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Defensive Zeal and the Uncertain Self: What Makes You So Sure?

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In Studies 1–3, undergraduates with high self-esteem (HSEs) reacted to personal uncertainty-threats with compensatory conviction about unrelated issues and aspects of the self. In Study 1 HSEs reacted to salience of personal dilemmas with increased implicit conviction about self-definition. In Study 2 they reacted to the same uncertainty-threat with increased explicit conviction about social issues. In Study 3, HSEs (particularly defensive HSEs, i.e., with low implicit self-esteem; C. H. Jordan, S. J. Spencer, & M. P. Zanna, 2003) reacted to uncertainty about a personal relationship with compensatory conviction about social issues. For HSEs in Study 4, expressing convictions about social issues decreased subjective salience of dilemma-related uncertainties that were not related to the social issues. Compensatory conviction is viewed as a mode of repression, akin to reaction formation, that helps keep unwanted thoughts out of awareness.

Many of us may have noticed the occasional tendency, in others or ourselves, to get carried away by a rant. It seems that professing certainty about personal opinions can be psychologically rewarding. What is the appeal of zeal? Why do people indulge their pet theories with such relish, and apparent blindness to their audience's rolling eyes? We think ranting may be related to a more general defensive phenomenon, compensatory conviction, which is the focus of this article. Although many instances of conviction are surely not defensive, we propose that for some people in some circumstances, zeal can serve as the cognitive equivalent of putting one's fingers in one's ears and loudly repeating "not listening!" In his early theorizing in 1905, Freud (as translated by Gay, 1989, p. 200) stated that repression is usually accomplished by filling one's conscious mind with an "excessively intense train of thought" that is contrary to the offending one. Later, in 1924, Freud more specifically referred to such reactive thoughts as "reaction formations" that form "mental dams" to block awareness of threats (as translated by Gay, 1989, pp. 261–262). The present research follows these early views of repression and reaction formation, and investigates the idea that zealous, compensatory conviction is a strategy that defensive people use to hide from their troubling uncertainties.

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Compensatory Conviction

Man, lacking instinctive determination and having a brain that permits him to think of many directions in which he could go, needs an object of total devotion. (Fromm, 1973, pp. 260–261)

Conviction refers to clarity and certainty about self-relevant topics. The idea that people turn to rigid and extreme convictions when faced with self-relevant uncertainty has a rich theoretical history. Lewin (1935, p. 145) observed that the tension associated with being mired in competing incentives caused children to become obdurate, enraged, and authoritarian, and that self-relevant tension was particularly aversive (p. 62). Fromm (1941) and Adorno, Frenkel-Brunswik, Levinson, and Sanford (1950) similarly argued that authoritarian rigidity is a developmental response to self-related uncertainty and vulnerability. These early developmental perspectives on rigid conviction were reflected in seminal clinical theories of defensiveness. Rogers (1951, p. 515) claimed that the more threats there are to the organization of the self-structure, "the more rigidly the self-structure is organized to maintain itself." Kelly (1955) defined psychological threat as arising when constructs for categorizing experiences are thrown into question, and he proposed that people respond with generalized "hardening of the categories."

Drawing on these views, identity consolidation (IC) theory (McGregor, 1998, 2003) proposes that personal uncertainty is a particularly aversive self-threat because it disrupts the ability to decide and act. Personal uncertainty refers to awareness of inconsistent or unclear self-relevant cognitions (cf. Baumeister's, 1985, distinction between identity deficit and identity conflict). As such, it is more threatening than less self-central, focal uncertainties that can be pleasant and engaging (Sorrentino & Roney, 2000) and that are associated with less biased and more conscientious information processing (Tiedens & Linton, 2001; Weary, Jacobson, Edwards, & Tobin, 2001). People in individualist cultures, who use the independent self to guide their actions (Markus & Kitayama, 1991), need clarity about the self because the self is used to guide subordinate goals and behaviors (Scheier & Carver, 1988; Van Hook & Higgins, 1988). Without a sense of self-clarity to serve as an authoritative arbiter for deciding what to do, the unique capacity

of the human brain to generate alternative goals and priorities would leave individuals at risk of being chronically mired in multiple approach–approach conflicts between imagined alternatives. Thus, according to IC theory, people in individualist cultures turn to various strategies for coping with personal uncertainty, one of which is compensatory conviction about value-relevant topics. Past compensatory conviction research has found that after being assigned to ruminate about difficult personal dilemmas, undergraduates spontaneously exaggerated their conviction about social issues, values, goals, and identifications (McGregor, Zanna, Holmes, & Spencer, 2001). The present research extends that work by using new operationalizations of personal uncertainty and conviction, and by more thoroughly investigating *who* responds to uncertainty with compensatory conviction, and *why*.

Zeal Appeal

IC theory proposes that conviction is appealing because it provides relief from uncertainty in two ways. First, conviction salience is associated with self-regulatory clarity (cf. Verplanken & Holland, 2002) and freedom from the negative affect associated with conflicting self-guides and goals (Baumeister, 1985; Gray, 1982; Van Hook & Higgins, 1988). In the words of Fromm (1947, pp. 46–47), zealous conviction provides the individual with a “mental picture of the world which serves as a frame of reference from which he can derive an answer to the question of where he stands and what he ought to do.” Thus, conviction in the face of uncertainty is rewarding because it provides an authoritative arbiter for resolving goal conflicts.

The finding that participants respond to uncertainty with compensatory conviction about topics unrelated to the eliciting uncertainty (McGregor et al., 2001) suggests that conviction is not only a precision response for resolving focal uncertainties, however. IC theory proposes that compensatory conviction provides relief from uncertainty in a second, more defensive way—by distracting attention from unpleasant uncertainties and focusing it on the compensatory convictions. In contrast to direct thought suppression, focusing on alternative thoughts is a mental control strategy that does not cause rebound hyperaccessibility of unwanted thoughts (Wenzlaff & Bates, 2000). Moreover, convictions are appealing because of their history of association with the affective rewards of self-regulatory clarity. Thinking about appealing thoughts when confronted with troubling ones can be a spontaneous and effective way to repair mood, presumably because the pleasant thoughts inhibit or at least draw attention from the unpleasant ones (Boden & Baumeister, 1997; Dodgson & Wood, 1998; Rusting & DeHart, 2000; Smith & Petty, 1995). Less accessible uncertainties are less psychologically consequential than accessible ones (Newby-Clark, McGregor, & Zanna, 2002). The present research investigates whether dispositionally defensive individuals use conviction to reduce subjective salience of their personal uncertainties.

The idea that conviction can be used to keep unwanted uncertainties out of awareness follows Freud’s early claim that people use reactive, excessively intense thoughts as mental dams to repress unwanted thoughts. The present research investigated other similarities between compensatory conviction and repression, as well. Freud’s writings are inconsistent on whether repression is necessarily nonconscious, but the consensus among contemporary repression theorists is that repression is a nonconscious response

that differs from conscious thought suppression, in that it is not mediated by conscious intention or awareness (cf. Freud, 1946; Singer, 1990). Thus, for compensatory conviction to be considered a mode of repression, there should be evidence that it can occur without conscious intention or awareness. We investigate this question using an implicit measure of conviction about self-definition.

Dispositional Defensiveness

Guided by Freud’s view that repression is the foundational defense that underlies most of the other specific defense mechanisms (Gay, 1989, p. 569), we also investigated whether individuals most inclined to other compensatory defenses would be particularly prone to defend against uncertainty-threats with compensatory conviction. There is growing evidence that individuals with highly positive self-evaluations are particularly defensive (see Blaine & Crocker, 1993; and Baumeister, Smart, & Boden, 1996, for reviews). Individuals with high self-esteem (HSEs) are more likely than individuals with low self-esteem (LSEs) to bring positive information about the self to mind when confronted with failure (Dodgson & Wood, 1998). People with grandiose self-evaluations are more likely than their humbler counterparts to derogate and aggress against others who criticize their work or outperform them (Bushman & Baumeister, 1998; Kirkpatrick, Waugh, Valencia, & Webster, 2002; Morf & Rhodewalt, 1993). After threat, HSEs are also more inclined than LSEs to distort impressions of others to make themselves look good (Dunning, 2003), to derogate out-groups relative to in-groups (Crocker, Thompson, McGraw, & Ingerman, 1987), and to shift toward self-identifications that shield them from threatening comparisons with superior others (Mussweiler, Gabriel, & Bodenhausen, 2000). HSEs also spontaneously bring mood-incongruent, positive thoughts to mind after being confronted with thoughts about death, disease, and disaster (Smith & Petty, 1995). It is important to note that HSEs are not any more knowledgeable than LSEs about how to escape from negative feelings, but rather are more motivated to do so (Heimpel, Wood, Marshall, & Brown, 2002).

Why should HSEs be so defensive? From the self-affirmation perspective one might expect that they would be least defensive because they have ample self-worth resources available for buffering would-be threats (Spencer, Josephs, & Steele, 1993; Steele, Spencer, & Lynch, 1993). There are two related but distinct perspectives on why high self-esteem is associated with defensiveness. A prevailing viewpoint is rooted in the finding that only insecure forms of high self-esteem—high explicit but low implicit (Jordan, Spencer, & Zanna, 2003; Jordan, Spencer, Zanna, Hoshino-Browne, & Correll, 2003) or temporally unstable (Kernis, Cornell, Sun, Berry, & Harlow, 1993)—are associated with defensiveness. According to this viewpoint, insecure high self-esteem requires defensive maintenance because it is fragile. This view accounts for the defensiveness of individuals with high self-esteem by pointing out that the subset of people with insecure high self-esteem drives the relation between high self-esteem and defensiveness. If one’s grip on greatness feels precarious, one will be more vigilant and reactive to threats.

A complementary account that focuses on the reverse direction of causality is that high self-esteem can sometimes be a manifestation of a generalized tendency toward repressive defensiveness.

Given the remarkable skew in North Americans' self-esteem scores (Heine, Lehman, Markus, & Kitayama, 1999) and the prevalence of positive illusions (Taylor & Brown, 1988), there is reason to suspect that for some people high self-esteem may be a cumulative product of defensive self-enhancement. Indeed, recent research indicates that for HSEs, thinking about a personal success decreases the subjective salience of threats (McGregor, 2002). Repeatedly reminding oneself of one's strengths and successes as a means of keeping threats out of awareness may lead to exaggerated self-worth appraisals (Smith & Petty, 1995, p. 1104) that exceed one's implicit self-views (which are based on experiential associations; see Karpinski & Hilton, 2001). If so, the combination of low implicit self-esteem (ISE) and high explicit self-esteem (ESE) would be a tell-tale indicator of this process.

Both perspectives predict that people with high self-esteem, and particularly those with insecure high self-esteem, should be most defensive after self-worth threats. Indeed, it is plausible that the mechanisms proposed by the two perspectives may interact in a vicious cycle of defensive enhancement, causing more exaggerated self-views, which in turn require more defensiveness to maintain. The generalized defensiveness perspective however, provides the clearest rationale for why people with insecure, high self-esteem should be most defensive in response to uncertainty-threats. In contrast to the fragile-vigilance view, the generalized-repressive-defensiveness view predicts that HSEs who tend to mask weaknesses with strengths will also be most inclined to mask uncertainties with convictions.¹

Overview

The present research advances compensatory conviction research in three ways. First, we investigate whether compensatory conviction can be a relatively automatic defense that is not mediated by conscious intention or awareness (Study 1). Second, we investigate whether self-defensive individuals (HSEs in Studies 1 and 2, and specifically, HSEs with low ISE in Study 3) will be most inclined toward compensatory conviction. Finally, we assess whether conviction effectively masks uncertainties (Studies 3 and 4). Affirmative answers to these questions would support the view of compensatory conviction as a mode of repression, akin to reaction formation.

Study 1

Study 1 investigates whether compensatory conviction in response to personal uncertainty is most pronounced among HSEs. It also uses an implicit, reaction-time based measure of conviction to determine whether compensatory conviction can occur without conscious intention or awareness.

Method

Nineteen male and 66 female undergraduates (mean age = 19 years) participated for an average of 30 min in exchange for extra credit in their introductory psychology course. The experiment was advertised as investigating personality and decisions. Participants were randomly assigned to either the uncertainty-threat condition or one of three versions of the control condition. We excluded the data from one female in the uncertainty-threat condition because she withdrew before the dependent variable was assessed. As many as 3 participants at a time were greeted by

a male research assistant and handed a package of materials from the top of a pile that had been randomly shuffled and turned face down. The research assistant was thus unaware of participants' assigned condition. (This random-assignment procedure was followed in Studies 2 and 4 as well.) Participants completed the self-esteem scale, then the uncertainty-threat or control materials, followed by the assessment of implicit conviction. At the end of the study participants were probed for suspicion and debriefed orally and in writing. They were also given telephone numbers of local peer and professional counseling resources in case any of the study materials reminded them of personally disturbing issues. (This debriefing procedure was followed in Studies 2–4 as well.)

Materials

Self-esteem. Participants rated the 10 Rosenberg (1965) self-esteem questionnaire items (e.g., "I feel that I have a number of good qualities") on a rating scale from 1 (*strongly disagree*) to 5 (*strongly agree*).² Several personality scales followed the self-esteem scale to disguise the purpose of the study and separate the assessment of self-esteem from the threat manipulation. This was deemed necessary because reminding participants about their high self-esteem immediately before a threat can defuse the threat (Steele et al., 1993, Study 2).

Uncertainty-threat. In the uncertainty-threat condition, participants ($n = 21$) were asked to think of an unresolved personal dilemma. They were instructed to select a dilemma that made them feel very uncertain, that they had not already solved, and that took the form of "should I . . . or not?" They then wrote down their primary personal value associated with each pole of the dilemma, and answered a series of open-ended questions that required them to deliberate about the relative pros and cons of the two poles of the dilemma. This uncertainty-threat manipulation was adapted from Taylor and Gollwitzer's (1995) deliberative mindset materials. In past research it significantly increased feelings of uncertainty, but had no significant effect on self-esteem or affect (McGregor et al., 2001, Study 1).

Participants in the control condition completed one of three different sets of materials: (a) friend's dilemma, (b) easy decisions, and (c) free association. The three versions were used to more conclusively demonstrate (than in McGregor et al., 2001) that it is the uncertainty-threat materials that cause elevated conviction, and not that some property of the control materials cause attenuated conviction. A similar pattern of results across three diverse versions of the control materials would rule out the possibility

¹ These perspectives on defensive high self-esteem may help to explain the few cases in which high self-esteem has been associated with *less* defensiveness (Harmon-Jones et al., 1997, Study 2; Steele et al., 1993, Study 1). In Steele et al. (1993, Study 1), HSEs showed less defensive rationalization than LSEs after receiving negative personality feedback. The self-esteem scale used in that study, however, was designed to "identify individuals who would manifest a comfortable and imperturbable sense of personal worth" (Gough, as cited in Steele et al., 1993, p. 887). Thus, it may have assessed a particularly robust and nondefensive form of self-esteem. Harmon-Jones et al. (1997, Study 2) similarly found HSEs to be less defensive than LSEs after a mortality salience threat, but their operationalization of high self-esteem was also unusual. Participants who were extremely high in ESE ($M = 38.6/40$) were preselected at the beginning of the term and were retained as participants only if their ESE was still extremely high several weeks later, immediately before the study. This essentially ensured that participants had temporally stable high self-esteem, which is a particularly nondefensive subset (Kernis et al., 1993; Kernis, Grannemann, & Barclay, 1989). In other research, HSEs have been found to be *more* defensive than LSEs after mortality salience when self-esteem was only measured once (Baldwin & Wesley, 1996).

² In Studies 1, 2, and 4, we changed the measurement of Rosenberg self-esteem scale to a 1–5 format, from its usual 1–4 format, for consistency with the other personality questionnaires that all used the 1–5 format.

that some property of any one of them could account for the apparent compensatory conviction effect.

In the “friend’s dilemma” version of the control condition, participants ($n = 21$) wrote about a dilemma that a friend was facing, about which they thought they knew what would be best for the friend to do. Materials followed the same format as in the uncertainty-threat condition.³ In the “easy decisions” version of the control condition, participants ($n = 20$) completed sentence fragments, such as “If I could choose right now, I would rather __,” by circling one of two options, such as “eat pizza” versus “eat salad,” or “see a movie” versus “read a novel.” There were a total of 20 sentence fragments and pairs of options. Like the uncertainty-threat materials, this version of the control condition involved self-focus and decision making, but lacked the active ingredient of personal uncertainty. In the “free associations” version of the control condition, participants ($n = 20$) simply wrote down the first word that came to their minds upon seeing each of 40 target words taken from the easy decisions control materials (e.g., *pizza*, *salad*, *movie*, *novel*). These neutral materials controlled for passage of time and attention.

Conviction. We used an implicit measure of self-concept clarity as the operational definition of conviction. Self-concept clarity refers to certainty and absence of ambivalence about self-definition (Campbell, 1990). The implicit, reaction-time-based measure of self-concept clarity is significantly correlated with endorsement of questionnaire items such as “I seldom experience conflict between the different aspects of my personality” and “In general, I have a clear sense of who I am and what I am” (Campbell et al., 1996). A causal relation between manipulated uncertainty-threat and this implicit measure of conviction would support the conclusion that compensatory conviction is not necessarily mediated by conscious intention or awareness.

The instructions for the computerized assessment of self-concept clarity took approximately 3 min and served as a delay after the uncertainty-threat. This delay was considered necessary because past research has found that threatened participants initially suppress awareness of a threat, and that compensatory defenses emerge only after the initial suppression phase has passed (Pyszczynski, Greenberg, & Solomon, 1999). For the response-latency-based assessment of self-concept clarity (Campbell, 1990), participants saw trait adjectives appear on the computer screen, one after another. Their task was to press either the *me* or *not-me* key on the computer keyboard as quickly and as accurately as possible upon the appearance of each adjective. Each response activated the appearance of the next adjective. After nine practice trials, participants responded to 41 trait adjectives. The 41 reaction times for each participant were averaged, and faster mean reaction times were taken as evidence of more conviction. Individual response latencies over three standard deviations slower than participants’ means were excluded as outliers (6% were excluded over all).

Results and Discussion

For the main analysis, mean response latency (lower latencies correspond to more implicit conviction about the self) was regressed on uncertainty-threat condition (uncertainty-threat vs. merged-control), self-esteem, and the self-esteem \times uncertainty-threat condition interaction. Following the Aiken and West (1996) guidelines for analyzing experimental personality designs involving interactions between categorical and continuous variables, the distribution of self-esteem was centered to make the mean equal to zero, uncertainty-threat condition was effect coded, and the first-order and interaction terms were entered into the regression simultaneously.

As previously found by Campbell (1990), self-esteem was negatively related to mean *me/not-me* response latency, $\beta = -.25$, $t(80) = -2.11$, $p < .05$, indicating that HSEs felt more sure about their self-definitions than LSEs. Uncertainty-threat condition was

not significantly related to response latency, $\beta = -.11$, $t(80) = -1.03$, *ns*, but consistent with the main hypothesis there was a significant interaction effect, $\beta = -.23$, $t(80) = -1.98$, $p = .05$.⁴ As shown in Figure 1, fastest response latency (i.e., highest implicit conviction about the self) was at high self-esteem (one standard deviation above the mean) in the uncertainty-threat condition. Simple effects analyses revealed that at high self-esteem, response latency was significantly faster in the uncertainty-threat condition (predicted value = 1,501 ms) than in the control condition (predicted value = 1,829 ms), $t(80) = -1.98$, $p = .05$. At low self-esteem, however, it did not differ between the uncertainty-threat (predicted value = 1,935 ms) and control (predicted value = 1,843 ms) conditions, $t(80) < 1$, *ns*. Furthermore, the simple slope of self-esteem in the uncertainty-threat condition was significant, $\beta = -.47$, $t(80) = -2.48$, $p < .05$, but in the control condition it did not differ significantly from zero, $\beta = -.02$, $t(80) < 1$, *ns*.⁵ The results of Study 1 demonstrate that when faced with an uncertainty-threat, HSEs made *me/not-me* decisions about self-definition significantly more quickly than they normally would, and significantly more quickly than threatened LSEs. Consistent with the hypothesis, uncertainty-threat caused implicit conviction among HSEs.

Study 2: Reanalysis of Previously Published Data From McGregor et al. (2001)

The results of Study 1 suggest that the compensatory conviction effects reported by McGregor et al. (2001, Study 1) may have been driven primarily by HSEs. In that study, the same dilemma-related uncertainty-threat caused heightened conviction about opinions toward social issues. In the analyses reported by McGregor et al. (2001, Study 1), the interaction between self-esteem and condition was not significant, but that may have been because the effect was diluted by a third condition in which an additional self-affirmation manipulation eliminated compensatory conviction for all partici-

³ This is the control condition used in past compensatory conviction research (McGregor et al., 2001, Studies 1 and 2).

⁴ Results were similar when separate analyses were conducted comparing the threat condition with the three different versions of the control condition. Betas of the interaction term, from the analyses using each version of the control group (friends dilemma, easy decision, and free association), were $-.27$, $-.20$, and $-.27$, respectively. Results were also similar if reaction times of only positive or only negative adjectives were used as the dependent variable. With average reaction time of the 12 most negative adjectives as the dependent variable, the beta for the interaction term was $-.23$. With average reaction time of the 12 most positive adjectives as the dependent variable, the beta for the interaction term was $-.22$. Finally, results were virtually identical for *me* and for *not-me* responses. For the 12 adjectives most commonly responded to as “*me*” (i.e., by 82% of participants) the interaction beta was $-.21$. For the 12 adjectives most commonly responded to as “*not me*” (also by 82% of participants) the interaction beta was also $-.21$.

⁵ Following the Aiken and West (1996) guidelines, simple effects of condition for HSEs and LSEs were computed by centering the distribution of self-esteem scores at one standard deviation below and above the mean, respectively. Simple slopes for self-esteem in the uncertainty-threat and control conditions were similarly computed by setting the value for the dummy-coded condition at zero for the uncertainty condition and for the control condition, respectively.

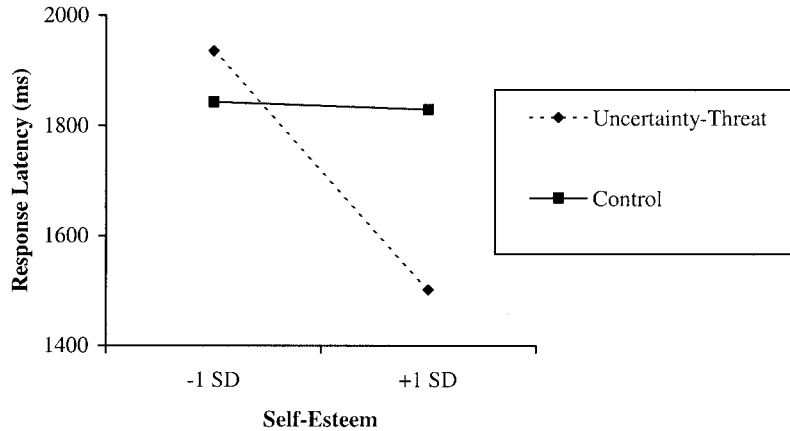


Figure 1. Response-latency based measure of implicit conviction about self-definition as a function of self-esteem and uncertainty-threat condition (shorter latencies represent more conviction).

pants. For the present study, archival data from the uncertainty-threat and control conditions of McGregor et al. (2001, Study 1) were reanalyzed to see if the uncertainty-threat \times self-esteem interaction effect on implicit conviction that we found in Study 1 of the present research would replicate with the explicit measure of conviction used in past research.

Method

Ten male and 25 female undergraduates (mean age = 19 years) received credit toward their introductory psychology course for participating. The cover story and procedures, up to the dependent variable, were similar to those used in Study 1. Participants in the uncertainty-threat condition ($n = 18$) completed the uncertainty-threat materials used in Study 1, and those in the control condition ($n = 17$) completed the friend's dilemma materials used in Study 1.⁶ Participants in both conditions then completed a filler exercise that involved writing about their least important value. Finally, for the dependent variable, participants indicated their personal opinions about capital punishment and abortion by viewing a list of 15 diverse attitude statements (for each issue) and selecting the statement for each issue that most closely resembled their own opinion. They then answered questions relating to their conviction about each opinion, and their estimates of social consensus for their opinions. There were eight conviction questions, four relating to certainty (firmness, willingness to defend, strength of conviction, and certainty), and four (from Jamieson, 1993) relating to absence of ambivalence (torn feelings, internal disagreement, mixed emotions, and internal alignment). The social consensus questions asked people to estimate the percentage of people who would agree with their opinion. Past research has found that conviction and consensus can serve common epistemic functions (Holtz & Miller, 1985; Marks & Miller, 1985, 1987).

Results and Discussion

Cronbach alpha reliabilities of the certainty, absence of ambivalence, and consensus subscales were .85, .74, and .78, respectively. The certainty and absence of ambivalence subscales were highly correlated with each other, $r(35) = .61, p < .001$, but not with the consensus subscale, $r(35) = .13, ns$ and $r(35) = .00, ns$, respectively. Thus, an overall index of conviction was computed by standardizing the average of the standardized certainty and absence of ambivalence subscales, across the two issues. Two

parallel regression analyses were conducted, one with overall conviction as the dependent variable, and one with perceived consensus as the dependent variable.

As in Study 1, for both analyses the distribution of self-esteem was centered to make the mean equal to zero, uncertainty-threat condition was effect coded, and the first-order and interaction terms were entered into the regression simultaneously (Aiken & West, 1996). Results of the analysis with perceived consensus as the dependent variable indicated no significant interaction, $\beta = -.18, t(31) = -1.10, ns$. In contrast, the analysis with conviction as the dependent variable revealed a highly significant interaction, $\beta = .50, t(31) = 3.20, p < .005$. Highest conviction was at high self-esteem in the uncertainty-threat condition (see Figure 2). Simple effects analyses revealed that, at high self-esteem, the predicted value of conviction was significantly higher in the uncertainty-threat condition ($z = .81$) than in the control condition ($z = -.44, t(31) = 2.98, p = .01$), but at low self-esteem, predicted values of conviction did not differ between the uncertainty-threat condition ($z = -.37$) and control condition ($z = .14, t(31) = -1.28, ns$). Furthermore, as in Study 1 there was a significant simple slope of self-esteem in the uncertainty-threat condition, $\beta = .66, t(31) = 2.85, p < .01$, but in the control condition there was a trend in the opposite direction, $\beta = -.33, t(31) = -1.60, p = .12$.

⁶ After completing the uncertainty-threat or control materials, all participants completed an adapted, state-version of the Self-Concept Clarity scale (Campbell et al., 1996). This scale was included in an attempt to magnify the effect of the uncertainty manipulation and out of curiosity as to whether the uncertainty manipulation might cause compensatory clarity of participants' self-concepts. There were no effects of uncertainty-threat or of the uncertainty-threat \times self-esteem interaction on this measure of self-concept clarity. This may be because it was assessed during the suppression period after the threat, during which time compensatory defenses should not be expected (cf. Pyszczynski et al., 1999). Alternatively, it seems plausible that threatened, defensive individuals may have been unwilling to admit their lack of clarity.

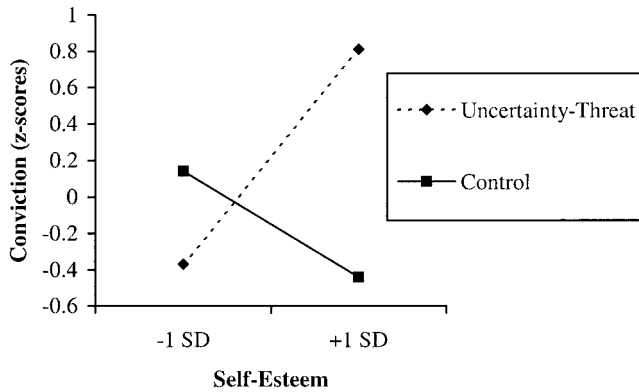


Figure 2. Conviction about social issues as a function of self-esteem and uncertainty-threat condition.

It is important to note that the actual ratings of conviction about abortion and capital punishment were extremely high, especially when one considers how contentious the social issues are, and given that participants had just been exposed to a diverse range of common opinions about each issue. On the most face-valid conviction question, which simply asked participants to rate the strength of their convictions about capital punishment and abortion, the average conviction reported by HSEs (about the median) in the uncertainty-threat condition was $M = 9.2$ on a 0–10 scale.

The results of Study 2 conceptually replicate the results from Study 1 using an explicitly assessed measure of conviction about value-laden opinions rather than an implicitly assessed measure of conviction about self-definition. In both studies, compensatory conviction in the face of personal uncertainty was most pronounced among HSEs. The conviction-specificity finding (i.e., for conviction but not for consensus) also suggests that the compensatory conviction effect in McGregor et al. (2001, Study 1) may have been driven more by exaggerated conviction than by exaggerated consensus. (In that study, overall conviction scores were comprised of conviction and consensus subscales.)

Study 3

To replicate the compensatory conviction effect with a different kind of uncertainty-threat, and to replicate the conviction-specificity finding, Study 3 investigated whether thinking about relationship uncertainties would cause HSEs to heighten their conviction (but not consensus) about social issue opinions. Echoing classic themes from early symbolic interactionist perspectives, Backman (1988, p. 253) argued that the “relationships persons have with kin, friends, and lovers are their strongest identity props.” Indeed, Durkheim (1897/1951, p. 12) contended that “the more the family and community become foreign to the individual, so much the more does the individual become a mystery to himself.” Thus, we expected that uncertainty about close relationships would be a particularly poignant uncertainty-threat. We also operationalized defensive high self-esteem more precisely than in Studies 1 and 2. We expected HSEs with low implicit self-evaluations to be most inclined toward compensatory conviction, on the basis of recent findings indicating that such individuals are

particularly narcissistic, self-serving, and defensive (Jordan, Spencer, & Zanna, 2003; Jordan, Spencer, Zanna, et al., 2003).

Finally, as an initial investigation of the claim that zeal is a mechanism of repression, Study 3 assessed whether defensive conviction would be associated with decreased subjective salience of relationship uncertainties. Subjective salience refers to the extent to which cognitions feel important and accessible to awareness.

Method

Nine male and 74 female undergraduates (mean age = 20 years) participated in a “personality, relationships, and attitudes” study in exchange for course credit. Groups of between 2 and 4 participants were greeted by the female experimenter. Each participant was then randomly assigned to a private computer cubicle. All of the experimental materials were administered on the computer. Participants first completed several personality scales, followed by the reaction-time measure of ISE. Next, they responded to the uncertainty-threat manipulation questions, followed by implicit and explicit measures of affect. Finally, they answered questions about their conviction and perceived consensus for their attitudes about social issues, and then about the subjective salience of their relationships.

Materials

ESE and ISE. As in Studies 1 and 2, ESE was assessed using the Rosenberg (1965) self-esteem scale, which was followed by several filler personality scale items for consistency with the cover story and to prevent potential self-affirmation effects associated with filling out the self-esteem scale (cf. Steele et al., 1993, Study 2). ISE was then assessed using the adapted version of the Implicit Associations Test (IAT; Greenwald & Farnham, 2000; Greenwald, McGhee, & Schwartz, 1998) that, in conjunction with ESE, has predicted defensiveness in other research (Jordan, Spencer, & Zanna, 2003; Jordan, Spencer, Zanna, et al., 2003). ISE is defined as an automatic and nonconscious evaluation of the self that is not introspectively identifiable (Greenwald & Banaji, 1995). The IAT assesses participants’ automatic associations of self-related and non-self-related words with pleasant versus unpleasant words, and is the most reliable of the currently available ISE measurement techniques (Cronbach $\alpha = .88$; Bosson, Swann, & Pennebaker, 2000). Participants with high ISE have particularly strong (and fast) associations between self-related and pleasant words. Following Greenwald and Farnham (2000), latencies greater than 3,000 ms were recoded as 3,000 ms and latencies less than 300 ms were recoded as 300 ms.

Rumination. Among the personality scales, we included a 12-item rumination scale (Trapnell & Campbell, 1999), which assesses neurotic, self-focused perseveration with items such as “My attention is often focused on aspects of myself I wish I’d stop thinking about” and “Sometimes it is hard for me to put unwanted thoughts out of my mind.” This scale was included to validate the subjective salience measure (a dependent variable to be described in a following section), which assesses the extent to which uncertainties feel important and accessible. We expected that rumination scores would be positively correlated with subjective salience of personal uncertainties. Further, because of the expected relation between dispositional rumination and subjective salience of uncertainties, rumination was also included as a covariate in the regression analyses to reduce error variance and afford more statistical power for detecting effects of the experimental manipulations.

Uncertainty-threat. Uncertainty was manipulated in the context of interpersonal relationships by having participants describe their uncertainties about a shaky relationship with a family member, friend, or romantic partner. Participants in the uncertainty-threat condition ($n = 42$) received the following instructions:

Think about a close relationship (family member, friend, or romantic partner) that is currently not going very well. For example, you may be fighting a lot lately, or not talking as much as you used to. You are uncertain as to whether you will be able to continue to be as close to this person in the future.

They then indicated what kind of relationship that it was (i.e., family, friend, or intimate), and then had 2 min to respond to each of two open-ended questions:

1. Describe the kinds of problems and difficulties you are having with this person.
2. Describe any thoughts and feelings that come to mind as you imagine the possibility of this relationship continuing to go poorly or perhaps even getting worse.

Participants in the control condition ($n = 41$) received the following instructions:

Think about a close relationship (family member, friend, or romantic partner) that your friend is having trouble with. (This must be a relationship in which you are not involved as well.) For example, your friend may be fighting a lot with this person or they may not be talking as much as they used to. Your friend is uncertain as to whether he/she will continue to be as close to this person in the future.

Control participants also indicated what kind of relationship they were describing, and took 2 min to respond to each of two open-ended questions:

1. Describe the kinds of problems and difficulties they are having in the relationship.
2. Describe any thoughts and feelings you and your friend have discussed about their situation.

Affect, state self-esteem (SSE), and attachment-separation manipulation checks. We assessed implicit and explicit mood. The implicit mood measure (adapted from Hass, Katz, Rizzo, Bailey, & Moore, 1992) was completed first. It was included for exploratory purposes, to assess the possibility that during the initial, suppression phase of defensiveness (Pyszczynski et al., 1999), there might still be some tacit awareness of negativity.⁷ The implicit mood measure also doubled as the required distraction (Pyszczynski et al., 1999) between the threat and the explicit manipulation checks.

We used a version of the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) to measure explicit mood. Participants rated the extent to which they felt each of 10 positive affect items (*interested, enthusiastic, strong, excited, proud, alert, inspired, determined, attentive, active*) and 10 negative affect items (*nervous, afraid, ashamed, guilty, jittery, irritable, distressed, upset, scared, hostile*) at the present moment, on a scale from 1 (*slightly or not at all*) to 5 (*very much*). Responses to the positive and negative items were averaged to yield positive and negative explicit mood scores. We also embedded three SSE items (*good about yourself, respected/admired*, and reverse-scored *displeased with yourself*; adapted from Heatherton & Polivy, 1991) and five attachment-separation items (*lonely, insecure, isolated, rejected*, and reverse-scored *safe*) among the PANAS items, which allowed for an assessment of whether attachment and self-worth were also threatened by the relationship-related uncertainty-threat manipulation.

Conviction and consensus. Conviction about capital punishment and abortion was assessed with the four certainty items about each issue used in Study 2. Perceived consensus was also assessed as in Study 2.

Subjective salience. After making their conviction ratings, all participants rated the subjective salience of relationship thoughts and feelings on items scaled from 1 (*not at all*) to 5 (*extremely*). Items referred to the extent

to which “right now, at this very moment” their thoughts and feelings about their own relationships felt *preoccupying, hard to ignore, important, urgent, significant, and very big*. The six items were averaged to yield an overall subjective salience score.

Results and Discussion

Preliminary Analyses

In the uncertainty-threat condition, most participants (45%) wrote about a troubled relationship with a friend, and equal numbers selected romantic partner, parent, and sibling (17% each). In the control condition, most participants (44%) wrote about a friend’s troubled romantic relationship, 27% wrote about a friend’s relationship with another friend, 15% about a friend’s relationship with a parent, and 12% about a friend’s relationship with a sibling.

Cronbach alpha reliabilities of the positive affect, negative affect, SSE, and attachment-separation feelings scales were .87, .86, .75, and .73, respectively. Reliabilities of the conviction and consensus scales were .86 and .82, and they were significantly correlated, $r(75) = .28, p < .01$. As has previously been found (e.g., Greenwald & Farnham, 2000), the correlation between ESE and ISE was nonsignificant, $r(83) = -.19, p = .09$.⁸ The subjective salience scale was unifactorial and had a Cronbach alpha reliability of .88.

Affect, SSE, and Attachment-Separation Manipulation Checks

We conducted six regression analyses with rumination as a covariate, and uncertainty-threat condition, ESE, and the uncertainty-threat condition \times ESE interaction entered simultaneously as predictors. The dependent variables were implicit positive affect, implicit negative affect, explicit positive affect, explicit negative affect, SSE, and attachment-separation feelings. (Initial analyses indicated that none of the dependent variables were significantly related to the uncertainty-threat condition \times ESE \times ISE interaction [all $ps > .16$], or to the rumination \times uncertainty-threat condition interaction [all $ps > .26$].) None of the predictors was significantly related to implicit positive or negative affect (all $ps > .15$), and the only significant predictors of explicit

⁷ This task was presented as a measure of “subliminal perception.” To begin each of the 20 trials, a nonsense string of letters was flashed very briefly (for 1 ms) somewhere on the screen, as the “subliminal stimulus.” Participants were then presented with a list of four words and were asked to select the one that felt like it was the subliminal stimulus. It was explained that although they may not be able to “see” the stimulus word on a conscious level, people are often able to perceive subliminal stimuli subconsciously, and so they should try to choose the word from the list that just felt right. One of the words on each of the 20 lists was a mood-related word; there were 10 positive mood words (e.g., *pleased, calm, secure*) and 10 negative mood words (e.g., *frustrated, tense, discouraged*). The number of positive and negative mood words selected served as participants’ positive and negative implicit mood scores.

⁸ It is interesting to speculate that, as outlined in the introduction, this marginally significant negative relation may reflect masking of implicit feelings of inadequacy with exaggerated claims of worth.

positive affect, SSE, and attachment-separation feelings were the main effects of rumination and ESE.⁹

Of primary interest, uncertainty-threat significantly predicted negative affect, $\beta = .23$, $t(78) = 2.35$, $p < .05$, an effect that was qualified by a significant uncertainty-threat condition \times ESE interaction, $\beta = -.19$, $t(78) = -1.99$, $p < .05$. There was highest negative affect in the uncertainty-threat condition among individuals with low self-esteem. (None of the other manipulation check variables were significantly or marginally predicted by uncertainty-threat or by the uncertainty-threat \times ESE interaction.)

To investigate whether this effect would be most pronounced for the negative affect adjectives most closely related to cognitive inconsistency, the five items from the negative affect scale that referred to nonspecific, agitated tension (*irritable*, *upset*, *distressed*, *jittery*, and *nervous*) were averaged to yield an uncertainty-affect index. These items resemble items on scales that assess affect related to dissonance (Elliot & Devine, 1994), ambivalence (Cacioppo, Gardner, & Berntson, 1997; Priester & Petty, 1996), and contradictory self-guides (Van Hook & Higgins, 1988). The other five items (*scared*, *hostile*, *afraid*, *guilty*, *ashamed*) were averaged for comparison purposes.¹⁰ As shown in Figure 3, uncertainty-affect scores were significantly heightened by the uncertainty-threat, $\beta = .20$, $t(78) = 2.07$, $p < .05$, but the effect was qualified by a significant uncertainty-threat condition \times ESE interaction, $\beta = -.24$, $t(78) = -2.48$, $p < .05$. Simple effects analyses revealed that at low self-esteem (-1 SD), but not at high self-esteem ($+1$ SD), uncertainty-affect was significantly higher in the uncertainty-threat condition (predicted value = 2.71) than in the control condition (predicted value = 1.94), $t(78) = 3.14$, $p < .005$. Simple slope analyses revealed that in the uncertainty-threat condition, but not in the control condition, uncertainty-affect was significantly higher at low self-esteem (predicted value = 2.71) than at high self-esteem (predicted value = 1.72), $\beta = -.58$, $t(78) = 4.16$, $p < .0001$. In contrast to the significant results for uncertainty-related affect, the average of the remaining five negative affect items was not significantly predicted by the uncertainty-threat condition \times ESE interaction ($t < 1$).

Together, these results indicate that whereas the reaction of LSEs to an uncertainty-threat is mood congruent (cf. Smith & Petty, 1995), HSEs are somehow able to down-regulate their uncertain feelings. The following analyses assess whether HSEs react to the uncertainty-threat with defensive conviction, and with decreased subjective salience of their uncertainties.

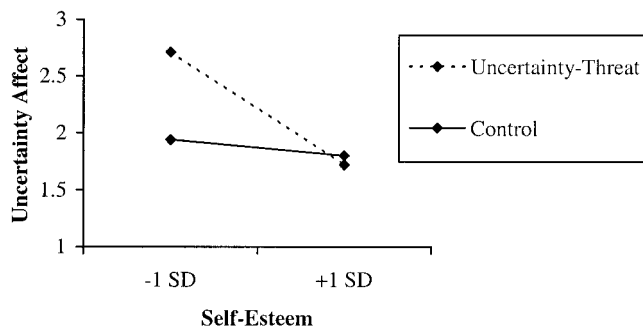


Figure 3. Uncertainty-related negative affect as a function of self-esteem and uncertainty-threat condition.

Conviction, Consensus, and Subjective Salience

For the main analyses, three regression analyses were conducted, each with rumination (centered), uncertainty-threat condition (uncertainty-threat vs. control; effect coded), ISE (centered), ESE (centered), three second-order interaction terms (uncertainty-threat condition \times ISE, uncertainty-threat condition \times ESE, and ISE \times ESE), and a third-order interaction term (uncertainty-threat condition \times ISE \times ESE) entered simultaneously as predictors (Aiken & West, 1996). (Preliminary analyses indicated that rumination did not interact with uncertainty-threat to predict any of the dependent variables.)

In the first regression analysis, with conviction as the dependent variable, there were no significant first-order effects, but there was a significant second-order, uncertainty-threat condition \times ESE interaction effect, $\beta = .23$, $t(75) = 1.98$, $p = .05$.¹¹ (None of the other second-order effects was significant [$ts < 1$].) As found in Studies 1 and 2, at high ESE, but not at low ESE, predicted values of conviction were higher in the uncertainty-threat condition than in the control condition. Of particular relevance to the unique hypothesis in Study 3, however, this two-way effect was qualified by a significant third-order uncertainty-threat condition \times ESE \times ISE interaction, $\beta = -.26$, $t(75) = -2.13$, $p < .05$. As shown in Figure 4, the uncertainty-threat condition \times ESE interaction effect on conviction only held at low ISE (-1 SD). Conviction was highest at high ESE and low ISE in the uncertainty-threat condition. Simple effects analyses revealed that at high ESE and low ISE, there was a significantly higher predicted value of conviction in the uncertainty-threat condition ($z = .54$) than in the control condition ($z = -.60$), $t(75) = 2.52$, $p = .01$. The simple effect of condition was not significant at any of the other combinations of ESE and ISE, and there was a trend toward less conviction in the uncertainty-threat condition than in the control condition, at low ISE/low ESE ($p = .14$). Finally, the simple slope of ESE at low ISE was significant in the uncertainty-threat condition, $\beta = .55$, $t(75) = 2.33$, $p < .05$, but not in the control condition, where there was a trend in the opposite direction ($p = .17$).

Overall, this three-way interaction indicates that participants with defensive self-esteem (high ESE/low ISE; Jordan, Spencer, &

⁹ Rumination was significantly associated with less positive affect, $\beta = -.26$, $t(78) = -2.50$, $p = .01$, more negative affect, $\beta = .22$, $t(78) = 2.11$, $p < .05$, more attachment-separation feelings, $\beta = .33$, $t(78) = 3.23$, $p < .005$, and lower SSE, $\beta = -.26$, $t(78) = -2.82$, $p < .01$. ESE was significantly associated with more positive affect, $\beta = .30$, $t(78) = 2.87$, $p = .005$, less negative affect, $\beta = -.35$, $t(78) = -3.42$, $p = .001$, less attachment-separation feelings, $\beta = -.38$, $t(78) = -2.65$, $p < .01$, and higher SSE, $\beta = .54$, $t(78) = 5.94$, $p < .0001$.

¹⁰ A principal-components analysis with varimax rotation of the 10 negative affect items revealed two factors. The five personal uncertainty index items—*distressed*, *irritable*, *nervous*, *jittery*, and *upset*—loaded onto the first factor, with loadings of .73, .72, .70, .57, and .53, respectively. The five other items—*guilty*, *ashamed*, *hostile*, *scared*, and *afraid*—were the five highest loadings on the second factor, with loadings of .90, .88, .56, .53, and .48, respectively. *Scared* and *afraid* had relatively equivalent, moderate cross-loadings onto the first factor—.56 and .63, respectively.

¹¹ This interaction was only marginally significant ($p = .06$) without the rumination covariate in the regression analysis. All other Study 3 effects reported as significant at $p \leq .05$ remained significant at $p \leq .05$ when the rumination covariate was excluded.

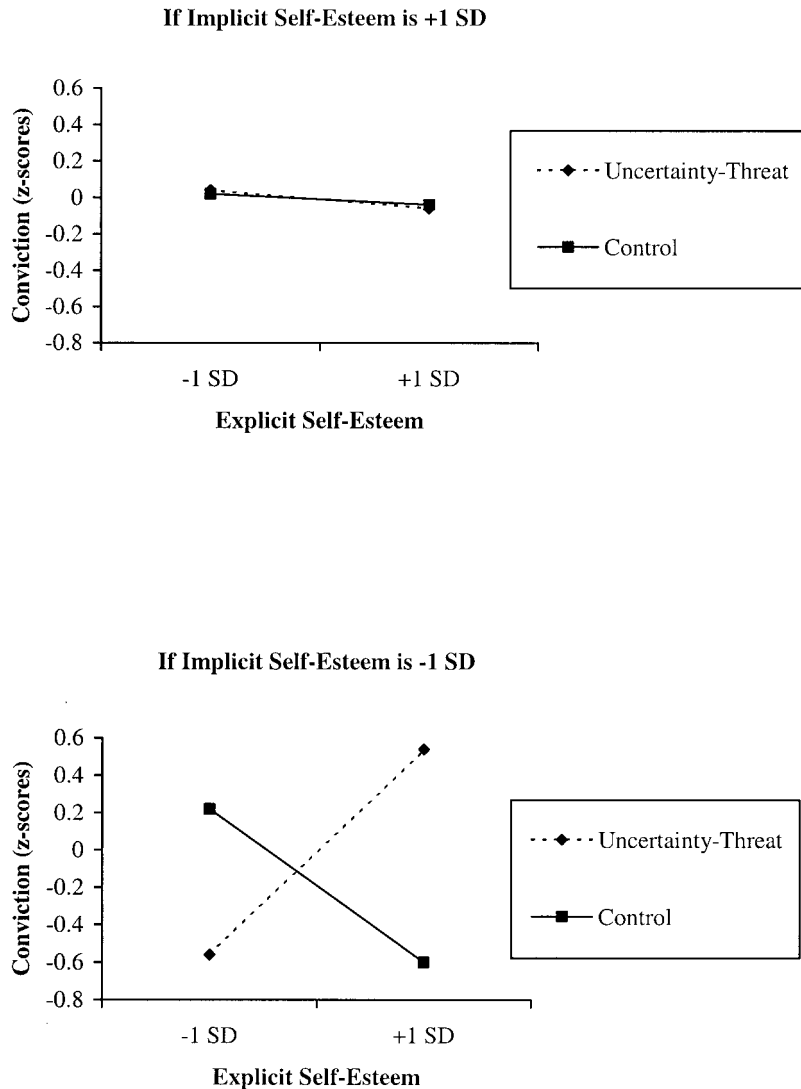


Figure 4. Conviction about social issues as a function of implicit self-esteem, explicit self-esteem, and uncertainty-threat condition.

Zanna, 2003) were particularly likely to react to a personal uncertainty-threat with compensatory conviction. It is important to note that for these apparently defensive individuals, as in Study 2, the actual conviction scale values were remarkably high. At high ESE and low ISE in the uncertainty-threat condition, the predicted value of overall conviction was 8.4 on a 0–10 scale. In contrast to these significant effects for conviction, and consistent with the conviction-specificity findings in Study 2, there were no significant effects in the parallel regression analysis with consensus estimates as the dependent variable.¹²

In the regression analysis with subjective salience as the dependent variable, none of the first-, second-, or third-order terms involving ISE were significant (all $ps > .17$), and so they were excluded from the analysis. The only significant first-order effect was the significant relation between rumination and subjective salience, $\beta = .31, t(78) = 2.94, p < .005$, which provides some evidence for the validity of the subjective salience scale. (The

rumination \times uncertainty-threat condition interaction was not significant [$p = .23$].) Most importantly, consistent with the hypothesis, there was a significant uncertainty-threat condition \times ESE interaction, $\beta = -.36, t(78) = -3.66, p = .0005$. As shown in Figure 5, simple effects analyses revealed that at low ESE, participants rated their current thoughts and feelings about their own relationships as more subjectively salient in the threat condition (predicted value = 3.2) than in the control condition (predicted value = 2.4), $t(78) = 3.03, p < .005$. At high ESE, however, participants rated these thoughts and feelings as less salient in the uncertainty-threat condition (predicted value = 2.6) than in the

¹² There were, however, nonsignificant trends in the direction of the effects found for conviction ($p < .13$ for the two-way interaction between ESE and uncertainty-threat condition, and $p < .16$ for the three-way interaction between ESE, ISE, and uncertainty-threat condition).

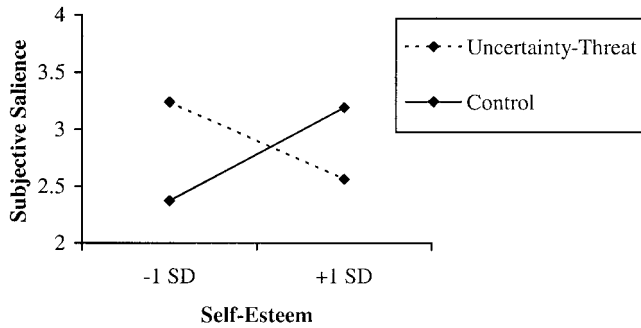


Figure 5. Subjective salience of relationship thoughts and feelings as a function of self-esteem and uncertainty-threat condition.

control condition (predicted value = 3.2), $t(78) = -2.18, p < .05$. Put another way, simple slope analyses revealed that in the control condition participants with high ESE tended to rate their relationship-related thoughts and feelings as more salient than did participants with low ESE, $\beta = .41, t(78) = 2.70, p < .01$, but the pattern was reversed in the threat condition, $\beta = -.34, t(78) = -2.33, p < .05$.

Results of Study 3 demonstrate that when low ESE individuals are confronted with personal uncertainties, they experience uncertainty-related affect. Those with high ESE, however, do not. Instead, they show evidence of compensatory conviction about unrelated social issues. Moreover, after an uncertainty-threat, ESE was negatively associated with subjective salience of thoughts about the topic of uncertainty. Of particular interest, in Study 3 the combination of high ESE and low ISE was associated with most defensiveness. The finding that explicitly cocky individuals who have implicit self-doubts are most likely to try to mask their uncertainties with certainties is consistent with a generalized repressive defensiveness view of defensive self-esteem and defensive conviction. Those who attempt to mask uncertainties with exaggerated claims of certainty also appear to have self-worth doubts that lurk behind exaggerated self-worth claims.

Internal and Mediation Analyses

The regression findings are consistent with the view that compensatory conviction serves as a mode of repression. Internal analyses of within-cell correlations provide some additional support for this view. Among participants with high ESE (at or above the median), there was a negative correlation between conviction about social issues and subjective salience of relationship thoughts, $r(50) = -.28, p = .05$. For those with low ESE, this correlation was not significant, $r(33) = -.14, ns$. Moreover, among those with high ESE in the uncertainty-threat condition, there was a negative correlation between conviction about social issues and uncertainty-related affect, $r(27) = -.38, p < .05$. This correlation was not significant at any of the other combinations of self-esteem and condition (all three $r_s > -.06$).

The negative relation between compensatory conviction and uncertainty-related affect among participants with high ESE is of particular interest because the measure of negative affect was recorded before the compensatory conviction dependent variable. This suggests that participants with high ESE somehow escaped

from the uncertainty-affect before the explicit opportunity to exaggerate their conviction. Thus, compensatory conviction may be part of a more generalized and systemic defensive response for alleviating the distress associated with uncertainty-threats that also involves bringing strengths (Dodgson & Wood, 1998), pleasant thoughts (Smith & Petty, 1995), and positive social identifications to mind (Mussweiler et al., 2000) to draw attention away from the uncertain cognitions (cf. McGregor, in press).¹³ If compensatory conviction is just one facet of a spontaneous repressive defensiveness syndrome, then conviction might not be expected to strongly mediate the relation between uncertainty-threat and subjective salience. Indeed, when conviction was included in the regression equation, the beta for the relation between the uncertainty-threat condition \times self-esteem interaction and subjective salience dropped only slightly, from .36 to .34, and the Baron and Kenny (1986) criteria for significant mediation were not met.

Study 3 demonstrated that personal uncertainty-threat causes compensatory conviction, decreased subjective salience of uncertainty-related thoughts, and no increase in negative affect among individuals with high ESE. It was not optimally designed, however, to test the causal hypothesis that conviction decreases subjective salience of uncertainties and uncertainty-related affect, because the measure of affect was positioned before the conviction-opportunity materials and the design left room (during the assessment of the affect) for participants to spontaneously mount other defensive responses in addition to exaggerated conviction. Study 4 specifically focused on the causal relation between conviction and subjective salience of unrelated uncertainties.

Study 4

Studies 1–3 demonstrate that HSEs respond to self-threats with compensatory conviction. Study 4 more directly investigates the repression hypothesis—that HSEs use conviction to help them take their minds off of troubling uncertainties. After completing the self-esteem scale, all participants wrote about a troubling dilemma they were currently facing in their lives. Participants in the conviction condition then wrote a paragraph describing their convictions about a social issue. Participants in the control condition instead wrote a paragraph describing someone else’s convictions about social issues. For the main dependent variable, participants then rated the subjective salience of the personal dilemmas they had written about earlier. We expected that HSEs in the conviction condition would report lower subjective salience.

Method

Eight male and 73 female York University undergraduates (mean age = 19 years) were recruited for a study on “decisions, attitudes, and person-

¹³ This explanation is consistent with findings from research by Tetlock, Kristel, Elson, Lerner, and Green (2000), who found that participants responded to salience of value-contradictory scenarios with an “overkill” response that involved rigid reassertion of their commitment to their own values. Participants reacted with moral outrage (derogation and hostility toward advocates of value-contradicting positions) and moral cleansing (increased willingness to volunteer for value-consistent activities). Of importance, prior opportunity to express outrage did not reduce cleansing, and vice versa.

ality” and received credit toward their introductory psychology class for participating. As many as 5 participants at a time proceeded through the study that was conducted by a female research assistant. Six female participants (4 in the conviction condition and 2 in the control condition) withdrew from the study before finishing it. Their data are not included in the analyses.

Materials

Self-esteem. As in Studies 1–3, the 10 items from the Rosenberg (1965) self-esteem scale were followed by several filler personality scale items for consistency with the cover story and to limit potential self-affirmation effects associated with filling out the self-esteem scale (cf. Steele et al., 1993, Study 2).

Personal dilemma nomination. All participants next completed a short dilemma nomination exercise that asked them to describe an unresolved personal decision they were currently facing. After describing it, they answered four questions about dilemma difficulty on a scale from 1 (*not at all*) to 5 (*extremely*). The four questions asked how uncertain, confusing, undecided, and difficult the dilemma felt.¹⁴

Conviction manipulation. In the conviction condition, participants read a list of 13 current social issues, and circled the one that they had the “clearest and strongest opinion or belief about.” The most commonly selected issues were capital punishment, euthanasia, and tuition increases. They then had half a page to elaborate on their convictions and to explain why they held them so strongly. In the control condition, participants instead circled the topic from the list of 13 that they thought politicians in Canada would have most conviction about. Environmental protection, capital punishment, tuition increases, and euthanasia were the most frequently selected. Participants then had half a page to elaborate on the imagined convictions of politicians. They were explicitly instructed not to write about their own convictions, and to focus exclusively on what they thought politicians’ convictions would be.

All participants then answered four questions that served as a manipulation check that there would be more conviction for personal opinions than for politicians’ opinions. The four questions were rated on a scale from 0 (*not at all*) to 10 (*very much*), and mirrored the four certainty questions that contributed to the conviction index in Studies 2 and 3. Finally, all participants answered two questions about the personal importance of the opinion they wrote about: (a) “How personally important to you is the opinion that you wrote about above?” and (b) “How personally significant to you is the opinion that you wrote about above?” Response options ranged from 1 (*not at all*) to 5 (*extremely*). The two ratings were averaged to form a personal-importance index.

Positive affect, negative affect, and SSE. Next, all participants indicated their “current feelings” by rating words or phrases from the 20-item PANAS (Watson et al., 1988) and a three-item SSE scale comprised of three face-valid items (from Heatherton & Polivy, 1991). The three SSE items were “dissatisfied with self,” “inferior to others,” and “good about self.” For all items, participants rated each word on the “extent to which you feel this way right now, that is, at the present moment.” The rating scale ranged from 1 (*very slightly or not at all*) to 5 (*extremely*).

Subjective salience of personal dilemmas. Finally, for the main dependent variable, all participants were asked to think back to the personal dilemma that they had described earlier in the session, and to rate its subjective salience by answering the following questions: (a) “How preoccupied do you feel by it right now?” (b) “How hard would it be to ignore it for a while?” (c) “How important does it feel to you right now?” (d) “How urgent does it feel to you to resolve it immediately?” (e) “How significant for you does it feel right now?” (f) “How big of a decision does it feel like right now?” Ratings were made on a scale from 1 (*very slightly or not at all*) to 5 (*extremely*).

Results and Discussion

Average dilemma difficulty was 3.38, which indicates that the dilemmas participants nominated were between moderately and very difficult. Self-esteem was not correlated with the difficulty of the dilemmas participants nominated ($t < 1$). Self-esteem was also not correlated with issue conviction or importance, overall, or in the conviction or control conditions (all p values $> .19$). These preliminary results indicate that participants with low and high self-esteem were equally able to think of difficult personal dilemmas and important and strong convictions about social issues.

The main dependent variable, the six-item subjective dilemma salience scale, was unifactorial with a Cronbach alpha reliability of .90. The manipulation check revealed higher personal conviction in the conviction condition (in which participants wrote about their own opinions, $M = 7.55$), than in the control condition (in which participants wrote about politicians’ opinions, $M = 5.32$), $t(70) = 3.58$, $p = .001$. Participants’ ratings of the personal importance of their own opinions ($M = 3.22$) did not differ from their ratings of the personal importance of politicians’ opinions ($M = 3.25$), $t(71) < 1$, however.¹⁵ Thus, if conviction reduces subjective dilemma salience, it cannot be attributed to a trivializing contrast effect arising from the salience of a more important issue (cf. Simon, Greenberg, & Brehm, 1995) and would have to be specifically attributed to issue conviction.

For the main analysis, subjective salience of dilemmas was regressed on self-esteem, conviction condition (conviction vs. control), and the self-esteem \times conviction condition interaction. Conviction condition was effect coded and self-esteem was centered to permit simultaneous entry and interpretation of the main and interaction effects (Aiken & West, 1996). Results revealed a main effect for self-esteem, $\beta = .29$, $t(71) = 2.50$, $p = .01$, that was qualified by a significant conviction condition \times self-esteem interaction, $\beta = .24$, $t(71) = 2.03$, $p = .05$. Simple effects analyses revealed a significant simple slope for self-esteem in the conviction condition, $\beta = .53$, $t(71) = 2.83$, $p = .006$, and a significant simple effect for manipulated conviction at high self-esteem, $t(71) = 2.18$, $p < .05$. As shown in Figure 6, at one standard deviation above the mean in self-esteem, subjective salience of dilemmas was significantly lower in the conviction condition (predicted value = 2.04) than in the control condition (predicted value = 2.80). These results support the main hypothesis of Study 4. For HSEs, expressing conviction about one’s opinions causes a significant decrease in salience of unrelated uncertainties.

To assess whether the conviction condition \times self-esteem interaction effect on subjective dilemma salience might be mediated by positive affect, negative affect, or SSE, we followed Baron and Kenny’s (1986) logic of statistical mediation. For mediation to

¹⁴ To explore an auxiliary hypothesis, half of the participants in the conviction condition then wrote in more detail about their dilemma. The other half, and all participants in the control condition wrote about unrelated things. There were no differences on the dependent variables associated with whether participants in the conviction condition elaborated on their dilemmas, and so we collapsed across elaboration conditions and treated the conviction condition as unitary.

¹⁵ Three participants in the control condition neglected to complete the conviction manipulation check questions, and 2 participants in the control condition neglected to complete the importance questions.

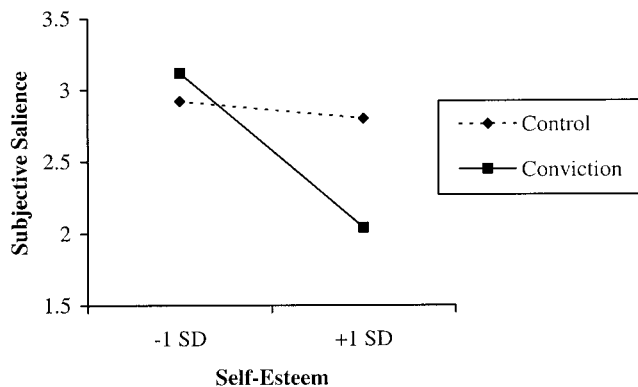


Figure 6. Subjective saliency of dilemma-related thoughts and feelings as a function of self-esteem and conviction condition.

occur, one criterion is that the predictor variable of interest must be significantly related to the mediator. The interaction term was not significantly related to positive affect, $t(71) < 1$, which rules it out as a potential mediator. The interaction term did marginally predict negative affect, $\beta = .21$, $t(71) = 1.94$, $p = .06$, and SSE, $\beta = -.14$, $t(71) = -1.78$, $p = .08$, which qualifies them as potential mediators. To be considered mediators, however, negative affect and SSE must also predict subjective dilemma saliency when entered along with the other predictor variables in the regression with subjective dilemma saliency as the dependent variable. SSE did not ($t < 1$), but negative affect did, $\beta = .29$, $t(70) = 3.23$, $p = .002$. Moreover, including negative affect in the regression equation reduced the beta for the conviction condition \times self-esteem interaction term from .24 to .15, a marginally significant reduction ($p < .10$, according to two-tailed Sobel [$Z = 1.66$] and Goodman [$Z = 1.73$] tests; Goodman, 1960; Sobel, 1982). Thus, for HSEs, the relation between conviction focus and reduced dilemma saliency appears to be partially accounted for by the mood-improving effect of conviction focus.

It is important to note, however, that the logic of statistical mediation also supports the conclusion that the relation between the conviction condition \times self-esteem interaction term and negative affect is mediated by subjective dilemma saliency. If the dilemma saliency term is included in the regression analysis with negative affect as the dependent variable, and self-esteem, manipulated conviction, and the conviction condition \times self-esteem interaction as the predictor variables, the beta for the interaction term drops from .21 to .13, also a marginally significant reduction ($p < .05$, according to two-tailed Sobel [$Z = 1.72$] and Goodman [$Z = 1.78$] tests). Indeed, subjective saliency as a mediator of the relation between the interaction term and negative affect seems to us like the most promising explanation. It fits with the repression rationale developed in this article for why conviction should decrease saliency of threats among HSEs, and we are hard-pressed to find a mechanism to explain how conviction could directly decrease negative affect (but not affect SSE or positive affect) for HSEs. Moreover, past research has found a causal relation between accessibility of cognitive conflict and negative affect (Newby-Clark et al., 2002).

General Discussion

It is the certitude of his infallible doctrine that renders the true believer impervious to the uncertainties, surprises and the unpleasant realities of the world around him. (Hoffer, 1951, p. 80)

Results of four studies are consistent with the view that compensatory conviction is a self-defense akin to reaction formation that is used to repress personal uncertainties. In Studies 1 and 2, thinking about a difficult personal dilemma caused implicit compensatory conviction about self-definition and explicit conviction about social issues, respectively. In Study 3, thinking about relationship uncertainties caused compensatory conviction about social issues and decreased subjective saliency of uncertainties. In Study 4, directly manipulated conviction decreased subjective saliency of unrelated uncertainties. The finding in Study 1 that uncertainty-threat caused implicit compensatory conviction, as assessed by a reaction-time measure of self-concept clarity, indicates that compensatory conviction is not necessarily mediated by conscious intention or awareness (cf. Freud, 1946; Singer, 1990, p. 475).

Furthermore, in Studies 1–4, conviction in the face of personal uncertainty was most pronounced or effective at reducing saliency of uncertainties among HSEs, and HSEs are also particularly inclined toward other kinds of reaction-formation-like self-defenses when faced with other kinds of threats. For example, when confronted with apparent failure, they automatically bring strengths to mind (Dodgson & Wood, 1998). When faced with apparent inferiority, they spontaneously make self-enhancing social comparisons (Beauregard & Dunning, 1998) and social judgments that help restore their SSE (Fein & Spencer, 1997). They even tend to react to negative moods by filling their minds with happy thoughts (Smith & Petty, 1995). Indeed, the prevalence of positive illusions (Taylor & Brown, 1988), and the negatively skewed self-esteem distribution in North America (Heine et al., 1999), suggests that self-esteem, itself, may sometimes be a defensive reaction to self-doubt. This view, that self-esteem is sometimes a marker of defensiveness, provides one way to understand the finding in Study 3—that individuals with the particularly defensive kind of high self-esteem (i.e., high self-esteem belied by low ISE) reacted to the uncertainty-threats with the greatest degree of compensatory conviction. Defensive self-esteem may be a cumulative product of repeatedly masking implicit self-doubts with explicit claims of self-worth. Over time, people with this defensive tendency may come to explicitly believe their own press, even though implicit attitudes about the self, which are based on experiential associations (Karpinski & Hilton, 2001), remain unchanged. The finding that people with defensive high self-esteem also react to uncertainty with defensive conviction supports this view, and suggests that a general tendency toward repressive defensiveness may be operative for some people.

Our view of how compensatory conviction serves to reduce subjective saliency of unwanted thoughts is based on research indicating that concentration is a more effective mental control strategy than suppression (Wenzlaff & Bates, 2000). Direct suppression efforts are initially effective, but leave one vulnerable to rebound hyperaccessibility of unwanted thoughts. Focusing on alternative thoughts as a means of avoiding unwanted ones is as effective as suppression, initially, and more effective over the long term because it does not cause rebound hyperaccessibility. We see

compensatory conviction as a form of mental narrowing that represents a spontaneous attempt to concentrate on appealing thoughts when unappealing thoughts loom (McGregor, in press).

In addition to further illuminating the phenomenon of compensatory conviction, the present findings suggest possible integrative links with terror management theory (Greenberg, Solomon, & Pyszczynski, 1997) and self-affirmation theory (Steele, 1988). Over the past 15 years, terror management theory experiments on reactions to personal-mortality salience have found that people react to reminders of their own death with “worldview defenses” that involve rigid and extreme opinions about culture and value-relevant topics. For example, after mortality salience people become more critical and hostile toward moral transgressors and religious, national, and political out-group members. They also become more protective of national and religious icons and more biased in favor of in-group members (for a review, see Greenberg et al., 1997). From our perspective, these worldview defense reactions appear to contain elements of compensatory conviction, insofar as they share the feature of rigid narrow-mindedness. Moreover, just as Study 4 showed that compensatory conviction decreases salience of troubling uncertainties, worldview defenses after mortality salience have been shown to decrease salience of death thoughts (Greenberg, Arndt, Schimel, Pyszczynski, & Solomon, 2001; Mikulincer & Florian, 2000). It is interesting to speculate that one of the active ingredients in mortality salience may be uncertainty about existential issues and life after death (cf. Florian & Kravetz, 1983; McGregor, in press; McGregor et al., 2001; van den Bos & Lind, in press).

The present results also suggest an integrative perspective on self-affirmation theory (Aronson, Cohen, & Nail, 1999; Steele, 1988). Fifty years of cognitive dissonance research has shown that after participants are tricked into “freely choosing” to do something that is inconsistent with their prior attitudes, they rationalize their prior attitudes to bring them in line with the attitude implied by the inconsistent behavior. The dissonance theory assumption has been that the rationalization eliminates the discomfort associated with the inconsistency between the prior attitude and the cognition implied by the inconsistent behavior (cf. Harmon-Jones, 2000). The core finding of self-affirmation research, however, is that the usual defensive rationalization in dissonance experiments is eliminated if participants are given a chance to feel good about themselves or to express unrelated, strongly held values. From the perspective of the present research, these “fluid compensation” effects in self-affirmation research may occur because personal value and self-worth salience serve the same psychological function as compensatory conviction. They may decrease defensiveness by focusing attention on compelling self-relevant topics and away from troubling thoughts (cf. McGregor, Newby-Clark, & Zanna, 1999). Indeed, in experiments that mirror the design of Study 4, writing about core values or success experiences has been found to decrease subjective salience of unrelated personal uncertainties just as conviction does (McGregor, in press).

Concluding Comments

The closed system is . . . the total network of psychoanalytic defense mechanisms organized together to . . . shield a vulnerable mind. (Rokeach, 1960, pp. 69–70)

One of the remarkable things about conviction is that it can be so unreasonable and tenacious. Many of the issues people have conviction about seem at least questionable and sometimes bizarre to the nonzealot. Some instantiations of zealous conviction are benign, for example, the implacable devotion of a Toronto Maple Leafs hockey fan or a colleague’s rant about positivism being the root of all academic evil. But conviction can have a darker side. Most political and religious groups have fundamentalist factions convinced that only *their* worldviews are valid, even with full awareness that other factions’ fundamentalists feel equally certain about their opposing views. Similarly, most contentious social issues and intergroup conflicts have zealots at either extreme who seem blind to the possible merits of each others’ perspectives and intent on annihilating or at least hating one another. The present research sheds light on a motivational mechanism that underlies defensive conviction. When distressing uncertainties loom, defensive individuals exaggerate compensatory convictions, and doing so appears to crowd uncertainties out of awareness. Sartre proposed that *the* fundamental existential predicament is uncertainty about what to do and how to live in the face of the radical freedom afforded by an absurd universe (Barnes, 1973). If personal uncertainty is such a central human concern, then it seems plausible that compensatory conviction may have contributed to the zeal-fueled conflicts that have plagued human history. Indeed, we wonder whether compensatory conviction may be contributing to the violent cycles of threat and zeal that weigh so heavily on our world today.

References

- Adorno, T. W., Frenkel-Brunswick, E., Levinson, D. J., & Sanford, R. N. (1950). *The authoritarian personality*. New York: HarperCollins.
- Aiken, L. S., & West, S. G. (1996). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage.
- Aronson, J., Cohen, G., & Nail, P. R. (1999). Self-affirmation theory: An update and appraisal. In E. Harmon-Jones & J. Mills (Eds.), *Cognitive dissonance: Progress on a pivotal theory in social psychology* (pp. 127–147). Washington, DC: American Psychological Association.
- Backman, C. W. (1988). The self: A dialectical approach. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (pp. 229–257). San Diego, CA: Academic Press.
- Baldwin, M. W., & Wesley, R. (1996). Effects of existential anxiety and self-esteem on the perception of others. *Basic and Applied Social Psychology, 18*, 75–95.
- Barnes, H. E. (1973). *Sartre*. New York: Lippincott.
- 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.
- Baumeister, R. F. (1985). Two kinds of identity crisis. *Journal of Personality, 53*, 407–424.
- Baumeister, R. F., Smart, L., & Boden, J. M. (1996). Relation of threatened egotism to violence and aggression: The dark side of high self-esteem. *Psychological Review, 103*, 5–33.
- Beauregard, K. S., & Dunning, D. (1998). Turning up the contrast: Self-enhancement motives prompt egocentric contrast effects in social judgments. *Journal of Personality and Social Psychology, 74*, 606–621.
- Blaine, B., & Crocker, J. (1993). Self-esteem and self-serving biases in reaction to positive and negative events: An integrative review. In R. Baumeister (Ed.), *Self-esteem: The puzzle of low self-regard* (pp. 55–85). New York: Plenum Press.
- Boden, J. M., & Baumeister, R. F. (1997). Repressive coping: Distraction

- using pleasant thoughts and memories. *Journal of Personality and Social Psychology*, 73, 45–62.
- Bosson, J. K., Swann, W. B., Jr., & Pennebaker, J. W. (2000). Stalking the perfect measure of implicit self-esteem: The blind men and the elephant revisited? *Journal of Personality and Social Psychology*, 79, 631–643.
- Bushman, B. J., & Baumeister, R. F. (1998). Threatened egotism, narcissism, self-esteem, and direct and displaced aggression: Does self-love or self-hate lead to violence? *Journal of Personality and Social Psychology*, 75, 219–229.
- Cacioppo, J. T., Gardner, W. L., & Berntson, G. G. (1997). Beyond bipolar conceptualizations and measures: The case of attitudes and evaluative space. *Personality and Social Psychology Review*, 1, 2–35.
- Campbell, J. D. (1990). Self-esteem and clarity of the self-concept. *Journal of Personality and Social Psychology*, 59, 538–549.
- Campbell, J. D., Trapnell, P. D., Heine, S. J., Katz, I. M., Lavallee, L. F., & Lehman, D. R. (1996). Self-concept clarity: Measurement, personality correlates, and cultural boundaries. *Journal of Personality and Social Psychology*, 70, 141–156.
- Crocker, J., Thompson, L. L., McGraw, K. M., & Ingerman, C. (1987). Downward comparison, prejudice, and evaluations of others: Effects of self-esteem and threat. *Journal of Personality and Social Psychology*, 52, 907–917.
- Dodgson, P. G., & Wood, J. V. (1998). Self-esteem and the cognitive accessibility of strengths and weaknesses after failure. *Journal of Personality and Social Psychology*, 75, 178–197.
- Dunning, D. (2003). The zealous self-affirmer: How and why the self lurks so pervasively behind social judgment. In S. Spencer, S. Fein, & M. Zanna (Eds.), *Motivated social perception: The Ontario Symposium, Vol. 9* (pp. 45–72). Mahwah, NJ: Erlbaum.
- Durkheim, E. (1951). *Suicide: A study in sociology*. Glencoe, IL: Free Press of Glencoe. (Original work published 1897)
- Elliot, A. J., & Devine, P. (1994). On the motivational nature of cognitive dissonance: Dissonance as psychological discomfort. *Journal of Personality and Social Psychology*, 67, 382–394.
- Fein, S., & Spencer, S. J. (1997). Prejudice as self-image maintenance: Affirming the self through derogating others. *Journal of Personality and Social Psychology*, 73, 31–44.
- Florian, V., & Kravetz, S. (1983). Fear of personal death: Attribution, structure, and relation to religious belief. *Journal of Personality and Social Psychology*, 44, 600–607.
- Freud, A. (1946). *The ego and the mechanisms of defense*. New York: International Universities Press.
- Fromm, E. (1941). *Escape from freedom*. New York: Holt, Rinehart, & Winston.
- Fromm, E. (1947). *Man for himself: An inquiry into the psychology of ethics*. New York: Holt, Rinehart, & Winston.
- Fromm, E. (1973). *The anatomy of human destructiveness*. Greenwich, CT: Fawcett Publications.
- Gay, P. (1989). *The Freud reader*. New York: Norton.
- Goodman, L. A. (1960). On the exact variance of products. *Journal of the American Statistical Association*, 55, 708–713.
- Gray, J. A. (1982). *The neuropsychology of anxiety: An enquiry into the functions of the septo-hippocampal system*. New York: Oxford University Press.
- Greenberg, J., Arndt, J., Schimel, J., Pyszczynski, T., & Solomon, S. (2001). Clarifying the function of mortality salience-induced worldview defense: Renewed suppression or reduced accessibility of death-related thoughts? *Journal of Experimental Social Psychology*, 37, 70–76.
- 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* (pp. 61–139). New York: Academic Press.
- Greenwald, A. G., & Banaji, M. R. (1995). Implicit social cognition: Attitudes, self-esteem, and stereotypes. *Psychological Review*, 102, 4–27.
- Greenwald, A. G., & Farnham, S. D. (2000). Using the implicit association test to measure self-esteem and self-concept. *Journal of Personality and Social Psychology*, 79, 1022–1038.
- Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*, 74, 1464–1480.
- Harmon-Jones, E. (2000). Cognitive dissonance and experienced negative affect: Evidence that dissonance increases experienced negative affect even in the absence of aversive consequences. *Personality and Social Psychology Bulletin*, 26, 1490–1501.
- Harmon-Jones, E., Simon, L., Greenberg, J., Pyszczynski, T., Solomon, S., & McGregor, H. (1997). Terror management theory and self-esteem: Evidence that increased self-esteem reduces mortality salience effects. *Journal of Personality and Social Psychology*, 72, 24–36.
- Hass, R. G., Katz, I., Rizzo, N., Bailey, J., & Moore, L. (1992). When racial ambivalence evokes negative affect, using a disguised measure of mood. *Personality and Social Psychology Bulletin*, 18, 786–797.
- Heatherton, T. F., & Polivy, J. (1991). Development and validation of a scale for measuring state self-esteem. *Journal of Personality and Social Psychology*, 60, 895–910.
- Heimpel, S. A., Wood, J. V., Marshall, M. A., & Brown, J. D. (2002). Do people with low self-esteem really want to feel better? Self-esteem differences in motivation to repair negative moods. *Journal of Personality and Social Psychology*, 82, 128–147.
- Heine, S. J., Lehman, D. R., Markus, H. R., & Kitayama, S. (1999). Is there a universal need for positive self-regard? *Psychological Review*, 106, 766–794.
- Hoffer, E. (1951). *The true believer*. New York: Harper & Row.
- Holtz, R., & Miller, N. (1985). Assumed similarity and opinion certainty. *Journal of Personality and Social Psychology*, 48, 890–898.
- Jamieson, D. W. (1993, August). *The attitude ambivalence construct: Validity, utility, and measurement*. Paper presented at the 101st Annual Convention of the American Psychological Association, Toronto, Ontario, Canada.
- Jordan, C. H., Spencer, S. J., & Zanna, M. P. (2003). I love me . . . I love me not: Implicit self-esteem, explicit self-esteem, and defensiveness. In S. Spencer, S. Fein, & M. Zanna (Eds.), *Motivated social perception: The Ontario Symposium, Vol. 9* (pp. 117–146). Mahwah, NJ: Erlbaum.
- Jordan, C. H., Spencer, S. J., Zanna, M. P., Hoshino-Browne, E., & Correll, J. (2003). Secure and defensive high self-esteem. *Journal of Personality and Social Psychology*, 85, 969–978.
- Karpinski, A., & Hilton, J. L. (2001). Attitudes and the Implicit Association Test. *Journal of Personality and Social Psychology*, 81, 774–788.
- Kelly, G. A. (1955). *The psychology of personal constructs*. New York: Norton.
- Kernis, M. H., Cornell, D. P., Sun, C.-R., Berry, A., & Harlow, T. (1993). There's more to self-esteem than whether it is high or low: The importance of stability of self-esteem. *Journal of Personality and Social Psychology*, 65, 1190–1204.
- Kernis, M. H., Grannemann, B. D., & Barclay, L. C. (1989). Stability and level of self-esteem as predictors of anger arousal and hostility. *Journal of Personality and Social Psychology*, 56, 1013–1022.
- Kirkpatrick, L. A., Waugh, C. E., Valencia, A., & Webster, G. D. (2002). The functional domain specificity of self-esteem and the differential prediction of aggression. *Journal of Personality and Social Psychology*, 82, 756–767.
- Lewin, K. (1935). *A dynamic theory of personality* (D. K. Adams & K. E. Zener, Trans.). New York: McGraw-Hill.
- Marks, G., & Miller, N. (1985). The effect of certainty on consensus judgments. *Personality and Social Psychology Bulletin*, 11, 165–177.
- Marks, G., & Miller, N. (1987). Ten years of research on the false-

- consensus effect: An empirical and theoretical review. *Psychological Bulletin*, 102, 72–90.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Journal of Personality and Social Psychology*, 98, 224–253.
- McGregor, I. (1998). *An identity consolidation view of social phenomena: Theory and research*. Unpublished doctoral dissertation, University of Waterloo, Waterloo, Ontario, Canada.
- McGregor, I. (2002, October). *Compensatory conviction as repression: Masking personal uncertainties with defensive zeal*. Paper presented at the annual meeting of the Society for Experimental Social Psychology, Columbus, OH.
- McGregor, I. (2003). Defensive zeal: Compensatory conviction about attitudes, values, goals, groups, and self-definition in the face of personal uncertainty. In S. Spencer, S. Fein, & M. Zanna (Eds.), *Motivated social perception: The Ontario Symposium, Vol. 9* (pp. 73–92). Mahwah, NJ: Erlbaum.
- McGregor, I. (in press). Zeal, identity, and meaning: Going to extremes to be one self. In J. Greenberg, S. Koole, & T. Pyszczynski (Eds.), *Handbook of experimental existential psychology*. New York: Guilford Press.
- McGregor, I., Newby-Clark, I. R., & Zanna, M. P. (1999). “Remembering” dissonance: Simultaneous accessibility of inconsistent cognitive elements moderates epistemic discomfort. In E. Harmon-Jones & J. Mills (Eds.), *Cognitive dissonance: Progress on a pivotal theory in social psychology* (pp. 325–353). Washington, DC: American Psychological Association.
- McGregor, I., Zanna, M. P., Holmes, J. G., & Spencer, S. J. (2001). Compensatory conviction in the face of personal uncertainty: Going to extremes and being oneself. *Journal of Personality and Social Psychology*, 80, 472–488.
- Mikulincer, M., & Florian, V. (2000). Exploring individual differences in reactions to mortality salience: Does attachment style regulate terror management mechanisms? *Journal of Personality and Social Psychology*, 79, 260–273.
- Morf, C. C., & Rhodewalt, F. (1993). Narcissism and self-evaluation maintenance: Explorations in object relations. *Personality and Social Psychology Bulletin*, 19, 668–676.
- Mussweiler, T., Gabriel, S., & Bodenhausen, G. V. (2000). Shifting social identities as a strategy for deflecting threatening social comparisons. *Journal of Personality and Social Psychology*, 79, 398–409.
- Newby-Clark, I. R., McGregor, I., & Zanna, M. P. (2002). Thinking and caring about cognitive inconsistency: When and for whom does attitudinal ambivalence feel uncomfortable? *Journal of Personality and Social Psychology*, 82, 157–166.
- Priester, J. R., & Petty, R. E. (1996). The gradual threshold model of ambivalence: Relating the positive and negative bases of attitudes to subjective ambivalence. *Journal of Personality and Social Psychology*, 71, 431–449.
- Pyszczynski, T., Greenberg, J., & Solomon, S. (1999). A dual-process model of defense against conscious and unconscious death-related thoughts: An extension of terror management theory. *Psychological Review*, 106, 835–845.
- Rogers, C. R. (1951). *Client-centered therapy*. Boston: Houghton-Mifflin.
- Rokeach, M. (1960). *The open and close mind: Investigations into the nature of belief systems and personality systems*. New York: Basic Books.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Rusting, C. L., & DeHart, T. (2000). Retrieving positive memories to regulate negative mood: Consequences for mood-congruent memory. *Journal of Personality and Social Psychology*, 78, 737–752.
- Scheier, M. F., & Carver, C. S. (1988). A model of behavioral self-regulation: Translating intention into action. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (pp. 303–339). San Diego, CA: Academic Press.
- Simon, L., Greenberg, J., & Brehm, J. (1995). Trivialization: The forgotten mode of dissonance reduction. *Journal of Personality and Social Psychology*, 68, 247–260.
- Singer, J. L. (1990). *Repression and dissociation: Implications for personality, theory, psychopathology, and health*. Chicago: University of Chicago Press.
- Smith, S. M., & Petty, R. E. (1995). Personality moderators of mood congruency effects on cognition: The role of self-esteem and negative mood regulation. *Journal of Personality and Social Psychology*, 68, 1092–1107.
- Sobel, M. E. (1982). Asymptotic intervals for indirect effects in structural equations models. In S. Leinhard (Ed.), *Sociological methodology* (pp. 290–312). San Francisco: Jossey-Bass.
- Sorrentino, R. M., & Roney, C. R. J. (2000). *The uncertain mind: Individual differences in facing the unknown*. Philadelphia: Psychology Press.
- Spencer, S. J., Josephs, R. A., & Steele, C. M. (1993). Low self-esteem: The uphill struggle for self-integrity. In R. F. Baumeister (Ed.), *Self-esteem: The puzzle of low self-regard* (pp. 21–36). New York: Plenum Press.
- Steele, C. M. (1988). The psychology of self-affirmation: Sustaining the integrity of the self. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (pp. 261–302). Orlando, FL: Academic Press.
- Steele, C. M., Spencer, S. J., & Lynch, M. (1993). Self-image resilience and dissonance: The role of affirmational resources. *Journal of Personality and Social Psychology*, 64, 885–896.
- Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being. *Psychological Bulletin*, 103, 193–210.
- Taylor, S. E., & Gollwitzer, P. M. (1995). Effects of mindset on positive illusions. *Journal of Personality and Social Psychology*, 69, 213–226.
- Tetlock, P. E., Kristel, O. V., Elson, S. B., Lerner, J. S., & Green, M. C. (2000). The psychology of the unthinkable: Taboo trade-offs, forbidden base rates, and heretical counterfactuals. *Journal of Personality and Social Psychology*, 78, 853–870.
- Tiedens, L. Z., & Linton, S. (2001). Judgment under emotional certainty and uncertainty: The effects of specific emotions on information processing. *Journal of Personality and Social Psychology*, 81, 973–988.
- Trapnell, P. D., & Campbell, J. D. (1999). Private self-consciousness and the five-factor model of personality: Distinguishing rumination from reflection. *Journal of Personality and Social Psychology*, 76, 284–304.
- van den Bos, K., & Lind, E. A. (in press). Uncertainty management by means of fairness judgments. In M. P. Zanna (Ed.), *Advances in experimental social psychology*. San Diego, CA: Academic Press.
- Van Hook, E., & Higgins, E. T. (1988). Self-related problems beyond the self-concept: Motivational consequences of discrepant self-guides. *Journal of Personality and Social Psychology*, 55, 625–633.
- Verplanken, B., & Holland, R. W. (2002). Motivated decision making: Effects of activation and self-centrality of values on choices and behavior. *Journal of Personality and Social Psychology*, 82, 434–447.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54, 1063–1070.
- Weary, G., Jacobson, J. A., Edwards, J. A., & Tobin, S. J. (2001). Chronic and temporarily activated causal uncertainty beliefs and stereotype usage. *Journal of Personality and Social Psychology*, 81, 206–219.
- Wenzlaff, R. M., & Bates, D. E. (2000). The relative efficacy of concentration and suppression strategies of mental control. *Personality and Social Psychology Bulletin*, 26, 1200–1212.