Bolstering system-justifying beliefs in response to social exclusion

Yanine D. Hess[1] and Alison Ledgerwood[2]

Abstract

Integrating research on social exclusion with the broader literature on system justification and flexible responses to threats, we propose a novel coping strategy that individuals may use in the face of social exclusion. In particular, we suggest that because exclusion often feels unexpected, it will lead individuals to bolster the system-justifying worldview that people get what they deserve, as excluded individuals attempt to cognitively cope with the threatened order and predictability of their world. Supporting our prediction, in Study 1, social exclusion (vs. inclusion) led participants to increasingly endorse descriptive meritocratic beliefs suggesting that hard work leads to success in society. This effect was mediated by the perceived unexpectedness of the interaction outcome, providing key evidence for our hypothesized process. Study 2 used individual differences in rejection sensitivity to provide further support for our unexpectedness account, demonstrating that exclusion heightens meritocratic beliefs only insofar as participants tend to find exclusions unexpected. The results expand our understanding of the cognitive mechanisms by which people cope with social exclusion and highlight the malleability of system-justifying ideologies in response to interpersonal factors.

The system-justifying notion that people get what they deserve and deserve what they get is both widespread and consequential. Individuals across the socioeconomic spectrum often endorse such beliefs (Connelly, 2005; Jost, Pelham, Sheldon, & Sullivan, 2003; Lane, 1962; Lerner, 1980) and they can have important implications for self-perception, preferences, and behavior (Foster & Tsarfati, 2005; Hafer & Olson, 1989; Jost, Pelham, & Carvallo, 2002; Ledgerwood, Mandisodza, Jost, & Pohl, 2011; McCoy & Major, 2007; Murray, Spadafore, & McIntosh, 2005). Although considerable research

has examined the interpersonal consequences of these beliefs (e.g., Haynes & Olson, 2006; MacLean & Chown, 1988; Strelan, 2007), very little research has explored their interpersonal antecedents. In

[1]State University of New York at Purchase, USA
[2]University of California, Davis, USA

Corresponding author:
Yanine D. Hess, Department of Psychology, State University of New York at Purchase, 735 Anderson Hill Road, Purchase, NY 10577, USA.
Email: yanine.hess@purchase.edu

this article, we integrate the literatures on system justification and social exclusion to propose that people's worldviews linking positive outcomes to effort or virtue may fluctuate depending on the outcomes of everyday interpersonal interactions.

Research on social exclusion highlights the fact that these everyday social interactions can often result in feelings of isolation or alienation from a group. Exclusions such as these threaten various needs and often evoke negative cognitive and emotional responses (e.g., Baumeister, Twenge, & Nuss, 2002; Williams, 2007). Considerable research has focused on the strategies people use to cope with social exclusion, and this literature has identified a range of important and direct consequences for subsequent interpersonal interactions, from increased aggression in some circumstances to prosocial outcomes in others (Gardner, Pickett, & Brewer, 2000; Pickett & Gardner, 2005; Twenge, Baumeister, Tice, & Stucke, 2001; Warburton, Williams, & Cairns, 2006).

Yet at the same time, research in a variety of areas suggests that people can cope with threats and other unexpected negative experiences in highly flexible and less direct ways, such as by altering their general belief systems (e.g., Ledgerwood et al., 2011; McGregor, Haji, Nash, & Teper, 2008; Proulx & Heine, 2007; see Tullett, Teper, & Inzlicht, 2011, for a review). Building on research indicating that people may be able to flexibly cope with rejection as well (Blackhart, Baumeister, & Twenge, 2006; Williams & Nida, 2011) and the notion that social exclusion is often unexpected, we reasoned that exclusion may have as yet untested implications for people's general worldviews descriptively linking effort and virtue to positive outcomes. Such a finding could begin to connect the largely separate literatures on social interaction and system justification, contributing to theory and research in each of these domains: It would expand our understanding of the cognitive mechanisms by which people cope with social exclusion, while also highlighting the malleable nature of system-justifying beliefs in the context of everyday interpersonal interactions. The present research sheds light on how and when even minimal incidences of social exclusion can shape people's system-justifying beliefs as they seek to cognitively manage the threat to predictability and order that such unexpected interaction outcomes represent.

Linking Social Exclusion and System Justification

We base our central prediction on the notion that exclusion is often unexpected, given that most people expect that social interactions with others will be pleasant and agreeable and that members of their ingroup will behave favorably toward them (Howard & Rothbart, 1980; Hoyle, Pinkley, & Insko, 1989). For instance, people generally expect that others will return a greeting of "hello," include them in a casual conversation, or toss them the ball in a game of catch. Exclusion or rejection, on the other hand—a greeting met with silence or a ball never tossed—tends to be surprising. Indeed, participants tend to report feelings of surprise after a rejection (Lawrence, Chanen, & Allen, 2011) and neuroimaging studies have shown that brain regions associated with cognitive conflict (e.g., the processing of rule violations) are active during social rejection (Bolling et al., 2011; Masten et al., 2009; Somerville, Heatherton, & Kelley, 2006), consistent with the notion that people tend to process rejections as unexpected events.

Although research on social interaction has been largely unconnected to the literature on system justification, the two areas appear to intersect in potentially important ways. In particular, work on system justification suggests that individuals are motivated to perceive the world as predictable and orderly, and that when this perception is threatened—by an unexpected event, for instance—people seek to reaffirm the predictability of the world in other ways (Berger, 1993; Furnham, 2003; Greenberg, Solomon, & Pyszczynski, 1997; Jost & Banaji, 1994; Laurin, Kay, & Shepherd, 2011). Often, they accomplish this by bolstering other beliefs that affirm predictability and order—for instance, beliefs that support the notion that individuals get what they deserve and deserve what they get (Jost, Blount,

Pfeffer, & Hunyady, 2003; Jost & Hunyady, 2005; Jost, Ledgerwood, & Hardin, 2008; Jost et al., 2010; Jost et al., 2002; Napier, Mandisodza, Andersen, & Jost, 2006).

For example, Hurricane Katrina, an unexpected natural disaster that left thousands of (mostly Black) American citizens homeless, seemed to motivate people to justify the fairness and predictability of the world by stereotyping Blacks and blaming the victims for their situation (Napier et al., 2006). During the aftermath of Hurricane Katrina, many politicians, reporters, and members of the public argued that the victims should not have chosen to live in an area below sea level, that the victims should have chosen to evacuate, and that areas receiving many refugees would see increases in crime. As Napier et al. (2006) discuss, by blaming the victims of the hurricane for not evacuating and by stereotyping them as criminals, individuals were attempting to restore their sense of the world as orderly, just, and predictable (see also Sommers, Apfelbaum, Dukes, Toosi, & Wang, 2006).

Of particular relevance to the present studies, related research has focused on the motivational underpinnings of meritocratic beliefs in particular, which reflect the system-justifying belief that people get what they deserve and deserve what they get in the domain of effort and success. Meritocratic beliefs suggest that hard work leads to success and that success results from hard work, while a lack of success is assumed to reflect laziness (e.g., Foster & Tsarfati, 2005; see also Jost, Pelham, et al., 2003; Ledgerwood et al., 2011; Sidanius & Pratto, 1999). Importantly, these descriptive beliefs in meritocracy are theoretically and empirically distinct from a prescriptive preference for the merit principle: Believing that society *should* reward merit is unrelated to justifying the status quo, whereas believing that society *is* largely meritocratic provides a justification for existing social hierarchies (Son Hing et al., 2011; see also Davey, Bobocel, Son Hing, & Zanna, 1999). A related distinction can be drawn between the justice motive at the heart of just world theory and the *justification* motive described by system justification theory (see Jost & Hunyady,

2002; Jost et al., 2010)—whereas a preference for the merit principle presumably reflects a desire for justice, endorsing descriptive meritocratic beliefs helps individuals justify the (potentially unjust) societal status quo. The belief that good deeds and hard work yield rewards and success, whereas bad deeds and laziness lead to misfortune and failure, helps to bolster a view of the social system as fair and just by establishing rules about how the world works and what outcomes to expect (Jost, Pelham, et al., 2003; Kaiser, Drury, Spalding, Cheryan, & O'Brien, 2009; McCoy & Major, 2007; Sidanius & Pratto, 1999). More broadly then, these beliefs can serve to bolster the apparent predictability of the world when this predictability is called into question.

The Current Research

Integrating these literatures, we reasoned that insofar as social exclusion is unexpected, it should threaten people's need for predictability and lead them to bolster the belief that individuals get what they deserve and deserve what they get. Thus, in contrast to the intuitive notion that a person would respond to a negative and potentially unfair exclusion by concluding that the world is particularly unjust, the logic described before instead suggests they will be motivated to reaffirm the fairness and predictability of the world by strengthening their descriptive meritocratic beliefs. Although researchers have discussed the role of unexpectedness and predictability in contributing to the effects of social exclusion on interpersonal behavior (e.g., Wesselmann, Butler, Williams, & Pickett, 2010), the link we propose between exclusion and general worldviews that extend beyond a particular interaction context has yet to be examined. We therefore set out to test the hypotheses that (a) exclusion (vs. inclusion) will heighten meritocratic beliefs and (b) this effect will be due to the unexpectedness of the social exclusion.

The present paper therefore complements and extends recent research investigating the effects of social rejection on agreement with the rejecter's system-justifying attitudes (Cheung, Noel, &

Hardin, 2011). Specifically, that research focused on relational needs and demonstrated that rejected individuals will tune toward or away from the particular system-justifying attitudes of their rejecters, depending on whether the rejecter is similar to them (and therefore a potential source for meeting their relational needs). However, the motivational consequences of social exclusion are notably complex, as are the motivational antecedents of system justification—in both cases, epistemic and relational needs both play key roles (Hennes, Nam, Stern, & Jost, 2012; Jost et al., 2008; Williams, 2007). Thus, in addition to relational needs, it is important to consider epistemic needs in order to fully understand how everyday social interactions can dynamically shape people's worldviews.

Indeed, although considering relational needs suggests predictions about the effects of social exclusion when the excluded individual *knows* the specific system-justifying attitudes of the other person in a particular context (as in Cheung et al., 2011), a solely relational account makes no predictions about the effects of social exclusion in the absence of specific knowledge about others' beliefs. In contrast, an account that includes epistemic threats, such as the unexpectedness of the rejection, does make predictions about the effect of social exclusion on general worldviews even in the absence of specific knowledge about the excluding party's beliefs. In the present research, we focus on this latter context in order to investigate the unique predictions offered by a consideration of epistemic motives. We return to consider what might happen when epistemic and relational needs combine in the General Discussion section.

Pilot Data

As a preliminary test of our prediction that social exclusion will tend to strengthen the notion that people deserve what they get, we turned to a large preexisting dataset that included several variables relevant to our hypothesis. These data came from a study in which participants who had been either included or excluded during a virtual ball-tossing game (Williams, Cheung, & Choi, 2000) learned about a vacation ostensibly experienced by another student. The vacation was described as having ended either well (with sightseeing in Europe) or badly (with a broken leg), and participants subsequently responded to a number of measures related to their thoughts and feelings about the student and the vacation. Within these measures, we identified two items that seemed to tap the system-justifying belief that people get what they deserve by assessing the extent to which participants believed the other student's vacation outcome was fair and deserved (e.g., "The student deserved their vacation"). We reasoned that if social exclusions tend to enhance system-justifying beliefs, participants who had been excluded (vs. included) should bolster their perception that the other student deserved their vacation outcome. Consistent with this prediction, excluded participants rated the vacation outcome as significantly more deserved than included participants, $F(1, 145) = 4.99$, $p = .027$, regardless of whether the vacation happened to end well or poorly.[1] In other words, social exclusion appeared to increase the perception that another person deserved what they got. Armed with this preliminary evidence supporting our hypothesis, we designed two new experiments to establish the robustness of this effect and shed light on the underlying process.

Overview of Studies

In Study 1, we first sought to conceptually replicate our pilot results using a different operationalization of the system-justifying notion that people get what they deserve—namely, individuals' endorsement of the meritocratic view that hard work leads to success in society—in order to triangulate on our construct of interest. Furthermore, in order to test the process hypothesized to underlie this effect, we examined whether the perceived unexpectedness of the interaction outcome would mediate the effect of exclusion on descriptive meritocratic beliefs.

Next, to provide additional support for our hypothesized mechanism, we sought to identify a key boundary condition for our effect by examining individual differences in the tendency to find social exclusions unexpected. Importantly, although social exclusions tend to be unexpected for most people, this is not true for everyone. Chronic differences in *rejection sensitivity*, the tendency to anxiously expect and perceive rejection, represent a critical moderator of the extent to which social exclusions violate a person's expectations: Individuals high in rejection sensitivity do not find exclusions unexpected (Downey & Feldman, 1996). We capitalize on this individual difference in Study 2 to shed light on the question of for whom exclusion will tend to enhance meritocratic beliefs. We hypothesized that rejection sensitivity—that is, individual differences in the unexpectedness of rejection—should moderate the impact of social exclusion such that exclusion should heighten meritocratic beliefs only for those individuals who chronically find rejection unexpected.

Study 1

The purpose of Study 1 was to conceptually replicate and extend the results of our pilot study. To do so, we chose to examine the effect of social exclusion on descriptive meritocratic beliefs, since such beliefs represent an important and consequential means to justify the social system within American culture (e.g., Kluegel & Smith, 1986; Ledgerwood et al., 2011; Son Hing et al., 2011; see also Jost, Blount, et al., 2003; Sidanius & Pratto, 1999). We also sought to test whether unexpectedness—our proposed mechanism—would mediate this effect.

Participants in the study experienced a social interaction that either resulted in inclusion or exclusion. We measured their subsequent endorsement of meritocratic beliefs, as well as the extent to which they experienced the interaction outcome as unexpected. We predicted that exclusion would heighten meritocratic beliefs and that this effect would be mediated by the perceived unexpectedness of the interaction outcome.

Method

Sixty-eight undergraduates (38 female, 30 male) at UC Davis who were naïve to the exclusion paradigm participated in two ostensibly unrelated studies for course credit. Nine were removed due to a computer error or for failing a basic end-of-study attention check, leaving 59 participants.

In the first task, described as a "visualization study," participants played Cyberball, a virtual ball-tossing game designed to create an exclusion experience in the lab with a high degree of experimental realism (Williams et al., 2000). Participants were either included throughout the game (inclusion condition) or excluded after receiving a few cursory throws of the ball (exclusion condition). Past research has demonstrated that this task successfully manipulates participants' feelings of inclusion or exclusion (Williams & Jarvis, 2006; Zadro, Williams, & Richardson, 2004).[2]

In the second task, described as a separate study about student beliefs, participants rated their agreement on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*) with the 11 meritocratic items in the Protestant Work Ethic Scale (Mirels & Garrett, 1971; e.g., "If one works hard enough he is likely to make a good life for himself" and reverse-coded: "Hard work offers little guarantee of success"; $\alpha = .67$).

To assess how unexpected the exclusion was, participants rated their agreement (1 = *strongly disagree*; 9 = *strongly agree*) with three statements: "I was surprised by the number of throws I received during the game," "I expected the Cyberball game would go differently than it did," and reverse-coded: "My experience playing the Cyberball game was what I expected." These were averaged into a measure of unexpectedness ($\alpha = .66$).[3]

Results and Discussion

As hypothesized, an independent samples *t* test revealed a significant effect of exclusion on meritocratic beliefs, $t(57) = 2.06$, $p = .044$, $\eta^2 = .07$. Excluded participants expressed greater endorsement of meritocratic beliefs ($M = 4.90$, $SD = .59$)
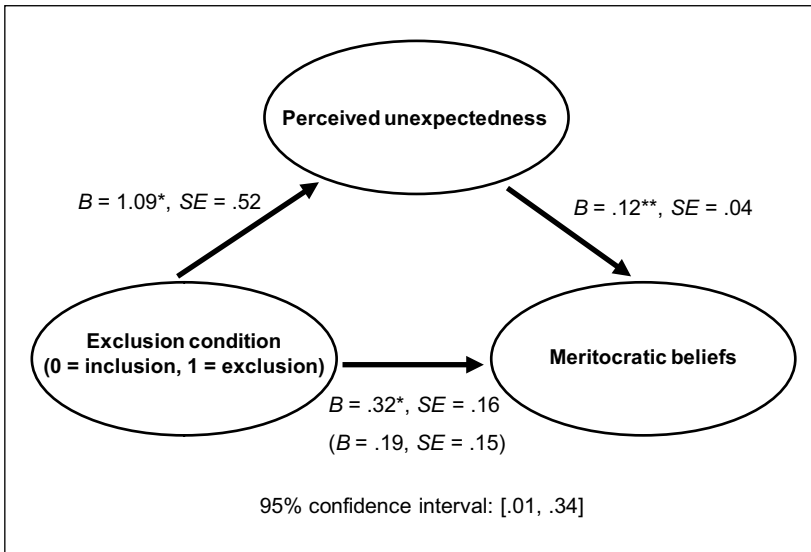
Figure 1. Effects of exclusion condition on meritocratic beliefs as mediated by the perceived unexpectedness of the exclusion. Unstandardized regression coefficients are shown. The value in parentheses reveals the relation between exclusion condition and meritocratic beliefs after controlling for the unexpectedness of the exclusion. Statistical significance is indicated by superscripts (*p < .05, **p < .01). The 95% confidence interval from a bootstrap test performed to assess the indirect effect is reported in the square brackets; the mediated effect is significant if the confidence interval does not include zero.

than did included participants ($M = 4.58$, $SD = .60$), conceptually replicating the results of our pilot study.

To test whether perceived unexpectedness mediated this effect, we first confirmed that exclusion significantly predicted perceived unexpectedness, $B = 1.09$, $SE = .52$, $t(57) = 2.10$, $p = .04$. In turn, unexpectedness significantly predicted endorsement of meritocratic beliefs when controlling for exclusion condition, $B = .12$, $SE = .04$, $t(56) = 3.13$, $p = .003$ (Baron & Kenny, 1986). In order to assess whether felt unexpectedness mediated the effect of the interaction outcome on meritocratic beliefs, we followed current recommended practices to use bootstrapped estimates of the standard error of the indirect effect (Shrout & Bolger, 2002; see also Ledgerwood & Shrout, 2011), conducting 5,000 bootstrap samples with replacement to derive bias-corrected confidence intervals of the indirect effect (Preacher & Hayes, 2008). Supporting our mediation hypothesis, the 95% confidence interval for

the indirect effect did not include zero, CI [.01, .34], indicating that unexpectedness significantly mediated the relation between exclusion condition and meritocratic beliefs (see Figure 1).

These results conceptually replicate our pilot data to provide converging evidence that social exclusions can lead individuals to bolster the system-justifying worldview that people's outcomes tend to be deserved. Moreover, perceived unexpectedness of the interaction outcome significantly mediated this effect, consistent with the notion that social exclusion may enhance meritocratic beliefs because exclusion often leads to a feeling of surprise and unexpectedness.

Of course, one might wonder about other plausible mediators, such as perceived control and belonging, which also tend to be threatened by social exclusion (Williams & Nida, 2011) and which therefore could have been confounded with unexpectedness in our study. To address this possibility, we included measures of perceived control and belonging drawn from past research

on social exclusion (Zadro et al., 2004) in addition to our measure of felt unexpectedness. However, although perceived control and feelings of belonging did indeed correlate with feelings of unexpectedness ($r = -.38$, $p = .003$; $r = -.52$, $p < .001$, respectively), neither significantly mediated the relation between social exclusion and meritocratic beliefs, 95% CIs [−.10, .42] and [−.19, .37], respectively. Likewise, a multiple mediation model with all three potential mediators entered simultaneously yielded only a significant indirect effect through felt unexpectedness, 95% CI [.01, .39]. Thus, felt unexpectedness appears to provide the most plausible explanation for the effect of social exclusion on descriptive meritocratic beliefs.

Study 2

Study 2 sought to lend additional support to our hypothesized process by showing that exclusion will increase meritocratic beliefs only for individuals who do not expect it. As noted earlier, although exclusion tends to be unexpected for most people, research shows that individuals high in rejection sensitivity tend to chronically approach social interactions with the expectation that the interaction may end in exclusion (Downey & Feldman, 1996). Thus, if the heightened meritocratic beliefs observed in our data were truly caused by the exclusion's violation of participants' expectations, then only individuals who tend to find social exclusion unexpected should demonstrate this effect.

We therefore hypothesized that rejection sensitivity would moderate the effect of social exclusion on meritocratic beliefs, such that only those who are relatively low in rejection sensitivity—as most people are (Downey & Feldman, 1996)—should bolster their meritocratic beliefs following exclusion (vs. inclusion). To test this idea, we recruited participants with a wide range of rejection sensitivity scores and examined the effect of a Cyberball exclusion on meritocratic beliefs based on the unexpectedness of the outcome for individuals with different levels of rejection sensitivity.

Method

Seventy-three undergraduates (43 female, 30 male) naïve to Cyberball participated in two ostensibly unrelated studies for course credit at the University of California, Davis. Social exclusion was again manipulated via Cyberball. Next, participants completed a packet of seemingly unrelated surveys, including the meritocratic belief scale from Study 1 ($\alpha = .66$). Finally, participants filled out the 18-item Rejection Sensitivity Questionnaire (RSQ), which assessed their expectation and concern that they would be rejected in a variety of social interaction contexts (e.g., one item assesses how likely or unlikely participants think it would be for a classmate to agree to join them for coffee; another asks about how concerned they would be about whether a stranger they approached at a party would want to dance with them; Downey & Feldman, 1996). Participants responded using a series of 7-point scales ($\alpha = .83$; $M = 12.94$, $SD = 3.97$).[4]

Results

To test our central prediction that rejection sensitivity would moderate the effect of exclusion on meritocratic beliefs, we regressed meritocratic beliefs on exclusion condition (dummy coded; 0 = inclusion, 1 = exclusion), rejection sensitivity scores (centered), and their interaction term. Only the predicted interaction between exclusion and rejection sensitivity was significant, $B = -.08$, $SE = .04$, $t(69) = 2.18$, $p = .033$, confirming that the effect of exclusion was moderated by rejection sensitivity.[5] Supporting our hypothesis that exclusion would enhance meritocratic beliefs only for individuals who tend to find exclusions unexpected, as rejection sensitivity increased, the tendency for exclusion to heighten meritocratic beliefs decreased and even slightly reversed (see Figure 2).

To explore this interaction further, we conducted follow-up simple slopes tests to probe the effect of exclusion at one standard deviation above and below the mean of rejection sensitivity (Cohen, Cohen, West, & Aiken, 2003). Echoing the results of Study 1, those low in
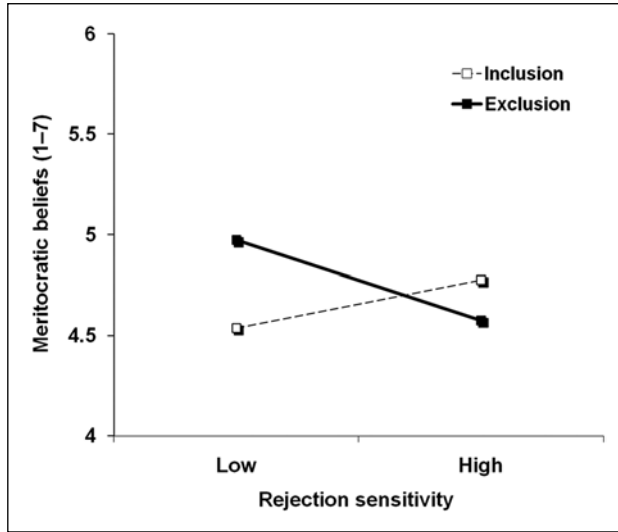
Figure 2. Effect of social exclusion on endorsement of descriptive meritocratic beliefs as a function of rejection sensitivity, plotted at one standard deviation above and below the mean.

rejection sensitivity showed greater endorsement of meritocratic beliefs in response to exclusion (vs. inclusion), $B = .44$, $SE = .20$, $t(69) = 2.15$, $p = .036$, consistent with the notion that unexpected exclusions tend to heighten meritocratic beliefs, whereas those higher in rejection sensitivity did not, $B = -.20$, $SE = .21$, $t(69) = -.98$, $p = .332$.

Importantly, these results suggest that people bolster meritocratic beliefs in response to social exclusion *only* to the extent that the exclusion is unexpected: Participants who tended to expect rejection did not bolster their meritocratic beliefs in response to social exclusion. In fact, if anything, participants in our sample who were relatively high in rejection sensitivity showed a trend in the opposite direction.

General Discussion

Taken together, these studies converge in supporting the hypothesis that individuals respond to unexpected social exclusions by affirming the system-justifying belief that others' experiences are deserved and that hard work leads to success. Our experiments also shed light on a key mechanism underlying these results: Self-reported unexpectedness of the interaction outcome uniquely mediated the effect in Study 1, and Study 2 demonstrated that individual differences in interaction expectations moderated the impact of exclusion on meritocratic beliefs. Thus, insofar as social exclusions are unexpected, people appear to cope with them by bolstering general, system-justifying belief systems that support the predictability of their social world.

Implications for Research on System Justification

To date, theory and research on meritocratic beliefs and justification more broadly have focused mainly on intraindividual variables (e.g., specific beliefs and motivations) and system-level variables (e.g., threats to the stability of the social system) that influence system-justifying beliefs (for reviews, see Jost & van der Toorn, 2012; Kay & Friesen, 2011). The present research helps expand our understanding of the psychological origins of such beliefs, adding to a nascent literature highlighting the importance of interpersonal factors in shaping system-justifying worldviews (Cheung et al., 2011; Hennes et al., 2012; Jost

et al., 2008). For instance, Cheung et al. (2011) found that people may endorse system-justifying beliefs in an attempt to reestablish shared reality with others. Likewise, Jost et al. (2008) observed that individuals increasingly endorse system-justifying beliefs when thinking of a significant other who shares those beliefs. Such research suggests that basic affiliation motives may lead people to socially tune toward the particular worldviews of others around them, increasing their endorsement of system-justifying beliefs when they think that others hold those beliefs. Interestingly, the present studies demonstrate that social exclusions can influence people's system-justifying beliefs even in the *absence* of knowledge about a particular interaction partner's views: In our studies, participants had no information about the system-justifying attitudes of the other people in the Cyberball game. Thus, whereas Cheung et al. (2011) found that individuals align or contrast their system-justifying attitudes with the known attitudes of a person who excludes them (depending on whether the rejecter is thought to be similar to them), the present studies demonstrate that, in the absence of specific knowledge about a rejecter and his or her attitudes, the default response to social exclusion may be to bolster system-justifying beliefs.

Future research might fruitfully examine how relational and epistemic needs combine to influence system-justifying responses when a rejecter's attitudes are known. For instance, when the tendencies prompted by relational and epistemic needs conflict, individual or situational differences in the relative strength of each need (such as individual differences in the need to belong; Leary, Kelly, Cottrell, & Schreindorfer, 2012) might moderate the effect of social exclusion. Stronger relational needs might prompt people to align their system-justifying attitudes with others, whereas stronger epistemic needs might prompt them to support system-justifying beliefs even when others in the interaction context oppose them.

The present studies expand work in this relatively unstudied area by demonstrating that social interactions can shape people's general worldviews when the outcome of an interaction threatens the need for predictability and order. Thus, even when meritocratic beliefs are not directly relevant to a particular relationship, events in that relationship (like an unexpected exclusion) can prompt people to bolster those beliefs in an attempt to reestablish an overall sense of the world as orderly and predictable. Interestingly, then, our results may help to explain recent research demonstrating that social exclusion can strengthen the belief in God (Aydin, Fischer, & Frey, 2010). Like other system-justifying beliefs, believing in a controlling God can help to bolster a sense of predictability and order (Kay, Moscovitch, & Laurin, 2010; Laurin, Kay, & Moscovitch, 2008). Thus, our research suggests that the unexpectedness of a social exclusion may be the mechanism behind the effect of exclusion on the belief in God, and that strengthening this belief may represent another flexible strategy for coping with unexpected interaction outcomes.

Implications for Research on Social Exclusion

The current research also highlights the importance of considering the often unexpected nature of social exclusion. To date, research has mostly focused on the basic needs that exclusion universally threatens, such as the need to belong (e.g., Garris, Ohbuchi, Oikawa, & Harris, 2011; Stillman & Baumeister, 2009; Williams, 2007). Although there is limited empirical research on the topic, the fact that exclusions are often unexpected (and that this is not true for all individuals) suggests new avenues for future research and for understanding past research. For example, unexpectedness has been found to moderate the exclusion–aggression link (Wesselmann et al., 2010) and the present research suggests that, when studying outcomes of exclusion that are driven by unexpectedness, rejection sensitivity may be especially important to consider as a moderator.

It is also interesting to consider the possibility that insofar as highly rejection-sensitive individuals find *inclusion* unexpected, they may tend to cope with social inclusions by heightening their

system-justifying beliefs. In our sample, as in most college samples, the mean level of rejection sensitivity was fairly low. It is possible that the nonsignificant trend toward reversal that we observed in our Study 2 results would be stronger at higher levels of rejection sensitivity. Future research should investigate this possibility.

Limitations and Future Directions

Although an important strength of the present research was examining the role of unexpectedness as the key process driving our effects, we did not explore the potential ways that the multiple motives elicited by rejection could interact in certain contexts to shape participants' subsequent belief systems. Future research should investigate the potential interplay of the different motives elicited by rejection and identify specific situations in which exclusion might promote system-challenging rather than system-justifying beliefs. For example, research on affiliation-related motives has shown that people tune toward the beliefs and attitudes held by specific others in their immediate interaction context (Chen, Shechter, & Chaiken, 1996; Sinclair, Lowery, Hardin, & Colangelo, 2005) and sometimes contrast away from the system-justifying beliefs of their rejecters (Cheung et al., 2011). Future research should examine how people manage their belief systems to balance between the myriad needs that social exclusions elicit.

Moreover, given the importance of perceived deservedness in system-justifying ideologies, one might wonder whether perceptions that the rejection was undeserved, rather than unexpected, could explain our effects. We doubt this alternative account for several reasons. First, the results of Study 1 suggested that the unexpectedness of the social interaction outcome mediated the effect of the interaction outcome on meritocratic beliefs, consistent with our hypothesized mechanism. Still, as with any mediation model, these results are correlational and it seems plausible that exclusion could have affected perceived deservedness as well. However, it is more difficult to use this account to explain the results of Study

2. As noted earlier, although rejection sensitivity moderates expectations of exclusion (Downey & Feldman, 1996), there is no evidence to our knowledge to suggest that rejection sensitivity is differentially linked to perceptions of the deservedness or fairness of a rejection. Nonetheless, in order to examine empirically the possibility that rejection sensitivity is associated with differential perceptions of the deservedness of a rejection episode, we collected additional data in which excluded and included participants ($N = 71$) rated the perceived deservedness of their Cyberball outcome. Inconsistent with deservedness as an alternative account, perceptions of the deservedness of a rejection episode were not moderated by levels of rejection sensitivity, ß $= -.09$, $SE = .13$, $t(67) = -.68$, $p = .501$.

Although the findings in Study 2 do not appear to be attributable to perceptions of deservedness, another possibility is that the interaction between rejection sensitivity and social exclusion was due to differences in coping between those high and low in rejection sensitivity.[6] For instance, individuals with social anxiety, depression, or a tendency to ruminate about their rejection experience take longer to recover, and these factors have also been linked to rejection sensitivity (Wesselmann & Williams, 2013; Zadro, Boland, & Richardson, 2006). Thus, it is possible that individuals higher in rejection sensitivity generally take longer to engage in coping processes in the face of a rejection. Future research could examine this possibility by exploring whether highly rejection sensitive people might also bolster system-justifying beliefs following a social exclusion (vs. inclusion) when afforded the opportunity after a longer delay. In contrast, the present perspective would predict that if anything, a delay would increase the tendency for highly rejection sensitive people to cope with the unexpectedness of social *inclusion* by bolstering their system-justifying beliefs.

Finally, due to the generally low levels of rejection sensitivity found in our college sample, our data cannot speak strongly to how individuals who are especially high in rejection sensitivity will respond to a social exclusion or inclusion, but

future research should investigate how other individual differences in expectations for social exclusion could moderate these effects. For example, although college students such as those in our sample may come from particular backgrounds (e.g., in terms of socioeconomic status) that lead them to generally expect inclusion in a variety of social settings, members of low-status groups who commonly experience discrimination may tend to expect exclusion when interacting with people from higher status groups. These differences in expectations could lead to important differences in how members of high- and low-status groups respond to objectively similar interaction outcomes in intergroup settings; low-status group members might be more likely to endorse system-justifying beliefs after an unexpected social inclusion, compared to an expected social exclusion.

Conclusions

By viewing social exclusion through the broader lens of how people flexibly cope with threats (e.g., Tullett et al., 2011), the present research suggests that exclusion may have a wider range of effects than previously demonstrated, influencing not only how people behave toward subsequently encountered others but also the extent to which they bolster their system-justifying beliefs about the social world. Ironically, those who are unexpectedly rejected may especially adhere to beliefs suggesting that the system is just and that people get what they deserve. Future research could examine the potential downstream consequences of these effects for political policy preferences, government support, and even forgiveness (e.g., Son Hing, Bobocel, & Zanna, 2002; Strelan & Sutton, 2011). Such studies could shed further light on the potential ripple effects that social interaction outcomes may have across seemingly unrelated aspects of people's lives as they seek to preserve a sense of the world as orderly and predictable.

Funding

Notes

1. Full details for the methods and results of this pilot study are available by contacting the first author.
2. Manipulation checks in the present experiment also confirmed that the Cyberball game successfully manipulated perceptions of being excluded (all ps < .01).
3. Because we suspected that drawing attention to the specific source of predictability threat could constrain participants' ability to flexibly cope with it using alternative means (see e.g., Tullett et al., 2011), we chose to measure unexpectedness after our key dependent variable rather than before it. Study 2 circumvents this issue by using a different method to provide converging evidence for our hypothesized process.
4. The RSQ was administered at the end of the study to avoid making participants suspicious about its true purpose, since the items in the RSQ ask very explicitly about rejection expectations. Importantly, rejection sensitivity is a stable personality difference that has been shown to have a high test–retest reliability ($r = .83$; Downey & Feldman, 1996). Supporting the stability of RS across contexts, in the present study, RSQ scores were unaffected by exclusion condition, $p = .225$. They were also unrelated to meritocratic beliefs, $r(73) = -.04, p = .749$.
5. Importantly, rejection sensitivity did not moderate the effect of exclusion on perceptions of exclusion, B = .09, SE = .07, t(69) = 1.29, p = .202 consistent with the notion that regardless of rejection sensitivity, people feel excluded when they are excluded.
6. We thank an anonymous reviewer for suggesting this possibility.

References

Aydin, N., Fischer, P., & Frey, D. (2010). Turning to God in the face of ostracism: Effects of social exclusion on religiousness. *Personality and Social Psychology Bulletin*, *36*, 742–753. doi:10.1177/0146167210367491

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182. doi:10.1037/0022-3514.51.6.1173

Baumeister, R. F., Twenge, J. M., & Nuss, C. K. (2002). Effects of social exclusion on cognitive processes: Anticipated aloneness reduces intelligent thought.

Journal of Personality and Social Psychology, *83*, 817–827. doi:10.1037/0022-3514.83.4.817

Berger, C. R. (1993). Uncertainty and social interaction. In S. A. Deetz (Ed.), *Communication Yearbook* 16 (pp. 491–502). Newbury Park, CA: Sage.

Blackhart, G. C., Baumeister, R. F., & Twenge, J. M. (2006). Rejection's impact on self-defeating, prosocial, antisocial, and self-regulatory behaviors. In K. D. Vohs & E. J. Finkel (Eds.), *Self and relationships: Connecting intrapersonal and interpersonal processes* (pp. 237–253). New York, NY: Guilford Press.

Bolling, D. Z., Pitskel, N. B., Deen, B., Crowley, M. J., McPartland, J. C., Mayes, L. C., & Pelphrey, K. A. (2011). Dissociable brain mechanisms for processing social exclusion and rule violation. *NeuroImage*, *54*, 2462–2471. doi:10.1016/j.neuroimage.2010.10.049

Chen, S., Shechter, D., & Chaiken, S. (1996). Getting at the truth or getting along: Accuracy- versus impression-motivated heuristic and systematic processing. *Journal of Personality and Social Psychology*, *71*, 262–275. doi:10.1037/0022-3514.71.2.262

Cheung, R. M., Noel, S., & Hardin, C. D. (2011). Adopting the system-justifying attitudes of others: Effects of trivial interpersonal connections in the context of inclusion and exclusion. *Social Cognition*, *29*, 255–269. doi:10.1521/soco.2011.29.3.255

Cohen, J., Cohen, P., West, A. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: L. Erlbaum Associates.

Connelly, M. (2005, May 15). How class works: A nationwide poll. *New York Times*. Retrieved from http://www.nytimes.com/packages/html/national/20050515_CLASS_GRAPHIC/index_01.html

Davey, L. M., Bobocel, D. R., Son Hing, L. S., & Zanna, M. P. (1999). Preference for the Merit Principle Scale: An individual difference measure of distributive justice preferences. *Social Justice Research*, *12*, 223–240. doi:10.1023/A:1022148418210

Downey, G., & Feldman, S. I. (1996). Implications of rejection sensitivity for intimate relationships. *Journal of Personality and Social Psychology*, *70*, 1327–1343. doi:10.1037/0022-3514.70.6.132

Foster, M. D., & Tsarfati, M. E. (2005). The effects of meritocracy beliefs on women's well-being after first-time gender discrimination. *Personality and Social Psychology Bulletin*, *31*, 1730–1738. doi:10.1177/0146167205278709

Furnham, A. (2003). Belief in a just world: Research progress over the past decade. *Personality and Individual Differences*, *34*, 795–817. doi:10.1016/S0191-8869(02)0007

Gardner, W. L., Pickett, C., & Brewer, M. B. (2000). Social exclusion and selective memory: How the need to belong influences memory for social events. *Personality and Social Psychology Bulletin*, *26*, 486–496. doi:10.1177/0146167200266007

Garris, C. P., Ohbuchi, K-i., Oikawa, H., & Harris, M. J. (2011). Consequences of interpersonal rejection: A cross-cultural experimental study. *Journal of Cross-Cultural Psychology*, *42*, 1066–1083. doi:10.1177/0022022110381428

Greenberg, J., Solomon, S., & Pyszczynski, T. (1997). Terror management theory of self-esteem and cultural worldviews: Empirical assessments and conceptual refinements. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 29, pp. 61–139). San Diego, CA: Academic Press.

Hafer, C. L., & Olson, J. M. (1989). Beliefs in a just world and reactions to personal deprivation. *Journal of Personality*, *57*, 799–823. doi:10.1111/j.1467-6494.1989.tb00495.x

Haynes, G. A., & Olson, J. M. (2006). Coping with threats to just-world beliefs: Derogate, blame, or help? *Journal of Applied Social Psychology*, *36*, 664–682. doi:10.1111/j.0021-9029.2006.00023.x

Hennes, E. P., Nam, H. H., Stern, C., & Jost, J. T. (2012). Not all ideologies are created equal: Epistemic, existential, and relational needs predict system-justifying beliefs. *Social Cognition*, *30*, 669–688. doi:10.1521/soco.2012.30.6.669

Howard, J. W., & Rothbart, M. (1980). Social categorization and memory for in-group and out-group behavior. *Journal of Personality and Social Psychology*, *38*, 301–310. doi:10.1037/0022-3514.38.2.301

Hoyle, R. H., Pinkley, R. L., & Insko, C. A. (1989). Perceptions of social behavior: Evidence of differing expectations for interpersonal and intergroup interaction. *Personality and Social Psychology Bulletin*, *15*, 365–376. doi:10.1177/0146167289153007

Jost, J. T., & Banaji, M. R. (1994). The role of stereotyping in system-justification and the production of false consciousness. *British Journal of Social Psychology*, *33*, 1–27. doi:10.1111/j.2044-8309.1994.tb01008.x

Jost, J. T., Blount, S., Pfeffer, J., & Hunyady, G. (2003). Fair market ideology: Its cognitive-motivational underpinnings. In R. M. Kramer & B. M. Staw (Eds.), *Research in organizational behavior: An annual series of analytical essays and critical reviews* (Vol. 25, pp. 53–91). Oxford, UK: Elsevier Science.

Jost, J. T., & Hunyady, O. (2002). The psychology of system justification and the palliative function of ideology. In W. Stroebe & M. Hewstone (Eds.), *European review of social psychology* (Vol. 13, pp. 111–153). Hove, UK: Psychology Press/Taylor & Francis.

Jost, J. T., & Hunyady, O. (2005). Antecedents and consequences of system-justifying ideologies. *Current Directions in Psychological Science*, *14*, 260–265. doi:10.1111/j.0963-7214.2005.00

Jost, J. T., Ledgerwood, A., & Hardin, C. D. (2008). Shared reality, system justification, and the relational basis of ideological beliefs. *Social and Personality Psychology Compass*, *2*, 171–186. doi:10.1111/j.1751-9004.2007.00

Jost, J. T., Liviatan, I., van der Toorn, J., Ledgerwood, A., Mandisodza, A., & Nosek, B. A. (2010). System justification: How do we know it's motivated? In D. R. Bobocel, A. C. Kay, M. P. Zanna & J. M. Olson (Eds.), *The psychology of justice and legitimacy: The Ontario Symposium* (Vol. 11, pp. 173–203). Hillsdale, NJ: Erlbaum.

Jost, J. T., Pelham, B. W., & Carvallo, M. R. (2002). Non-conscious forms of system justification: Implicit and behavioral preferences for higher status groups. *Journal of Experimental Social Psychology*, *38*, 586–602. doi:10.1016/S0022-1031(02)00505-X

Jost, J. T., Pelham, B. W., Sheldon, O., & Sullivan, B. N. (2003). Social inequality and the reduction of ideological dissonance on behalf of the system: Evidence of enhanced system justification among the disadvantaged. *European Journal of Social Psychology*, *33*, 13–36. doi:10.1002/ejsp.127

Jost, J. T., & van der Toorn, J. (2012). System justification theory. In P. A. M. van Lange, A. W. Kruglanski, & T. E. Higgins (Eds.), *Handbook of theories of social psychology* (Vol. 2, pp. 313–343). Thousand Oaks, CA: Sage.

Kaiser, C. R., Drury, B. J., Spalding, K. E., Cheryan, S., & O'Brien, L. T. (2009). The ironic consequences of Obama's election: Decreased support for social justice. *Journal of Experimental Social Psychology*, *45*, 556–559. doi:10.1016/j.jesp.2009.01.006

Kay, A. C., & Friesen, J. (2011). On social stability and social change: Understanding when system justification does and does not occur. *Current Directions in Psychological Science*, *20*, 360–364. doi:10.1177/0963721411422059

Kay, A. C., Moscovitch, D. A., & Laurin, K. (2010). Randomness, attributions of arousal, and belief in God. *Psychological Science*, *21*, 216–218. doi:10.1177/0956797609357750

Kluegel, J. R., & Smith, E. R. (1986). *Beliefs about inequality: Americans' views of what is and what ought to be*. Hawthorne, NY: Adine de Gruyter.

Lane, R. E. (1962). *Political ideology: Why the American common man believes what he does*. Oxford, UK: Free Press of Glencoe.

Laurin, K., Kay, A. C., & Moscovitch, D. A. (2008). On the belief in God: Towards an understanding of the emotional substrates of compensatory control. *Journal of Experimental Social Psychology*, *44*, 1559–1562. doi:10.1016/j.jesp.2008.07.007

Laurin, K., Kay, A. C., & Shepherd, S. (2011). Self-stereotyping as a route to system justification. *Social Cognition*, *29*, 360–375. doi:10.1521/soco.2011.29.3.360

Lawrence, K. A., Chanen, A. M., & Allen, J. S. (2011). The effect of ostracism upon mood in youth in borderline personality disorder. *Journal of Personality Disorders*, *25*, 702–714. doi:10.1521/pedi.2011.25.5.702

Leary, M. R., Kelly, K. M., Cottrell, C. A., & Schreindorfer, L. S. (2012). *Individual differences in the need to belong: Mapping the nomological network*. Unpublished manuscript, Duke University, Durham, NC.

Ledgerwood, A., Mandisodza, A. N., Jost, J. T., & Pohl, M. J. (2011). Working for the system: Motivated defense of meritocratic beliefs. *Social Cognition*, *29*, 322–340. doi:10.1521/soco.2011.29.3.322

Ledgerwood, A., & Shrout, P. E. (2011). The tradeoff between accuracy and precision in latent variable models of mediation processes. *Journal of Personality and Social Psychology*, *101*, 1174–1188. doi:10.1037/a0024776

Lerner, M. J. (1980). *The belief in a just world: A fundamental delusion*. New York, NY: Plenum Press.

MacLean, M. J., & Chown, S. M. (1988). Just world beliefs and attitudes toward helping elderly people: A comparison of British and Canadian university students. *The International Journal of Aging and Human Development*, *26*, 249–260. doi:10.2190/N8GP-65XT-2XQQ-9J

Masten, C. L., Eisenberger, N. I., Borofsky, L. A., Pfeifer, J. H., McNealy, K., Mazziotta, J. C., & Dapretto, M. (2009). Neural correlates of social exclusion during adolescence: Understanding the distress of peer rejection. *SCAN*, *4*, 143–157. doi:10.1093/scan/nsp007

McCoy, S. K., & Major, B. (2007). Priming meritocracy and the psychological justification of inequality. *Journal of Experimental Social Psychology*, *43*, 341–351. doi:10.1016/j.jesp.2006.04.009

McGregor, I., Haji, R., Nash, K. A., & Teper, R. (2008). Religious zeal and the uncertain self.

Basic and Applied Social Psychology, *30*, 183–188. doi:10.1080/01973530802209251

Mirels, H. L., & Garrett, J. B. (1971). The Protestant ethic as a personality variable. *Journal of Consulting and Clinical Psychology*, *36*, 40–44. doi:10.1037/h0030477

Murray, J. D., Spadafore, J. A., & McIntosh, W. D. (2005). Belief in a just world and social perception: Evidence for automatic activation. *The Journal of Social Psychology*, *145*, 35–47. doi:10.3200/SOCP.145.1.35-48

Napier, J., Mandisodza, A., Andersen, S. M., & Jost, J. T. (2006). System justification in responding to the poor and displaced in the aftermath of Hurricane Katrina. *Analyses of Social Issues and Public Policy*, *6*, 57–63. doi:10.1111/j.1530-2415.2006.00

Pickett, C. L., & Gardner, W. L. (2005). The social monitoring system: Enhanced sensitivity to social cues as an adaptive response to social exclusion. In K. D. Williams, J. P. Forgas, & W. von Hippel (Eds.), *The social outcast: Ostracism, social exclusion, rejection, and bullying* (pp. 213–226). New York, NY: Psychology Press.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, *40*, 879–891. doi:10.3758/BRM.40.3.879

Proulx, T., & Heine, S. J. (2007). Death and black diamonds: Meaning, mortality, and the meaning maintenance model. *Psychological Inquiry*, *17*, 309–318. doi:10.1080/10478400701366985

Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, *7*, 422–445. doi:10.1037/1082-989X.7.4.422

Sidanius, J., & Pratto, F. (1999). *Social dominance: An intergroup theory of social hierarchy and oppression*. New York, NY: Cambridge University Press.

Sinclair, S., Lowery, B. S., Hardin, C. D., & Colangelo, A. (2005). Social tuning of automatic racial attitudes: The role of affiliative motivation. *Journal of Personality and Social Psychology*, *89*, 583–592. doi:10.1037/0022-3514.89.4.583

Somerville, L. H., Heatherton, T. F., & Kelley, W. M. (2006). Anterior cingulate cortex responds differentially to expectancy violation and social rejection. *Nature Neuroscience*, *9*, 1007–1008. doi:10.1038/nn1728

Sommers, S. R., Apfelbaum, E. P., Dukes, K. N., Toosi, N., & Wang, E. J. (2006). Race and media coverage of Hurricane Katrina: Analysis, implications, and future research questions. *Analyses of Social Issues and Public Policy*, *6*, 39–55. doi:10.1111/j.1530-2415.2006.00103.x

Son Hing, L. S., Bobocel, D. R., & Zanna, M. P. (2002). Meritocracy and opposition to affirmative action: Making concessions in the face of discrimination. *Journal of Personality and Social Psychology*, *83*, 493–509. doi:10.1037/0022-3514.83.3.493

Son Hing, L. S., Bobocel, D. R., Zanna, M. P., Garcia, D. M., Gee, S. S., & Orazietti, K. (2011). The merit of meritocracy. *Journal of Personality and Social Psychology*, *101*, 433–450. doi:10.1037/a0024618

Stillman, T. F., & Baumeister, R. F. (2009). Uncertainty, belongingness, and four needs for meaning. *Psychological Inquiry*, *20*, 249–251. doi:10.1080/10478400903333544

Strelan, P. (2007). The prosocial, adaptive qualities of just world beliefs: Implications for the relationship between justice and forgiveness. *Personality and Individual Differences*, *43*, 881–890. doi:10.1016/j.paid.2007.02.015

Strelan, P., & Sutton, R. M. (2011). When just-world beliefs promote and when they inhibit forgiveness. *Personality and Individual Differences*, *50*, 163–168. doi:10.1016/j.paid.2010.09.019

Tullett, A. M., Teper, R., & Inzlicht, M. (2011). Confronting threats to meaning: A new framework for understanding responses to unsettling events. *Perspectives on Psychological Science*, *6*, 447–453. doi:10.1177/1745691611414588

Twenge, J. M., Baumeister, R. F., Tice, D. M., & Stucke, T. S. (2001). If you can't join them, beat them: Effects of social exclusion on aggressive behavior. *Journal of Personality and Social Psychology*, *81*, 1058–1069. doi:10.1037/0022-3514.81.6.1058

Warburton, W. A., Williams, K. D., & Cairns, D. R. (2006). When ostracism leads to aggression: The moderating effects of control deprivation. *Journal of Experimental Social Psychology*, *42*, 213–220. doi:10.1016/j.jesp.2005.03.005

Wesselmann, E. D., Butler, F. A., Williams, K. D., & Pickett, C. L. (2010). Adding injury to insult: Unexpected rejection leads to more aggressive responses. *Aggressive Behavior*, *36*, 232–237. doi:10.1002/ab.20347

Wesselmann, E. D., & Williams, K. D. (2013). Ostracism and stages of coping. In N. DeWall (Ed.), *The Oxford handbook of social exclusion* (pp. 20–30). New York, NY: Oxford University Press.

Williams, K. D. (2007). Ostracism. *Annual Review of Psychology*, *58*, 425–452. doi:10.1146/annurev.psych.58.110405.085641

Williams, K. D, Cheung, C. K. T., & Choi, W. (2000). Cyberostracism: Effects of being ignored over the Internet. *Journal of Personality and Social Psychology*, *79*, 748–762. doi:10.1037/0022-3514.79.5.748

Williams, K. D., & Jarvis, B. (2006). Cyberball: A program for use in research on interpersonal ostracism and acceptance. *Behavior Research Methods*, *38*, 174–180. doi:10.3758/BF03192765

Williams, K. D., & Nida, S. A. (2011). Ostracism: Consequences and coping. *Current Directions in Psychological Science*, *20*, 71–75. doi:10.1177/0963721411402480

Zadro, L., Boland, C., & Richardson, R. (2006). How long does it last? The persistence of the effects of ostracism in the socially anxious. *Journal of Experimental Social Psychology*, *42*, 692–697. doi:10.1016/j.jesp.2005.10.007

Zadro, L., Williams, K. D., & Richardson, R. (2004). How low can you go? Ostracism by a computer is sufficient to lower self-reported levels of belonging, control, self-esteem, and meaningful existence. *Journal of Experimental Social Psychology*, *40*, 560–567. doi:10.1016/j.jesp.2003.11.006