, see Dyal, 1984).

However, as Dyal's (1984) review made clear, in all cases except for the White–Black gap, either any ethnic differences in LOC were clearly the result of socioeconomic status (SES) or educational differences between the groups or such differences were not successfully ruled out in the research. This finding indicates the exceptional importance of SES in control orientation (Dyal, 1984; Ross & Nisbett, 1991). More or less accurately, lower-class individuals tend to perceive that they have less personal control over the events that befall them, little access to coping resources in the event of control-threatening events, and less ability to shape the course of their lives than middle- and upper-class individuals. In an early documentation of SES differences, Bartel (1968) found that although middle-class schoolchildren become more internal in their LOC from Grade 1 to Grade 6, lower class children do not show the same pattern. Furthermore, Bartel found that middle-class children have significantly higher internal LOC than lower class children by Grade 4. Using educational attainment level as a marker of SES, Snibbe and Markus (2005) observed that individuals with lower levels of educational attainment showed less preference for cultural products (e.g., rock music lyrics) that stress internal LOC and agency. In line with some of the earliest social psychological perspectives on control, some more recent research has indicated that the lack of perceived personal control among lower class individuals can have negative consequences. Data collected from more than 700 twin pairs indicated that perceived control over one's life mediates the relationship between objective circumstances (actual wealth) and life satisfaction (Johnson & Krueger, 2006).

Variations in control orientation associated with SES may actually be due in no small part to cultural differences in individualism and collectivism. According to Markus and Kitayama (1991), individuals who inhabit cultural contexts of individualism construe themselves as independent, meaning that they tend to see themselves in terms of their personal identity rather than their group identity and they consider most of their social relationships as temporary and fragile. In contrast, individuals from collectivist cultures tend to see themselves as inescapably embedded in a network of social relationships. Low SES is often an indicator of collectivist orientations and behaviors (Stephens, Markus, & Townsend, 2007). Accordingly, research (Kraus, Piff, & Keltner, 2009) has definitively documented that, in the United States, lower class people experience a decreased sense of personal control compared with middle- and upper class people and that this decreased sense of personal control predicts responses in a variety of domains more typical of collectivist than individualist cultures. For example, in correlational studies, both objective and subjective indicators of lower social class were associated with more contextual explanations for income inequality (e.g., explanations in terms of inheritance and the economic structure of society rather than of hard work and ambition), and these effects were mediated by less perceived control among lower class people. Additionally, in an experimental study, individuals with subjectively lower social class attended more to contextual factors when evaluating the emotions of a target, but this effect was attenuated if the lower class participants were primed to think of themselves as having control.

In addition to variation traceable to ethnicity and SES, there are also important distinctions in control orientation based on regional variability within a country. Early work highlighted the practical significance of these differences. For example, Sims and Baumann (1972) attempted to explain the fact that more deaths occur as a result of tornadoes in the U.S. South than in the North (despite the fact that no objective discrepancy exists in likelihood of tornado deaths between these regions) by arguing that Southerners have a more external LOC. In surveys, Alabama (Southern) respondents expressed greater perceptions that God was an external control source influencing their lives, and they were also less likely than Illinois (Northern) respondents to list concrete actions they would take in the instance of a tornado. This could be partly explained by a greater proclivity toward collectivism in states in the Deep South, such as Alabama (Vandello & Cohen, 1999).

Differences in individualism–collectivism have also been used to explain cross-country differences in control. Classic work on individualism–collectivism

by Morris (1956) suggested that Japanese individuals are more oriented toward interpersonal relationships and collective identifications, and U.S. individuals are typically more invested in the self. This research set the stage for various studies documenting differences in LOC between the United States and East Asian countries. On different measures of I-E LOC, Japanese participants have reported higher levels of external LOC than U.S. participants (Bond & Tornatzky, 1973; Mahler, 1974). Reltz and Groff (1974) conducted a study of LOC among nearly 2,000 factory workers in multiple countries and found an interaction between culture and level of national development, such that Japanese workers were more externally oriented than U.S. workers and Thai workers were even more externally oriented than Japanese workers (particularly on a subscale related to the extent to which one's life is perceived as being influenced by luck and fate). Controlling for SES, Hsieh, Shybut, and Lotsof (1969) found that Hong Kong Chinese students scored higher on external LOC than U.S. students, and the scores of Chinese American (i.e., partly acculturated or bicultural) students were in between those of the two other groups.

Weisz et al. (1984) used their model of primary and secondary control processes to account for differences in control orientation between the United States and Japan accrued from anthropology, literature, methods of psychotherapy, and other sources. Their review revealed, among other observations, that Japanese culture prioritizes predictive secondary control by socializing individuals into a complex and tightly structured set of rules and norms for behavior in interpersonal contexts. In addition, Japanese organizational culture emphasizes vicarious secondary control insofar as multiple individuals are often jointly responsible for company projects and a strong sense of company loyalty (and job immobility) prevails in many organizations. In the realm of medicine and psychotherapy, Weisz et al. (1984) observed that Japanese culture encourages interpretive secondary control by prompting individuals suffering from personality disorders, stress, and other forms of poor health to view their anxiety as having a prosocial function because it makes the individual focus more on performance

and output. Perhaps needless to say, they argued that in each of these cultural areas U.S. culture puts a higher premium on primary control motivations.

One conclusion that emerged from this early work on cultural differences in control processes is that cultures that can be characterized as individualist tend to produce individuals with high internal LOC and a perception of primary control as paramount, whereas cultures that can be characterized as collectivist tend to produce individuals with higher external LOC and a perception of secondary control as paramount.

A More Sophisticated Model of Cultural Control Orientations

More recently, Yamaguchi (2001) has presented a more sophisticated model of culture and control that proposes to advance beyond the simple primary–secondary dichotomy. In this framework, the source of the difference in control orientations between individualist and collectivist cultures lies in their relative emphasis on the values of autonomy and harmony, respectively. In collectivist cultures, a high emphasis on the value of harmony encourages the development of secondary control strategies that allow individuals to achieve desired ends while avoiding or minimizing interpersonal conflict. Furthermore, a cultural emphasis on harmony can prompt individuals to use strategies other than direct personal control even when they are attempting to exert primary control. Yamaguchi outlined three such harmony-oriented primary control tactics: indirect personal control (which involves persuading others to accomplish one's desired ends while masking personal agency), proxy control (openly coordinating with another agent to accomplish one's ends), and collective control (exercising control as a group).

To demonstrate that individuals from collectivist cultures tend to rely on collective (rather than personal) primary control, Yamaguchi, Gelfand, Mizuno, and Zemba (1997) conducted a basic experiment. In a lottery task, participants were ostensibly drawing tickets for assignment to either an unpleasant or a neutral activity. Participants either drew four tickets alone or one ticket as part of a team of four ticket drawers. As a measure of perceived efficacy

and control, the researchers then asked participants to estimate the likelihood that they would draw in such a way that they would be assigned to complete the more desirable task. Although U.S. male participants in this study tended to overestimate their self-efficacy in the isolated drawing condition, Japanese individuals conversely overestimated their collective efficacy in the team-drawing condition. The work of Yamaguchi and others thus suggests that there are differences between countries not only in overall control orientation (primary vs. secondary) but also in how individuals might implement primary control to achieve the same ends.

Debates About Cultural and Historical Variation in Control

There have been many debates in the history of research on cultural variation in control processes. The issues at stake have not necessarily been resolved to this day. In the pioneering anthropological literature on this topic, it has long been debated whether the forms of superstitious or illusory control commonly exercised in preindustrial societies (i.e., reliance on ritualized magic) are primarily healthy and in some sense rational or are unhealthy and irrational. Anthropologists influenced by Frazer (1922) have argued that these attempts at control represent a primitive form of largely nonfunctional science, which have rightfully been superseded by modern, rationalized techniques of establishing primary control. Another school, however, has seen primitive techniques such as superstition and magic incantation as a generally adaptive means of gaining secondary control in an uncertain environment (e.g., Malinowski, 1935; Radin, 1927).

More recently, this same essential debate has resurfaced in the context of Heckhausen and Schulz's (1995) life-span theory of control. These authors provided an in-depth account of one way in which the trade-off between primary and secondary control processes might develop and change across the course of the life span. Glossing over the details of their theory, Heckhausen and Schulz argued that the infant is born with innate tendencies to strive for primary control, but throughout childhood the individual increasingly relies on secondary control strategies to cope with failure and manage goals.

Maturity results in transitioning to a healthy degree of inflated belief in primary control in adulthood, and psychological health during old age is obtained by shifting back to secondary control strategies. Perhaps more important for the present review than their proposed developmental sequence are Heckhausen and Schulz's assertions that primary control has functional primacy over secondary control and that the veridicality of control beliefs should be taken into account. From their perspective, many of the illusory control strategies common in preindustrial societies would be classified as nonveridical and potentially dysfunctional.

For example, self-blame for uncontrollable outcomes (which Rothbaum et al., 1982, would have categorized as a form of interpretive control) is highly negative according to Heckhausen and Schulz's (1995) model because it is both nonveridical and assumed to discourage individuals from reasserting primary control. It is true that certain kinds of self-blame can indeed impair coping processes and produce negative outcomes in culturally Western settings (Janoff-Bulman, 1979). However, anthropologists have long observed that self-blame for uncontrollable outcomes can be highly adaptive insofar as it restores a sense of external control and meaning and also promotes social solidarity (through public processes of reconciliation and redemption; Hallowell, 1967). Gould (1999) published a direct critique of Heckhausen and Schulz, arguing that the veridicality of control beliefs is culturally relative and that primary control may not be of paramount importance across all cultural and historical settings. As is clear from these and other examples, increasing interest in the role of culture in control processes has produced a sizable body of convergent research but also sparked ongoing theoretical debate.

EMERGING THIRD WAVE OF CONTROL RESEARCH IN SOCIAL PSYCHOLOGY: COMPENSATORY CONTROL THEORY AND THE EQUIFINALITY OF PERSONAL AND EXTERNAL SOURCES OF CONTROL

Compensatory control theory (CCT; Kay et al., 2008, 2009) offers an account of control motivation that integrates insights from the Meadian tradition

and cross-cultural research while also seeking to address the intersubstitutability of strategies for control restoration in the face of threats. Inspired by contemporary theories of goal satiation (Kruglanski et al., 2002), fluid compensation (Heine, Proulx, & Vohs, 2006), and threat and defense (Greenberg, Solomon, & Pyszczynski, 1997; Jost & Banaji, 1994), CCT suggests that beliefs in personal control are but one substitutable means of satiating the more overarching and inclusive goal of believing in an orderly, nonrandom world. Many different theoretical positions have converged on the notion that construing the world as being composed of orderly, cause-and-effect relations—as opposed to a random, haphazard, or chaotic environment—is a basic, fundamental need that must be met for people to confidently act in goal-directed ways (Kruglanski, 1989; Landau et al., 2004; Lerner, 1980). Believing otherwise can be stressful, traumatic, and anxiety provoking (e.g., Janoff-Bulman, 1992). CCT posits that this belief can be met via many different means. If one is blocked or insufficient in a given context, another can be used to help the individual achieve this motivated belief.

For many people and in many contexts, beliefs in primary personal control represent a key means of arriving at this motivated belief. After all, if whatever happens to an individual, good or bad, is caused by the individual's own actions, then everything has a clear, orderly cause. But as we have shown in earlier sections, perceptions of personal control are not uniformly high. They vary as a function of SES, geographic culture, immediate constraints, and more. How, then, in the face of these fluctuating levels of personal control do people consistently maintain a view of the world as structured and orderly rather than random and haphazard?

To answer this question, CCT proposes that perceptions of personal control, although a very effective means of preventing feelings of randomness in the social world, are only one (substitutable) means of doing so. The endorsement of external systems—such as metaphysical systems or governments—that impose order on one's social world can also help people to meet this goal. In other words, to the extent that people are motivated to insulate the self from feelings of randomness and

chaos (and, conversely, to promote feelings of order and structure), CCT posits a substitutability of the belief in personal control with the belief that things are under control (Antonovsky, 1979). Thus, at its core, CCT suggests that, with respect to the need to believe in an orderly, structured world, there exists a psychological substitutability between cognitions about the self and cognitions about the world. This rather straightforward idea has yielded explanations for a variety of social psychological phenomena—ranging from beliefs in certain types of religious deities, to phenomena of system justification, to scientific preferences, to the adoption of enemies, to preferences for inequality, and more—not addressed by previous social psychological theories of control beliefs. This increased explanatory value of CCT comes largely from three characteristics of this model.

First, locating personal control beliefs as but one means of meeting the broader motive to maintain beliefs in an orderly, nonrandom world suggests a psychological substitutability between beliefs in personal control and beliefs in external control that is distinct from what previous models have predicted. Specifically, CCT suggests that not only should beliefs in external sources of control be heightened when personal control is limited, but (a) beliefs in personal control should be heightened when beliefs in external control are challenged and (b) faith in one external system of control should be heightened when a different one is challenged. In other words, because CCT suggests that various beliefs in personal and external sources of control all contribute to fulfilling the general belief that the world is a nonrandom place, when any of them is constrained or challenged, beliefs in all the other alternatives should increasingly be relied on.

Second, according to CCT, the sources of external control people endorse to satiate control needs need not be agentic or entities that people can appeal to, such as deities and powerful political figures. Certainly, appealing to such figures can compensate for reduced personal control. Because, however, CCT emphasizes order, plain and simple, as the most fundamental perception people want to preserve, it suggests that people can also compensate for reduced personal control by investing in

nonagentic sources of external control, such as spiritual beliefs and scientific theories that explain the workings of the universe.

Third, previous related models that advocate for secondary control processes—such as the two-process model of control—tend to suggest people will only lean on secondary, or external, sources of control with which they can align their wishes and values (Rothbaum et al., 1982). According to CCT, people are fundamentally motivated to perceive order, even when that order does not align with their personal interests. Because of this, CCT predicts that, when confronted with a threat to personal control, people may compensate by transferring power to indifferent and even malevolent sources of external control.

Data supporting these three predictions are fast emerging. We review a subset of the evidence for each next.

Evidence for the Substitutability Between and Among Personal and External Sources of Control

Several studies have now tested the basic tenet of CCT that individuals are more likely to endorse and defend external systems of control, such as God and government, when personal control is low or threatened. In one study (Kay et al., 2008), feelings of personal control were manipulated (via a memory task, in which participants were asked to remember positive events from their recent past over which they did or did not have control; pretesting demonstrated that this manipulation affects feelings of personal control but not self-esteem or mood), and then beliefs in the existence of a controlling god were assessed. If belief in God, as a source of external control, can compensate for decreased belief in personal control, then beliefs in God's existence should increase after the manipulation. In addition, to shed some light on the presumed mechanism—the need to restore feelings of the world as an orderly place—a moderator variable was also included: The dependent measure was varied such that the dependent measure asked about beliefs in the existence of a specifically controlling god for half the participants, but not the other half (the latter group of participants were asked about their beliefs in God in a way that deemphasized God's interventionist or controlling nature, that is, God as creator).

This study provided the first piece of support for CCT. Participants who recalled events over which they had no control reported stronger beliefs in the existence of God than participants who recalled events over which they had control. Moreover, this first study also provided the first piece of supportive evidence for CCT's mechanistic account: Only when the controlling nature of God was emphasized in the dependent measure did the personal control threat affect belief in God. Follow-up studies demonstrated that this general effect—of personal control threat on belief in an external source of control—is in fact mediated by psychological defensiveness surrounding the role of chance and randomness in the world (Kay et al., 2008) and is also triggered by the anxiety people experience when reminded of their lack of personal control (Kay, Moscovitch, & Laurin, 2010; Laurin, Kay, & Moscovitch, 2008).

Compensatory control theory, however, is not restricted to religious belief. In fact, it was most proximally inspired by the large body of system justification theory research that has demonstrated many instances in which people defend external systems of control ranging from their governments, organizations, and institutions to societal norms (for reviews, see Jost, Banaji, & Nosek, 2004; Kay & Zanna, 2009). Might compensatory control processes also explain, at least in part, the motivated defense of (primarily) secular systems and institutions? Indeed, cross-national data examining correlations between personal control and political attitudes, as well as experimental methods that threatened personal control in the laboratory, have demonstrated that lowered (or chronically low) feelings of personal control do indeed lead to more defense of the political status quo as well as increased preferences for government intervention (Kay et al., 2008).

If beliefs about the external world (i.e., external systems of control) and beliefs about the self (i.e., personal control) can serve the same overarching goal, then the causal direction converse to that seen in these studies should also be observable. That is, when external systems of control are challenged or threatened, people should boost perceptions of personal control. One study has tested this prediction (Kay et al., 2008). In it, participants were shown a

video depicting their government as either capable or incapable of restoring order after an injustice. Afterward, illusory perceptions of personal control were measured. To do this, participants engaged in a modified version of Alloy and Abramson's (1979) classic contingency task (e.g., Alloy, Abramson, & Viscusi, 1981), during which participants use the spacebar to "control" the onset of a green circle appearing on a monitor. Although participants were led to believe they could, over the course of the experiment, learn how to control the onset of the green dot, the amount of control they could actually exert was held constant by the experimenter. After completion of the task, participants rated the extent to which they successfully controlled the green circle. If the substitutable relation between feelings of personal control and beliefs in external control is truly bidirectional, then participants who see their government as incapable of reestablishing order (i.e., a threat to external control) should believe they had more personal control over the onset of the green circle. This is what was observed, despite the fact that actual personal control was held constant across conditions.

Thus, not only can lowered feelings of personal control produce increased support for and belief in external control, but challenges to the order imposed by external systems of control can lead to increased illusions of personal control. According to CCT, however, there is no reason to assume this interchangeability should be restricted to the particular combination of personal control and external systems of control. One external system of control should also be substitutable for another. Some broad archival and correlational work has supported this possibility. Sales (1972) noted that threats to the economy were associated with increased conversion rates to religions offering high levels of order and control. In a similar vein, Norris and Inglehart (2004) have demonstrated that as countries, over time, develop more stable governments, religious devotion fades. This correlational evidence, however, cannot say with any certainty whether threats to one external system actually cause increased support for another. Four experimental studies, designed specifically to test the tenets of CCT, provided causal evidence of this type.

In the first such test (Kay, Shepherd, Blatz, & Chua, 2010), data were collected in Malaysia 2 weeks before and 2 weeks after the 2008 federal Malaysian election. An election provided the opportunity to capture a naturally occurring (but brief) change in political stability. Immediately before an election, the political system is necessarily less stable. To the extent that this is so, and the predictions of CCT are valid, people should have placed more faith in a controlling god before rather than after the election—that is, when the government was perceived as least stable. To this end, perceptions of government stability, support for the government, and belief in a controlling god were measured both before and after the election. Comparison of the means across the two waves of data collection showed that participants perceived more instability, showed less of an inclination to defend the legitimacy of their government, and demonstrated higher beliefs in the existence of a controlling god before the election than after it. In addition, a path analysis demonstrated that the decreased perceived government stability (before compared with after the election) predicted decreased government defense (before compared with after the election), which, in turn, predicted increased belief in a controlling god (before compared with after the election).

This effect was then replicated in a controlled laboratory experiment (Kay, Shepherd, et al., 2010) in which government instability was manipulated by exposing Canadian participants to fictitious news articles in which pundits predicted the minority parties in the Canadian parliament were either likely or unlikely to unite and enact a no-confidence vote, which would force an immediate election. Beliefs in the existence of a controlling god were then assessed. Conceptually replicating the election data, beliefs in a controlling god were significantly higher when the government was portrayed as unstable than when it was portrayed as stable.

Additional studies demonstrated that these effects are due to the potential for both of these external systems (God and government) to imbue one's world with order and control. For example, in one study (Kay, Shepherd, et al., 2010, Study 4), participants were exposed to information suggesting that, although physics cannot speak to God's ultimate

existence, it can ascertain whether there is any divine intervention in the universe. Half the participants learned that some patterns of data cannot be explained by anything scientific, and half learned that all observed events can be explained by scientific principles. Afterward, a series of questions measured support for the operation of the government. In addition, to rule out alternative explanations, participants were also asked to give their opinions on the significance and identity provided by Canadian culture. This study supported the proposed hydraulic relationship between secular and nonsecular systems of control. Participants led to believe that God is not an effective source of control reported higher levels of government support than those who learned that God may play an interventionist role in the universe. Also important, the manipulation of God's control did not affect support for Canadian culture's ability to provide significance and identity, suggesting that perceptions of the order-maintaining aspects of government were uniquely affected.

In summary, mounting evidence exists for the psychological substitutability of beliefs in sources of order. Whether they are about the self or the external world, cognitions that suggest a nonrandom world appear capable of compensating for one another, even when they are dissimilar in most other ways. We have seen that reduced personal control leads to increased support for both secular and religious sources of control, reduced faith in external control leads to increased belief in personal control, and secular external systems of control are bidirectionally substitutable with religious systems. These effects are mediated by defensiveness and anxiety and are relatively specific to worldviews that are targeted at control rather than other existential motives such as identity and personal significance.

At this point, one may be wondering the following: If all control beliefs demonstrate such radical substitutability, is there any way to predict what source of compensatory control people will gravitate toward after a control threat? Although space constraints do not allow for an elaborate discussion of this issue here, it has received some attention. Some data have demonstrated, for example, that although even people who deem their government to be relatively corrupt do show a small negative relationship between feelings of personal control and support for governmental control, this relationship is far more pronounced among populations who view their government as benevolent (Kay et al., 2008). Thus, when given the option, people will probably prefer a compensatory control outlet that they believe is more likely to act in their best interests (though this need not always be the case). Second, people also seem to show a preference for external systems of control that appear stable and, in effect, capable of actually exerting control (Sullivan, Landau, & Rothschild, 2010). Finally, processes of cognitive accessibility, ideological salience, and cultural norms for what is available and socially acceptable should also moderate the compensatory control outlets people are guided toward (for more elaborate discussions of these processes, see Kay & Sullivan, 2013).

Evidence That Sources of Compensatory Control Need Not Be Agentic

Prior accounts of control beliefs have acknowledged the role that sources of control external to the self can play in fulfilling control needs but have emphasized that these sources, to actually serve a control function, need to either be something that people can exercise control through (via appeals to their power) or be something that holds a set of values or wishes or desires with which the individual can bring him- or herself into alignment. In both of these cases, then, the source of external control needs to resemble something agentic, either a powerful figure or even a god. According to CCT, though, sources of order that offer nothing to appeal to or align the self with, but only physical order rather than randomness, should also serve as a means of compensatory control.

Whitson and Galinsky (2008), for example, have demonstrated that when people lack control, they may compensate with a heightened readiness to perceive patterns among the stimuli in their environment, even when those stimuli are unrelated in an objective sense. Using different paradigms to manipulate control, they found that participants who lacked control were more likely to perceive coherent figures in perceptual noise, form illusory correlations, create superstitious rituals, and cling to conspiracy beliefs (i.e., attributing clear causes and

motives to what are most likely accidental events). In one study, participants were asked to vividly recall a situation in which they had or lacked control over a situation. They then looked at 10 pictures that each contained a random scattering of black dots on a white background (much like noise on a television set). Even though these pictures contained no figures, participants in the lack-of-control condition were more likely to report that they could make out some image in the visual static. These findings are interesting not only because they show that illusory pattern perception—a clearly nonagentic source of order—compensates for lack of control, but because they illustrate, more generally, how the motive to maintain control has far-reaching consequences for even basic perceptual processes.

Bastiaan Rutjens and his colleagues have also provided some very noteworthy support for this prediction of CCT. In one fascinating study (Rutjens, van der Plight, & van Harreveld, 2010), they demonstrated that personal control threats can lead people to increasingly endorse evolutionary theory, but only if the theory is presented in such a way that the random aspects of evolution are downplayed in favor of its predictable elements. In other work (Rutjens, van Harreveld, van der Pligt, Kreemers, & Noordewier, 2013), these researchers demonstrated that personal control threats lead people to prefer scientific theories that have clearly defined steps and stages over ones that have more fuzzy boundaries and are more continuous. Cutright (2012) has demonstrated that control threats lead people to prefer brands and logos that have clear boundaries and borders relative to the same logos but without borders.

These findings, in combination with those of Whitson and Galinsky (2008), add an important and fundamental piece of evidence to CCT. That is, they demonstrate that the systems people turn to after control threat need not be agentic. Instead, so long as they are external to the self and suggest order and structure in the world, they can serve as means of compensatory control. These findings are also important because they highlight one tenet of CCT, namely that control structures are substitutable in surprising ways. Superficially, there would appear to be no realistic way in which perceiving

controlled processes of biological evolution in the world, or clearly framed logos, could help one maintain a sense of personal, agentic control.

Evidence That Sources of Compensatory Control Need Not Be Benevolent

When people do turn to agentic sources of control, do they need to be perceived as benevolent? This makes intuitive sense: It is comforting to know that someone or something "out there" is acting in one's best interest. If it is the case, though, that needs to view the world as orderly and nonrandom are the primary motive in compensatory control processes, then these phenomena need not be restricted to only benevolent sources of control.

Evidence is indeed accruing that people often perceive malevolent agents and institutions as influencing their life and that these perceptions are bolstered when compensatory control needs are salient. The prevalence of scapegoating in the public sphere provides an interesting example. Whether it is politicians blaming China for the worldwide economic recession (Chen, 2010), Americans blaming Muslims for all incidents of terrorism (Foley, 2011), or religious fundamentalists blaming homosexual individuals for the decline of traditional American values (Eckholm, 2011), people seem all too eager to attribute inordinate power over negative outcomes to a target individual or group. Although malevolent others can certainly exist and pose a legitimate threat to one's well-being, people nevertheless seem almost irrationally motivated to perceive that malicious others are controlling their life.

On the surface, this tendency is puzzling. Why would people want to believe that powerful others aim to cause them harm? We propose that this tendency makes sense when viewed as a strategy for avoiding threatening cognitions about randomness. People may feel threatened by the awareness that they are limited in their ability to anticipate and control the hazards lurking in their environment, because it implies that their well-being (and their being at all) is subject to the influence of impersonal and indeterminate forces beyond their control. To avoid this threatening awareness, people may view negative outcomes as stemming from the intentional actions of a focal individual or group that can be

effectively controlled, managed, or (at minimum) understood. To illustrate, when millions of Americans tune in to watch television personalities such as Glenn Beck "connect the dots" in an attempt to expose President Barack Obama as an evil mastermind orchestrating a diabolical plot against the American way of life, they may be profoundly comforted by the thought that myriad undesirable events and circumstances can be narrowed down to a focal individual who can be controlled.

This compensatory affirmation of malevolent sources of power manifests in two distinct but related phenomena: scapegoating and enemyship. Scapegoating is the act of blaming a person or a group for a particular negative outcome that is due, at least in part, to other causes. If people are confronted with a hazardous event or circumstance that lacks an easily comprehensible and controllable cause, they may avoid the potential threat of randomness by projecting responsibility for that negative outcome onto a focal individual or group that can be understood and controlled.

This analysis yields a testable hypothesis: Framing a particular threatening event as caused by chaotic forces beyond one's control should prompt people to attribute greater responsibility for that event to a scapegoat (and, consequently, express a stronger desire to punish the scapegoat). Rothschild, Landau, Sullivan, and Keefer (2012) tested this hypothesis. They found that participants primed to view environmental destruction as the result of unknown, chaotic forces attributed more responsibility for environmental destruction to oil companies, and reported a greater desire to punish those companies, than participants who were not primed with chaotic causes of environmental destruction. Also, this effect was mediated by decreased perceptions of personal control, but not by feelings of guilt or other negative self-relevant perceptions, supporting the unique role of control motivation in scapegoating.

In addition to explaining the motivation behind scapegoating in response to a particular hazard, the current analysis suggests that people seek out powerful enemies to cope with the more general awareness that multiple sources of potential hazard are spread diffusely throughout their environment. To the extent that an enemy is perceived to be an influential source of misfortune, having an enemy allows people to perceive their environment as containing less randomly distributed risk. Hence, people may imbue real or imagined enemies with undue power as a way of transferring ambient danger onto a more concrete and comprehensible adversary.

This account suggests that increasing the salience of uncontrollable hazards in general should lead people to attribute increased power and influence to an enemy, even if the enemy's perceived influence is superficially unrelated to the salient hazards. Sullivan et al. (2010) assessed this hypothesis on the eve of the 2008 U.S. presidential election. They found that participants primed with a wide variety of chaotic hazards in their environment (e.g., natural disasters, the suffering of family members) expressed greater belief that the candidate opposing their preferred candidate was orchestrating a conspiracy to steal the election. However, participants primed with uncontrollable hazards were no more likely to view their political enemy in more generally negative terms (i.e., as less kind), suggesting that attributing power to an enemy is a uniquely effective means of managing the threat of randomness. Note that perceiving Barack Obama or John McCain as perpetrating a conspiracy does not bear any obvious relation to the potential hazards with which participants were primed; thus, these findings suggest that attributing surreptitious power to a focal enemy figure can function in a flexible manner to assuage the threatening awareness of one's vulnerability to chaotic hazards.

One other recent finding is also worth noting in this section. Earlier, we described work by Rutjens et al. (2013) that demonstrated that, at least under control threat, stage-based theories are preferred to continuous ones. In one of these studies, participants either learned about a stage-based theory of Alzheimer's, which described the disease as progressing through clear predictable stages but with no hope of remission or reversal, or a continuous theory, which suggested that the progression was more fluid than stepwise but also noted the possibility for reversal or remission. It is fascinating that, despite the fact that the continuous theory is much more optimistic and hopeful than the more structured,

stage-based theory, control threat still led people to prefer the stage-based version.

Summing up, compensatory control needs can even lead people to ascribe increased power, influence, and credence to malicious or negative individuals, groups, and ideas. Although doing so may seem an odd way to compensate for threatened feelings of personal control, if one understands personal control as not necessarily an end in itself but as one means of preserving the belief in a nonrandom world, these findings are quite sensible.

Can the Effects of Compensatory Control Be Distinguished From Other Models of Threat and Defense?

We have reviewed research showing that people compensate for lack of control by affirming the power and value of external sources of control and seeking out order in their environment and physical world. One implication of this research is that control motivation uniquely contributes to people's affirmation of cultural constructs, such as their nation and religion, because those constructs confer order and control. It is important to note, however, that other theoretical perspectives trace the affirmation of these cultural constructs to other psychological motives. For example, terror management theory (Greenberg et al., 1997) posits that faith in cultural constructs serves to maintain a psychological buffer against death-related anxiety by providing routes to achieving symbolic or literal continuance beyond death. Uncertainty management theory (McGregor, Zanna, Holmes, & Spencer, 2001; van den Bos, 2009) posits that faith in cultural constructs serves to manage feelings of uncertainty about the self by providing definite conceptions of one's convictions and identity.

More important, empirical assessments of these theories have shown that threats other than direct control threats increase affirmation of cultural constructs in ways that parallel the effects of control threats. For example, although control threats increase religious convictions (Kay et al., 2008), so too does increasing the salience of mortality (Vail, Arndt, & Abdollahi, 2012) and personal uncertainties (Hogg, Adelman, & Blaff, 2010). This empirical overlap suggests that the previously reported effects

of control threat on increasing affirmation of control-conferring cultural constructs may not be due to a specific motivation to reestablish control, as the CCM proposes; rather, these effects may reflect people's efforts to indirectly compensate for a control threat by affirming cultural constructs that provide them with opportunities for death transcendence or that bolster a certain sense of identity. In support of this possibility, Heine et al. (2006) presented theory and evidence suggesting that people can compensate for diverse threats in a fluid or indirect manner by affirming cultural constructs that have little superficial resemblance to those threats.

Shepherd, Kay, Landau, and Keefer (2011) recently investigated this issue. They reasoned that if control motivation uniquely contributes to defense of cultural constructs, then a control threat (compared with other types of threat) should lead people to most strongly affirm cultural constructs framed specifically as reestablishing control. Conversely, a control threat should have attenuated effects on affirmation of those same cultural constructs when they are framed as providing symbolic immortality or a certain identity. If, alternatively, compensatory control affirmation reflects a fluid means of affirming symbolic immortality or a certain identity, then a control threat should have equally strong effects on the affirmation of cultural constructs framed as reestablishing control as those framed as bolstering these other psychological structures.

Shepherd et al. (2011) reported three studies supporting the uniqueness of control motivation in people's affirmation of cultural constructs. For example, one study was conducted in the context of people's attitudes toward political leaders. Prior CCT research has shown that a control threat leads people to affirm the power of their leaders (Banfield & Kay, 2008), whereas terror management theory research has shown that the threat of mortality salience also increases support for political leaders (Landau, Greenberg, & Sullivan, 2009). Shepherd et al. hypothesized that, insofar as compensatory control motivation is distinct from terror management motivation, participants under control threat should more strongly prefer a political candidate who

espouses order and participants under mortality salience should more strongly prefer a candidate who offers the opportunity to be a valued cultural member as a means of symbolically transcending death. This is what they found, suggesting that control motivation does in fact uniquely contribute to people's efforts to uphold and defend their cultural worldview.

These findings suggest that compensatory control effects are not reducible to an alternative system of threat and defense. Rather, they represent a unique motivational system, one that, by drawing on beliefs about the self and external world, is specifically attuned to preserving beliefs in a nonrandom, orderly universe.

INTEGRATING THE PAST AND PRESENT: HOW TO RECONCILE DIFFERENT PERSPECTIVES ON CONTROL BELIEFS

Problems With Too Much Personal Control

The first two waves of control research in social psychology clearly suggest that people are motivated to perceive themselves as having control, and they actively try to reestablish personal control when it is undermined. This work would seem to suggest that the more people feel in control, the better their health, functioning, and interpersonal relationships. Although a good deal of research has supported the importance of perceived personal autonomy and competence in promoting well-being (D. C. Klein, Fencil-Morse, & Seligman, 1976; Ryan & Deci, 2000), the relation between control and well-being is not a linear one.

Take the case of choice. One of the most common ways in which people exercise control is by making choices—about what to buy, what relationships to invest in, what career to pursue, and so on. Common sense would seem to suggest that the more choice people have, the greater their freedom and overall well-being. Research has shown, however, that too much choice can lead people to feel paralyzed and can undermine satisfaction with even good choices (Iyengar & Lepper, 2002; Schwartz, 2004). This research has uncovered a number of processes that account for the diminishing returns

of choice. For example, when people are faced with a choice between many good options, they have to think about how the alternatives that they rejected may have been better than the chosen ones and how there may have been alternatives out there that they did not even consider. This bitter taste of regret spoils satisfaction with decisions.

High levels of choice not only reduce satisfaction with individual choices but can, over time, take a toll on general psychological health. Evidence for this possibility comes from studies of individual differences in control-seeking in choice. Schwartz et al. (2002) categorized people as maximizers—people who make decisions with the goal of getting the best—and satisficers—people who report a willingness to settle for good enough. Maximizers view themselves as having a high degree of control over a decision, have high expectations, and make personal attributions for failing to meet them. In their quest for the best option, maximizers are more likely to report experiencing regret. For example, when researchers followed college seniors as they looked for jobs, they found that maximizers did better than satisficers objectively (getting jobs that paid about 20% higher starting salaries), but they felt worse, both about the job search process and about the job they ended up with (Iyengar, Wells, & Schwartz, 2006). Over time, multiple instances of regret and failing to live up to high expectations can summate to the feeling that one is incapable of doing anything right. Indeed, compared with satisficers, maximizers are less likely to report high subjective well-being and are more likely to be depressed. In short, this work showed that, at least in the context of choice, a high degree of control is not synonymous with psychological health.

Whereas this stream of research sits in relatively stark contrast to the waves of research reviewed earlier inspired by Adler's perspective on the primacy of personal mastery and primary control, it is compatible with the Meadian perspective and CCT. Rather than emphasizing personal control per se, these theoretical positions advocate a shared reliance on personal control and external systems that guide and direct behavior—and, in a sense, release the individual from always needing to feel personally in control.

Problems With Too Zealously Relinquishing Personal Control

Very recent research, however, has also begun to demonstrate problems associated with too strongly endorsing external sources of control. For example, whereas general religiosity is associated with an increased interest in social justice, the cognitive activation of specific beliefs in an interventionist and controlling god has been shown to decrease people's willingness to engage in altruistic punishment, that is, give up personal resources to ensure just transactions between others (Laurin, Shariff, Henrich, & Kay, 2012). Likewise, whereas many forms of belief in God actually help people become better self-regulators via increased temptation resistance, the activation of specific beliefs regarding God's controlling nature actually reduces the effort people are willing to put toward long-term goal pursuits. The negative effects of too much investment in external systems of control can also extend to interpersonal perceptions. Callan, Kay, Olson, Brar, and Whitefield (2010), for example, have demonstrated that reminding people of the omnipresent justice system decreases interpersonal trust and increases competitive interactions.

As described in an earlier section, rather than transferring personal control to the external world, people sometimes protect their personal control beliefs through self-handicapping. This, too, can have negative effects. Self-handicapping has been used to explain a wide variety of behaviors in which individuals appear to sabotage their own success: Abusing alcohol or other drugs, procrastinating, generating test anxiety, and not preparing for an exam or performance may all serve a self-handicapping function. Indeed, perhaps the most common form of self-handicapping is to simply not try one's hardest on challenging tasks. If people do not try their hardest, then poor performance can be attributed to a lack of effort rather than a lack of control.

Concluding Remarks: Rectifying Seemingly Divergent Perspectives on Control Beliefs

So where does the perfect balance of personal and external control lie? Although both may be necessary for healthy functioning, each, if adopted too zealously, may be maladaptive. One obvious solution is to strike a balance between internal and external sources of control. Of course, an individual's control beliefs are not merely a matter of preference but are constrained by cultural, economic, and other contextual factors (Kay & Sullivan, 2013). It is possible that different forms of maintaining general control beliefs—that is, personal control versus external control—may be more or less beneficial in different situations.

When success is not just a consequence of personal effort but also of decreased anxiety, perceptions of fairness, faith in supportive sources, faith in the reliability of one's actions to be rewarded, and other external contingencies, a blend of personal and external control may be preferable. One intriguing possibility, and one that we would like to conclude with, is that in many ways personal control is entirely dependent on maintaining beliefs in an orderly, cause-and-effect universe. That is, personal and external control may in many ways be inextricably linked, insofar as beliefs in external control provide the foundation or framework on which individual efforts at goal pursuit and personal mastery are then built.

In support of this, research has indeed connected faith in external systems of control, such as the order imposed by the government, enemies, scapegoats, and the like, directly back to increased goal pursuit and individual engagement with the social world. One line of research, for example, has demonstrated that long-term goal pursuit (especially among low-SES group members) is facilitated when people are primed to think of their external systems as ensuring a cause-and-effect, rather than random, social order (Laurin, Fitzsimons, & Kay, 2011). Likewise, the increased endorsement of enemies and scapegoats after reminders of the haphazard nature of important outcomes has been directly tied to the restoration of feelings of personal control and confidence. Rothschild et al. (2012) tested the hypothesis that when people are exposed to a particular chaotic hazard, subsequent exposure to a scapegoat who can be blamed for that hazard should have the somewhat counterintuitive effect of bolstering people's perceived personal control. They primed some participants to view climate change as the result of

unknown forces, gave them the opportunity to blame a scapegoat, and afterward asked how much control they had over their lives. Rothschild et al. found that when climate change was framed as the result of unknown forces, the opportunity to blame oil companies (a viable scapegoat) bolstered participants' subsequent perceptions of personal control.

In the same way, believing (in moderation) in sources of control beyond the self that imply less randomness in the world—whether they are controlling gods, powerful governments, or perceptions of the physical world as patterned rather than chaotic—can instill in people the belief that the world is understandable and manageable and therefore, in turn, the confidence to act in it. In other words, because clinging to the belief that the self is in complete control over what happens may be simply too daunting and untenable, explaining the workings of the social world as being due to a blend of personal and external forces may be a much easier way for people to maintain beliefs in a nonrandom world. Because beliefs in general nonrandomness and orderliness are necessary for people to feel able to efficaciously act in the world, endorsing external sources of control may be necessary for facilitating individual action.

In a sense, this suggests a powerful linkage between the most recent wave of control research—CCT—and the classic theories of control that dominated social psychology for several decades and emphasized solely primary personal control. That is, although a motivation to perceive a nonrandom social world may represent the most fundamental control belief people are motivated to preserve, this belief may in a sense be a scaffold on which the confidence to act proactively (on one's own or as part of a larger collective) in the world is then formed.

This reconciliation between perceived personal and external control suggests—in line with the conclusion of major reviews of the literature both classic (White, 1959) and contemporary (Haidt & Rodin, 1999)—that control is truly a bridging concept that allows researchers in multiple disciplines and subfields to integrate evidence regarding diverse aspects of human social life. Because perceived order is so vital for human action and because human symbolic consciousness allows

order to be perceived in a variety of ways and situations, motives for the maintenance and perception of control can be observed in individual actions as well as broad patterns of social organization and socially shared beliefs. Over the history of psychological research on control, the necessity of examining control motivation at its different levels—and of acknowledging the motivational intersubstitutability between these levels—has become increasingly apparent. The emphasis on personal control of the early Adlerian psychologists was supplemented by more sociologically informed theories (e.g., just-world theory) in the Meadian tradition. Eventually, anthropological and cross-cultural insights were integrated into the body of psychological control research with the recognition that cultures differ in the prioritization of primary versus secondary control. Finally, over the past decade, research has demonstrated that people can fluidly compensate for effectance threats by bolstering interchangeable and diverse sources of control affirmation. The multifaceted nature of the control motive—and the fluidity and diversity of ways in which people pursue it—make this construct one of the more unifying and important ones in all of social psychology.

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