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Changing Theories of Change: Strategic Shifting in Implicit Theory Endorsement

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Changing Theories of Change: Strategic Shifting in Implicit Theory Endorsement

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In all cases, the key ideas, primary contributions, experimental designs, data analysis and interpretation, were performed by the author (in collaboration with his advisor). The contributions of co-authors were through the provision of formatting review, study goals, feedback on design, wording revision, and consultation regarding the greater implicit theories literature. Studies 1 and 7 of the publication are omitted, as they are the primary work of the co-authors.

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Abstract

People differ in their implicit theories about the malleability of characteristics such as intelligence and personality. These relatively chronic theories can be experimentally altered, and can be affected by parent or teacher feedback. Little is known about whether people might selectively shift their implicit beliefs in response to salient situational goals. We predicted that, when motivated to reach a desired conclusion, people might subtly shift their implicit theories of change and stability to garner supporting evidence for their desired position. Any motivated context in which a particular lay theory would help people to reach a preferred directional conclusion could elicit shifts in theory endorsement. We examine a variety of motivated situational contexts across five studies, finding that people's theories of change shifted in line with goals to protect self and liked others and to cast aspersions on disliked others. Studies 1 and 2 demonstrate how people regulate their implicit theories to manage self-view by more strongly endorsing an incremental theory after threatening performance feedback or memories of failure. Studies 3-5 revealed that people regulate the implicit theories they hold about favored and reviled political candidates; endorsing an incremental theory to forgive preferred candidates for past gaffes but leaning toward an entity theory to ensure past failings "stick" to opponents. Although chronic implicit theories are undoubtedly meaningful, this research reveals a previously unexplored source of fluidity by highlighting the active role people play in managing their implicit theories in response to goals.

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Changing Implicit Theories of Change: Strategic Shifting in Implicit Theory Endorsement

Western culture is replete with sayings, proverbs and song lyrics that capture seemingly divergent beliefs about change and stability. "A leopard cannot change its spots;" yet, you can always "turn over a new leaf." Alicia Keys sings about a "brand new me," and Bob Dylan's times were perpetually a-changin'. Conversely, Bob Seger insists that he is "Like a rock," and Garth Brooks wants the world to know "that it will not change me." Notions about both change and stability are enmeshed in people's understanding of themselves and the world around them; people often see the truth in, and endorse, both viewpoints. Indeed, Western culture presents mixed messages about the desirability of change and stability. On one hand, being "steadfast and true" is as important a virtue as "changing with the times." On the other hand, stability can be seen as a sign of stubbornness or stagnation, and change can be construed as an indicator of unpredictability or "flip-flopping."

Beliefs about both change and stability are prevalent culturally and evidence suggests that people have knowledge of and access to both beliefs (Poon & Koehler, 2006). That said, previous research suggests that people tend to chronically endorse one perspective over the other. People who hold incremental theories view traits and abilities as malleable and changeable with effort and time, whereas people who hold entity theories view these same dimensions as relatively fixed, unalterable aspects of a person (Dweck & Leggett, 1988). Although these beliefs are measured on a continuous scale, two dichotomous theories (entity and incremental) are usually described, reflecting relatively stronger endorsement of one or the other perspective. For the sake of brevity we will sometimes refer to these as Fdichotomous implicit theories, but do so while recognizing the continuous nature of the beliefs.

Research on implicit theories of stability and change (Dweck & Leggett, 1988; Dweck, Chiu, & Hong, 1995a; Hong, Chiu, Dweck, Lin, & Wan, 1999) suggests that these theories function like knowledge structures (Chiu, Hong, & Dweck, 1997; Dweck, Chiu, & Hong, 1993; Plaks, Levy, & Dweck, 2009) such that people regularly lean toward using one theory over the other as a lens through which they interpret themselves and the world around them. Implicit theories can be affected by situational influences and feedback: for example, implicit theories of intelligence are shaped by the type of praise that teachers and parents offer in response to the student's achievements (Mueller & Dweck, 1998) and the attitudes that important others express about intelligence (Good, Dweck, & Rattan, 2012). Implicit theories remain stable over time in the absence of an event or manipulation that leads students to reflect upon and revise their view (e.g., Blackwell, Trzesniewski, & Dweck, 2007; Dweck, Chiu, & Hong, 1995a). However, experimental techniques and, more recently, educational interventions, have been successfully used to change students' theories by leading them to consider evidence for either a fixed or malleable view of intelligence (e.g., Aronson, Fried, & Good, 2002; Blackwell et al, 2007; Hong et al, 1999; Miller et al, 2012; Molden, Plaks, & Dweck, 2006; Plaks & Stecher, 2007; Plaks, Stroessner, Dweck, & Sherman, 2001). A host of studies has shown that these theories can be a powerful determinant of people's attributions (Levy, Stroessner, & Dweck, 1998), goals (Dweck et al., 1995a), responses to failure (Hong et al., 1999) and many other outcomes (Chiu et al., 1997; Chiu, Dweck, Tong, & Fu , 1997; Kammrath & Dweck, 2006; Nussbaum & Dweck, 2008; Halperin, Russell, Trzesniewski, Gross, & Dweck, 2011; Burnette & Finkel, 2012).

Although past research certainly demonstrates that implicit theories can shift in response to external situational forces (anything from rather subtle feedback from others to explicit educational interventions), little is known about how people might actively regulate their own

endorsement of these theories in response to situational goals. We propose that people's theories of change and stability also change in motivated ways. People often face situations where they must make judgments about the temporally extended self or others (Peetz & Wilson, 2008). They must consider information about past performance, attributes or behavior and determine how relevant it is to their present appraisals or future expectations for that individual. However, determining the relevance of past information to present or future judgments is often ambiguous, and people may not always be motivated only by accuracy goals. In cases where people are motivated to reach a particular conclusion about how the past pertains to the present or future, they may wish to either emphasize or downplay its relevance (Peetz & Wilson, 2014; Ross & Wilson, 2002). For instance, an individual might prefer to believe that a failure does not represent an enduring deficit in his or her ability: in this instance, endorsing an implicit theory of malleability helps to support their desired conclusion. In contrast, endorsing a theory of stability after success might be gratifying because it holds the promise of continued triumph in the future.

This perspective is in line with classic theory and research on motivated reasoning (Kunda, 1990). Kunda eloquently argued that the mechanism underlying motivated reasoning is the differential recruitment of cognitive processes, representations and beliefs. Specifically, in some cases people are motivated to simply reason the most accurate conclusion given the evidence, but in many cases they are motivated to reach a particular, directional conclusion. Despite what they want to believe, however, people are not typically free to reach whatever conclusion they desire simply because they prefer it – they make an attempt at the appearance of objectivity (Pyszczynski & Greenberg, 1987) by searching memory and constructing beliefs that would support that view. Past research demonstrates that people will adjust or even jettison a prior conviction when a new attitude or belief supports their desired conclusions (e.g., Jost,

Pelham, Sheldon, & Sullivan, 2003; Schumaker & Slep, 2004; Skitka, Bauman, & Mullen, 2008; Skitka & Mullen, 2008; Tesser, 2001). For example, after reading about successful or unsuccessful targets who shared some attributes with themselves, people shifted their causal theories about what attributes led to marital and academic success to correspond with the attributes they personally possessed (Kunda, 1987).

Might people creatively reinterpret their views on the stability or malleability of personal attributes to recruit evidence in favor of their desired conclusion? As discussed at outset, it seems likely that people have access to both implicit theories. Supporting this view, Poon and Koehler (2006) have argued that implicit theories can be understood from a knowledge-activation framework: people have concurrent knowledge consistent with both change and stability, and that their dominant implicit theory at any given time depends on what knowledge has been primed. They demonstrated that when prompted to explain either stable or changeable behavior (e.g., the story of an individual who showed marked personality stability through life, or marked change), participants were able to generate explanations consistent with the relevant implicit theory. Participants were also able to generate examples supporting proverbs reflecting either entity beliefs (e.g., "can't teach an old dog new tricks") or incremental beliefs (e.g., "experience is the best teacher").

We build on Poon and Koehler's (2006) perspective that people have knowledge of both implicit theories available to them, and Kunda's (1990) theorizing that people will change their attitudes as much as reasonably possible, constrained by their initial position. We go further, however, to say that people might strategically gravitate toward the implicit theory that best suits their current goals, but will not shift their theories in the absence of such goals. Over five studies, we test the hypothesis that implicit theories of stability and change are more sensitive to

motivational influences than previously demonstrated. We contend that people shift their implicit theories in ways that allow them to support motivated directional conclusions about themselves and about liked and disliked others. We do not predict wholesale jumps from one end of the continuum to the other. Rather, we predict small but systematic and meaningful movement from one's chronic implicit theory toward the implicit theory that will be most likely to support their goals in a given situation.

Malleability of implicit theories

When are people motivated to reach directional conclusions? We suggest that people might wish to arrive at a particular conclusion any time a relevant goal is activated – whether it is to regulate views of self or someone else, across multiple domains and a variety of contexts. Consistent with recent theorizing about essential similarities across many motivated responses to goals and threats (Jonas et al., 2014; Proulx & Heine, 2010; Tesser, 2001), we do not focus on a specific reason why people are motivated to reach a desired conclusion but rather sample from a range of contexts where people are motivated to reach a particular conclusion about the self (e.g., Baumeister, 1998; Higgins, 1996; Sedikides, 1993) or others (Klein & Kunda, 1992; Skitka, Bauman, & Mullen, 2008). These predictions should apply equally to motivated conclusions about the self or others. For instance, if Erika receives disappointing feedback on an intelligence test, she might be especially motivated to view intelligence as malleable and think about her score as something that can be improved with effort. Endorsing a stability theory would be more threatening to Erika, suggesting her shortcomings are permanent. On the other hand, if Tim receives a very high score on the same assessment, he would not be threatened by the notion that intelligence is fixed, since it could allow him to bask in the assurance of his enduring acumen. Our predictions are somewhat asymmetrical in that after success, Tim may enjoy a theory of

stability, but would not be especially threatened by a theory of malleability: he could simply imagine further improvement to his considerable skills. Likewise, people are sometimes motivated to view other people in a flattering—or disparaging—light. If Kyle is rooting for a particular *American Idol* contestant, he may dismiss their dismal performance in a given week as a learning experience, whereas if Kelly is less invested in that contestant's success, she might see that week's poor performance as a good indication of the singer's permanently limited talent. Similarly, a parent in favor of harsh criminal sentencing ("once a thief, always a thief") might find greater value in malleability beliefs in the event that one of their children were to get arrested ("they just need another chance.")

Stated more generally, we suggest that when faced with unflattering evidence of one's own (or a liked other's) performance, people may gravitate toward the reassuring notion that people can change. It is plausible that people will shift their preference toward an entity theory after success to highlight its permanence – but this tendency might be weaker because neither implicit theory is especially threatening after success. Conversely, when people consider the glories and shortcomings of disliked others, they may be inclined to shift their views to more often emphasize the stability of flaws and the transience of greatness.

Overview of the Present Research

To test these overarching hypotheses, we conducted five studies examining how people might shift their implicit theories to meet a variety of goals. In Study 1, we gave participants success or failure feedback on a bogus test of social intelligence. We expected that if someone was given failure feedback, they would shift toward a more incremental theory to lessen the failure's impact. To test our hypothesis that implicit theories shift only when motivation is strong enough, we also manipulated task legitimacy. We hypothesized that if participants were able to

dismiss their failure because the task was unreliable, they would not be motivated to shift their implicit theory. In Study 2 we assigned people to recall either a positive or negative memory about the self or an acquaintance. We predicted that after recalling a personal (but not an acquaintance's) past failure, participants would endorse a more incremental perspective, allowing them to unchain themselves from the negative implications of their undesirable past event. In Studies 3, 4, and 5, we examined whether people would shift their implicit theory endorsement to support desired perceptions of relevant others: political candidates affiliated with one's own preferred party or from the opposing party. Participants read unflattering information about political candidates' actual past behaviors (Study 3), and were randomly assigned to read about fabricated favorable or unfavorable political pasts regarding a candidate they favored or opposed (Study 4, Study 5). We predicted that participants would shift their implicit theory about change in ways that would support their own candidate and discredit the unwanted candidate. These various approaches allow us to provide converging evidence of people's motivated shifts in their implicit theories of change to maintain desired conclusions about the self and about liked, or disliked others.

Study 1

In Study 1 we gave participants a novel task that purportedly measured "thin-slice social perceptiveness", a key component of social intelligence that predicts a wide range of positive life outcomes (e.g., salary, promotions, romantic success). Post-task we delivered false feedback (success or failure). We expected that if someone was given failure feedback, they would shift toward a more incremental theory to lessen the failure's impact.

Given our overarching motivated reasoning hypotheses, we also wanted to directly manipulate the extent to which participants were motivated to shift their implicit theories. Thus,

we manipulated task legitimacy to alter the degree to which people would care about the task and consider it meaningful if they failed. In one condition the task was described as new and unreliable, and in the other the task was described as rigorously tested and a very valid predictor. We hypothesized that if participants were able to dismiss their 'failure' because the task was unreliable, they would not be motivated to shift their implicit theory.

Additionally, in Study 1 we sought to examine some downstream effects of implicit theory shifting. We measured participant expectation of future performance, and willingness to re-take the test in future. We predicted that after experiencing a failure (in the legitimate condition), participants who shifted toward a more incremental theory would have a more optimistic outlook on their future potential, and would thus be more likely to express interest in re-taking the test. As well, we measured implicit theories within the general person domain and the intelligence domain, and also adapted the scale to measure social intelligence implicit theories. We expected that since the test was said to reflect social intelligence, domain specific social intelligence implicit theories would be most prone to shift. We thought it was also plausible that people would shift their general person theories to some degree, and least likely that they would shift in the unrelated domain of intelligence, since a shift in this domain would not allow them to reach desired conclusions about social intelligence. Finally, we counterbalanced when participants had the opportunity to complete the implicit theories scale – half received the scale immediately after test feedback, and half received the items about future performance and re-take willingness first, with the implicit theories scale afterward. If the shift occurs solely when "on paper" (when participants are explicitly presented with an implicit theories measure), we might expect to find an effect only in the "implicit theories first"

condition. However, if people to some degree spontaneously shift implicit theories even when unprompted by a questionnaire, then the counterbalance condition may not matter.

Method

      Participants. Two hundred and forty-six American residents recruited from Amazon's Mechanical Turk participated in our online study in exchange for $0.50 dollars. Participants who failed an attention check ("This is a focus test question. Please click the '3' below, and move on to the next question.") or who self-identified in a final question as having not been focusing on the task or measures, were excluded (36 participants). The final sample consisted of 210 participants (123 females; M_{age} = 37.19, SD = 14.42, range 18-78).

      Design and procedure. The study used a 2 (feedback: success vs. failure) × 2 (legitimacy: unreliable vs. reliable) × 2 (counterbalance: implicit theory scale before or after willingness ratings) design. Amongst other filler items (to mask the focus on the premeasure), participants first responded to three general person and one intelligence implicit theory item. Following this, all participants read instructions describing "thin-slice social perceptiveness" as key component of social intelligence that enables people to "intuit and predict a lot about people they have just met or seen" on the basis of very little exposure. We told participants that people vary in this ability and that it predicts a wide range of measures of life success (e.g., relationship success, income, promotions, persuasiveness). They were told they would view photos of students who had all indicated their future career goals. They would view each photo along with two goal statements – one that belonged to that student and one that did not. Their task was to match the correct career goal with the student in the photo. They were randomly assigned to read either that the test was legitimate (i.e., *a reliable indicator of thin-slice social perceptiveness that*

predicts the previously mentioned outcomes) or that it was not legitimate *(i.e., it was not a final*

version of the test, and its reliability and ability to predict outcomes was unknown).

After the task participants received either failure (3/12 correct) or success (11/12 correct)

feedback. On the next page they responded to a manipulation check, "How well did you do on

the test?" (1 = *very poorly*, 7 = *very well*), then completed an implicit theories measure

containing social intelligence, general person, and intelligence theories. Participants then

indicated how well they expected to perform if they took the test again (their expected score, 0-

12 correct), and then asked how interested they would be in taking the task a second time at a

later date via a binary yes/no item and an interest item ("How interested are you in taking the test

again?"; 1 = *extremely uninterested*, 7 = *extremely interested*). The implicit theory scale and the

re-take willingness items were counterbalanced. Finally, participants indicated the score they

remembered receiving on the test (0/12 – 12/12; an attention check) and reported demographic

information (gender, age). Just before debriefing, we again asked participants about their level of

focus on the study.

Results

Premeasures. First, a 2 (feedback: success vs. failure) × 2 (legitimacy: unreliable vs.

reliable) × 2 (counterbalance: implicit theory scale before or after willingness ratings) ANOVA

on premeasures of general person and intelligence lay theories generally showed no condition

effects or interactions, ($Fs > 2.6$, $ps > .105$). One interaction between counterbalance and

legitimacy emerged for implicit theory of intelligence only, $F(1, 202) = 4.07$, $p = .045$. Given

that all manipulations came after the premeasure this interaction simply reflects imperfect

random assignment; premeasures were controlled in subsequent analyses.

Manipulation check. As expected, participants in the success condition, ($M = 6.63$, $SD = .64$) reported that they did better on the test than those in the failure condition ($M = 1.56$, $SD = .85$), $F(1, 206) = 2403.14$, $p < .001$.

Implicit theories. Participants who received failure feedback that (ostensibly) legitimately reflected their abilities were expected to gravitate toward a more incremental theory of change, as changeability would open the door for a greater ability in future. In contrast, participants in the non-legitimate condition were not expected to shift, as they were already told the test was unreliable and would be able to easily dismiss any undesirable feedback. A 2 (feedback: success vs. failure) × 2 (legitimacy: unreliable vs. reliable) × 2 (counterbalance: implicit theory scale before or after willingness ratings) ANCOVA controlling for the combined premeasure (three general person, one intelligence, $\alpha = .86$) was conducted on each of the three domains: social intelligence, general personality, and intelligence. The counterbalance (implicit theory scale before vs. after the interest item) revealed no main effects or interactions.

Social intelligence. The ANCOVA revealed a significant feedback by legitimacy interaction for social intelligence implicit theory, $F(1, 205) = 4.22$, $p = .041$, $\eta^2 = .02$ (Figure 1).[1] Within the non-legitimate condition, there were no significant differences between those who received success feedback and those who received failure feedback. Within the legitimate condition, participants who received failure feedback reported a significantly more incremental theory of social intelligence ($M = 4.36$; $SD = 1.07$) than those in the success condition ($M = 3.96$; $SD = 1.17$), $F(1, 205) = 4.38$, $p = .038$, $\eta^2 = .02$. Among participants who received failure feedback, those who were told the test was legitimate reported a significantly more incremental implicit theory than those who were told the test was not legitimate or reliable ($M = 3.96$; $SD = 1.27$), $F(1, 205) = 4.53$, $p = .034$, $\eta^2 = .02$.

General person and intelligence theories. The same ANCOVA repeated for general person theories did not reveal a reliable legitimacy by feedback interaction, $F(1, 205) = 2.73$, $p = .100$, the pattern of means was similar to that of social intelligence, albeit weaker. As predicted, implicit theory of intelligence did not show the legitimacy by feedback interaction, $F(1, 205) = .26$, $p = .606$, or any other significant effects or interactions (Fs < 2.3, ps > .130).

Next, we intend to test whether those who shifted more to an incremental theory after failure would be more optimistic about future performance and more willing to retake the test. First, we examine future expectation and retake willingness as dependent measures in the full study design. However, we had no specific predictions for how these measures would play out at a mean level – rather we had specific expectations of how they would play out in a moderated mediation model in the failure condition.

Future expectations of performance. A 2 (feedback: success vs. failure) × 2 (legitimacy: unreliable vs. reliable) × 2 (counterbalance: implicit theory scale before or after willingness ratings) ANCOVA was conducted on the item "If you were to take the test again, how well do you think you would do?" (from 0/12 – 12/12 correct). There was a strong effect of feedback, $F(1,206) = 185.76$, $p < .001$, $\eta^2 = .47$, such that those in the failure condition ($M = 6.58$, $SD = 1.79$) believed they would achieve a lower score in the future than those in the success condition ($M = 10.16$, $SD = 2.06$). Feedback condition did not interact with the legitimacy or counterbalance factors.

Interest in re-taking the test. To obtain a measure of participant interest in re-taking the test, we created the product of the binary re-take item (yes = 1, no = 0) and the secondary interest item (1 = *extremely uninterested*; 7 = *extremely interested*) so that degree of interest was captured for those who said yes. A 2 (feedback: success vs. failure) × 2 (legitimacy: unreliable

vs. reliable) × 2 (counterbalance: implicit theory scale before or after willingness ratings)

ANOVA revealed no significant main effects or interactions (Fs < 1.9, ps > .169). Controlling

for people's initial implicit theory of change did not alter the pattern of the effects.

Moderated mediation. At the study's outset, we predicted a multi-step moderated

mediation process: we hypothesized in the failure condition, greater threat (the legitimate test

condition) would predict a more incremental implicit theory of social intelligence, which would

in turn predict higher expectations of future performance, which would finally predict interest in

re-taking the test. That is, we only expected our predicted indirect effects to occur within the

failure condition, in line with the motivational shifting seen in Figure 1. Zhao, Lynch, and Chen

(2010) point out that a significant direct effect is not a requirement for testing mediation: "There

need not be a significant zero-order effect of X on Y, r_{XY}, to establish mediation." (pp. 199), and

"One can imagine the authors giving the project up after failing to find an 'effect to be

mediated.' They should persist." (pp. 200). Moreover, the authors note that a lack of a direct

effect can easily be due to suppression – for example, legitimate failure is of course

disheartening, but shifting to a more incremental theory was expected to dull that negative effect.

Thus, we proceeded to test our initial hypothesis of a moderated indirect effect.

The predicted moderated mediation model contained two mediators: Using AMOS

Graphics 20.0 structural equation modeling software we entered legitimacy condition (Not

Legitimate = 0; Legitimate = 1) as the IV, implicit theory of social intelligence as the first

mediator, expected future performance as the second mediator, and interest in re-taking the test

as the DV (n = 213 overall; n = 106 in the failure condition; n = 107 in the success condition; see

Figure 2). The general person premeasure (α = .91) was controlled.[2] The direct path from

legitimacy condition to re-take interest was set to 0. Model fit was excellent, $\chi^2(8) = 5.66$, $p = .685$, CFI = 1.00, RMSEA = .00.

Failure condition. Legitimate failure predicted a more incremental theory of change, which predicted higher expectations of future performance, which predicted increased interest. There was a significant indirect effect of condition on future expectation through implicit theory of social intelligence, $b* = .09$, $p = .010$. The indirect effect of implicit theory of social intelligence on re-take interest was also significant, $b* = .08$, $p = .008$. Finally, the overall indirect effect of condition on interest in re-taking the test was marginally significant, $b* = .08$, $p = .076$.

Success condition. We did not expect people to have much impetus to shift lay theories in the success condition (when people were not motivated by a threat to self-view). Consistent with predictions, no indirect effects were significant.

Discussion

Overall, we see that only when a test (and its feedback) is perceived as legitimate, failure feedback induces participants to shift their implicit theory to a more incremental perspective relative to success feedback. Further, we show in the failure condition only, shifting toward an incremental theory of social intelligence (the ostensible focus of the test) predict more optimistic future performance expectations and more interest in re-taking the test. These results provide preliminary support for our overarching hypothesis that people can strategically shift their implicit theory to help them support a desired conclusion or opinion.

However, note that we do not claim that implicit theories are people's only 'out' in threatening contexts (e.g., failure feedback), but that they can – and will – shift their implicit theories if the ability to change is salient. If participants had another "out" (like disregarding the

legitimacy of the test) they did not shift. However, it is notable that counterbalance did not play a role – people appeared to be shifting somewhat spontaneously whether immediately presented with the measure or not. They showed the same patterns whether they shifted their theories first, or right after reporting willingness to retake.

In the following studies, we move away from present-moment success or failure to study contexts where change is naturally salient: considering a past self (have I changed since then?), and considering the past actions of politicians (do their past actions matter?).

Study 2

Study 1 suggests that people gravitate toward a particular implicit theory when it serves to protect a favorable self-view. Study 2 conceptually replicates Study 1 in a novel domain (social skills), using a valenced memory recall manipulation rather than false feedback. Moreover, Study 2 extends Study 1`s findings from a present threat (immediate performance feedback) to a past threat (past failure).

Autobiographical memory is another natural context where beliefs about change or stability should be very important: past selves can reflect directly on a present self or be seen as distinct from the "new me" (Libby & Eibach, 2002; McFarland & Buehler, 2012). As in Study 1 we expected that a failure would be less threatening if people moved toward the implicit theory that suggests they can change (because they could improve their ability in the future). In the current study we argue that recalling a past social failure will be less threatening if people invoke the belief that social ability is changeable. Past events have less power to taint present self-views when people believe they have changed over time (Libby & Eibach, 2002); shifting toward an incremental implicit theory would support this perception. Conversely, if people believe their

attributes are fixed over time, salient past events would have direct implications for current self-views (if I was a social success in the past, and I cannot change, I still am today).

Because we suggest that this is a motivated process intended to help people reach desired conclusions, we expected that if people do not have a vested interest in the conclusions they draw, they should have no inclination to selectively gravitate toward a particular implicit theory. Accordingly, we expected to observe implicit theory shifting when people contemplated negative events from their own past but not when they thought of the experiences of an acquaintance. Moreover, we again measured multiple implicit theory domains: personality, social skills, and morality. As in Study 1, we expected shifting within relevant domains (social skills and the broad domain of personality), but not within clearly unrelated domains (e.g., morality).

Method

Participants. One hundred and eight undergraduate students from a Canadian university participated in the study for course credit (70 females; $M_{\text{age}} = 18.46$, $SD = .91$; Range 18-22). In this and subsequent studies (except where otherwise noted), neither age or gender significantly predicted or moderated relevant effects.

Exclusions. Eleven participants were excluded for not recalling an appropriate memory (i.e., the memory was not social in nature, was a positive memory despite negative recall instructions, or was a personal memory despite acquaintance instructions). The final sample contained 97 participants (67 females; $M_{\text{age}} = 18.44$, $SD = .80$; Range 18-22)

Design and procedure. Participants completed this study in paper-and-pencil format in individual lab sessions. The study was a 2 (valence: social success vs. failure) × 2 (memory type: personal vs. acquaintance) between-subjects design. Participants were prompted to recall and write about either a social success or failure from within the past four years for either themselves

or an acquaintance. In the success condition, participants were asked to think about a time in which they (or an acquaintance) felt socially accepted, socially skilled and/or popular. In the failure condition, participants were asked to think about a time in which they (or an acquaintance) felt socially rejected, alone or socially awkward. Participants wrote a short paragraph about the recalled event and estimated the date (month and year) that it occurred. They were also asked to report "How did this event make you feel at the time?" (*0 = very badly; 10 = very good*).

Dependent measures. Afterward, participants completed a 9-item implicit theories questionnaire (1= *strongly disagree*; 6 = *strongly agree*) composed of three previously published general person theory items ("The kind of person someone is, is something basic about them and it can't be changed," α = .77: Chiu, Hong, & Dweck, 1997), three morality theory items ("A person's moral character (e.g., honesty, trustworthiness) is something very basic about them and it can't be changed very much," α = .87: Chiu, Dweck, Tong, & Fu, 1997), and three social items (e.g., *"There is not much that can be done to change a person's social skills and popularity,"* α = .60) created by the authors. Because people were asked to recall a *social* memory, we wanted to test whether people would shift their implicit theories specifically regarding sociability and social skill. We also thought it was likely that people's general person theories would shift. Because morality theories are further removed from the types of memories recalled, we expected these implicit theories would not be likely to shift. Items were recoded such that higher scores indicated a stronger endorsement of incremental theory.

Results

On average participants reported an event that occurred 12.25 months in the past (*SD* = 13.21), elapsed time did not differ by condition (*F*s < 1.8, *p*s > .18). Because people might

perceive more change over long time spans, we controlled for date of the reported event in all analyses however results were the same with or without this covariate.

Manipulation check. As expected, social success memories ($M = 9.34$, $SD = .96$) were perceived as significantly more positive than failure memories ($M = 1.91$, $SD = 2.06$), $F(1, 90) = 551.10$, $p < .001$, $\eta^2 = .86$. Personal memories ($M = 6.28$, $SD = 3.83$) were also rated more positively than acquaintance memories ($M = 4.92$, $SD = 4.21$), $F(1, 90) = 6.68$, $p = .011$, $\eta^2 = .07$. These main effects were qualified by a marginal interaction, $F(1,90) = 3.62$, $p = .060$, $\eta^2 = .04$, suggesting that participants recalled their own social failings as less negative ($M = 2.73$, $SD = 2.49$) than the failings of others ($M = 1.23$, $SD = 1.31$), $F(1,90) = 8.99$, $p = .004$, though self and acquaintance successes were equally positive ($M = 9.42$, $SD = .96$; $M = 9.21$, $SD = .98$, respectively), $p > .600$. Despite some favoritism toward the self when recalling negative memories, it is clear that the valence manipulation was successful.

Implicit theories. We predicted that participants would report a more incremental person theory and social theory after recalling a personal failure than success. As expected, a 2 (valence: success vs. failure) × 2 (memory type: personal vs. acquaintance) ANCOVAs controlling for memory date revealed a valence by memory type interaction for social implicit theory, $F(1, 90) = 5.32$, $p = .023$, $\eta^2 = .06$, and for general person implicit theory, $F(1, 90) = 4.85$, $p = .030$, $\eta^2 = .05$. Supporting our domain-specificity account, implicit theories in the unrelated domain of morality did not show a significant interaction, $F(1, 90) = 1.75$, $p = .190$, $\eta^2 = .02$. Means, standard deviations and simple effects results are indicated in Table 1.

Simple effects were computed for the two domains revealing interactions: social ability and general person implicit theories. Participants who recalled a negative personal memory reported a significantly more incremental general person implicit theory and a marginally more

incremental social skill implicit theory than those who recalled a positive personal memory. Additionally, those who recalled a negative personal memory reported a significantly more incremental social theory and a marginally more incremental person theory than those who thought of a negative memory involving an acquaintance.

Discussion

For both the general personality and social ability implicit theories, participants adopted a more incremental view of these domains after recalling a personal social failure rather than a success. They did not show this pattern when recalling acquaintance events, presumably because they were not motivated to regulate the conclusions they drew about acquaintances. In addition, self-versus-acquaintance effects emerged only after recalling a negative (but not positive) memory, suggesting that people are inclined to shift their theories toward greater malleability after encountering a threatening memory, while pleasant memories do not elicit significant shifting. Finally, note that implicit theories in the moral domain did not differ by condition, consistent with the findings of Study 1: it seems that people will only shift their theories in domains that are relevant to the conclusions they hope to draw. In the present study, participants reacted within general domains (the "kind of person" one is) and specific ones (the social domain) but excluded a specific domain that did not pertain to the situation (morality).

Study 3

So far, we have demonstrated that people may shift their endorsement of implicit theories in ways that help them to reach desired conclusions (or avoid undesirable conclusions) about the self. By selecting an incremental lens through which they can interpret evidence of failure as changeable, people can protect their self-concepts from concerns that their shortcomings will endure. However, people are not only motivated to regulate their views about the self — they are

often inclined to reach particular conclusions about others (e.g., Morgan, Mullen, & Skitka, 2010). In Studies 3, 4, and 5, we extend our investigation to include important others. We work through (and test) the assumption that individuals who affiliate with a particular political party are motivated to view their own party's candidate favorably, and are motivated to view opposing parties' candidates unfavorably. When evaluating current political candidates, voters often have to sift through a great deal of information about their recent and distant past performance, and have to decide which evidence is pertinent to their current judgments of candidates. For example, "attack ads" dredge up misdeeds from a candidate's often distant past with the hope that these will be considered a lasting mark on that candidate's character. However, long-past foibles can just as easily be dismissed as irrelevant. Should a candidate's past political missteps, past drug use or marital infidelity, and other earlier regrettable actions be considered when judging current and future performance? There is no clear-cut answer to this question: evidence is often ambiguous and will be colored by the lens through which it is interpreted. In Studies 3-5, we examine how people might adopt particular implicit theories to help them interpret political pasts in a manner consistent with the conclusions they wish to draw about a candidate.

Study 3 was conducted in Canada within weeks of the last Federal election (2011). Participants were randomly assigned to read unflattering quotations from either the Liberal or Conservative party leaders. We used real statements uttered by candidates an average of 10 years ago, many of which were actively being used as ammunition in the media. We predicted that when people read damaging quotes attributed to their favored candidate, they would shift their dominant implicit theory of the candidate in the incremental direction. In contrast, we expected people would be more likely to invoke an entity implicit theory (at their core, this person does not change) when reading the regrettable statements made by the opposing party's candidate. We

have suggested that shifting implicit theories helps people to reach desired conclusions. To examine the downstream effects of implicit theories, we also asked participants how relevant past statements were to candidates' current standing. We expected that people would deem a candidate's past verbal missteps as more irrelevant to the extent that they adopted a more incremental implicit theory.

Method

Participants. Two hundred and twenty six participants were recruited from local farmers' markets in Southern Ontario, Canada (116 females, 4 undisclosed; M_{age} = 43.55, SD = 15.36), within the two weeks before the last Canadian federal election. Participants were offered a large candy bar as compensation.

Participant Inclusion/Exclusion. We excluded any participant who skipped more than half the questionnaire, leaving the main questions blank (13 participants). Because we were examining only the two largest of Canada's four prominent federal parties (Liberals and Conservatives), we determined *a priori* to exclude the two smallest parties (NDP and Green), who would not review their candidate. This removed 87 additional participants up front, although we did run the main analyses with them included.[3] Thus, 126 participants were used in the final analyses (66 female, 2 undisclosed; M_{age} = 45.61, SD = 15.75; 64 Liberals, 62 Conservatives).

Procedure. Participants were invited to participate in a survey on voting in Canada. Those who agreed were given a clipboard and space to privately respond to the questionnaire. First, participants were asked to indicate the party they would vote for if the election were held at that very moment. Participants were then assigned to one of two conditions: They either read five personally unflattering statements made by the Liberal or the Conservative party leader (Michael

Ignatieff and Stephen Harper, respectively) in the relatively distant past (5-15 years earlier with an average of 10 years). We included only the leaders of the two parties (Liberal and Conservative) who have traditionally been the main contenders for Federal leadership in Canada.

Pre-measures. Participants reported demographic information, past voting behavior, and who they would vote for in the current election. In addition, embedded in the pre-measure, we included a single item assessing participants' initial implicit theory of change regarding politicians in general — "Political candidates can do things differently now, but the important parts of who they are can't really be changed" (1 = *strongly disagree*; 6 = *strongly agree*).

Experimental manipulation. Participants were randomly assigned to read a series of unflattering statements made by either the Liberal or the Conservative party leader (see Appendix C). Although statements differed considerably by candidate, they reflected the issues raised during the election campaign: that the Liberal candidate was uncommitted to Canada, and that the Conservative candidate was cold and unempathetic.

Dependent measures. After reading the five past quotations from either the Liberal or the Conservative leader, participants rated them from -3 (*very negative*) to +3 (*very positive*). Participants then completed a 4-item implicit theories scale (Dweck, 1999) adapted to the specific candidate they read about. For example, "Mr. Ignatieff [Mr. Harper] can do things differently now, but the important parts of who he is can't really be changed" (1 = *strongly disagree*; 6 = *strongly agree)*. As before, scores were recoded so that higher numbers indicated a more incremental theory. Participants were also asked to report the degree to which they thought candidates' past utterances should be considered relevant to their current standing: "Do you believe that these statements should affect Mr. Ignatieff's [Mr. Harper's] current standing in the public eye?" (1 = *not at all*; 7 = *very much*).

Results

Participants were included in the current analyses if they intended to vote either Liberal ($n = 64$) or Conservative ($n = 62$). This allowed us to examine voters who could clearly be considered *supporters* or *opponents* of the featured candidates (voters planning to support another party were conceivably more ambiguous in their support for or opposition to the two "frontrunners").

Quotation ratings. First we wanted to ensure that voters judged the candidates' statements to be undesirable. Voters affiliated with both parties judged both leaders' quotations as significantly more negative than the midpoint (0) of the scale (all t's < -17.00, all p's < .001; see Table 2 for means, standard deviations and t-tests). Regardless of their own political affiliation, participants agreed that the statements were unflattering to candidates. Not surprisingly, a Voter (Liberal vs. Conservative) × Candidate (Liberal vs. Conservative) interaction, $F(1,122) = 26.58$, $p < .001$, indicated that respondents viewed their preferred candidate's statements as less damning than their opponent's (Conservatives: $F(1,122) = 24.41$, $p < .001$; Liberals: $F(1,122) = 5.08$, $p = .025$). This party allegiance effect is likely unavoidable when using real statements by individuals on either side of the political spectrum. However, what is most important is that respondents considered the quotes to be unflattering (rather than laudable) for both candidates. Notably, controlling for statement valence did not alter any of the results.

Implicit theories pre-measure. A Voter (Liberal vs. Conservative) × Candidate (Liberal vs. Conservative) ANOVA on the single-item preliminary measure of implicit theories about politicians at the study outset revealed no main effects or interactions (Fs < 1.47, p's > .229).

Main analyses. Next, we examined whether participants' implicit theories about political candidates would differ depending on their affiliation as voters, and whether they read unflattering statements made by their preferred candidate or the opponent. A 2 (Candidate Condition: Liberal vs. Conservative) × 2 (Voter: Liberal vs. Conservative) ANCOVA (with the implicit theories pre-measure as a covariate) revealed a significant candidate condition by Voter interaction, $F(1, 118) = 34.79$, $p < .001$, $\eta^2 = .23$ (see Figure 3).

Analyses of simple effects revealed that Liberal voters were significantly more incremental in their views regarding the Liberal than the Conservative candidate, $F(1, 118) = 34.78$, $p < .001$. Conservative voters were significantly more incremental in their views regarding the Conservative than the Liberal candidate, $F(1, 118) = 6.29$, $p = .013$. Examined another way, among participants who read unflattering statements by the Conservative candidate, Conservative voters supported the candidate's capacity to change more than did Liberal voters, $F(1, 118) = 12.59$, $p < .001$. In contrast, after reading about the Liberal candidate's gaffes, Conservative voters invoked a significantly more entity theory than Liberal voters, $F(1, 118) = 24.36$, $p < .001$.

Relevance of past statements to current standing. When voters are faced with unfavorable information about a candidate's past, they are compelled to weigh the relevance of that past in their current appraisals of the candidate's standing. We argue that people might gravitate toward the implicit theory that allows them to either dismiss past misdemeanors as irrelevant to current political concerns or hold onto past misdeeds as lasting marks of character (depending on whether they want to support or discredit the candidate). To examine this mediation hypothesis, we first examine voters' assessment of the quotations' relevance to the current election, then assess whether differences in relevance are accounted for by implicit

theory endorsement. The expected voter by candidate interaction emerged, $F(1,122) = 59.79$, $p <$ .001, $\eta^2 = .33$. Main effects of voter, $F(1,122) = 1.44$, $p = .232$, and candidate, $F(1,122) = 1.03$, $p = .312$, were non-significant. Simple effects revealed that voters deemed their favored candidate's statements to be less pertinent to current standing ($M_{conservative\ candidate} = 3.59$, $SD = 1.97$; $M_{liberal\ candidate} = 2.92$, $SD = 1.60$) than they judged their opponents' past statements to be ($M_{conservative\ candidate} = 5.58$, $SD = 1.50$; $M_{liberal\ candidate} = 5.63$, $SD = 1.63$), $Fs(1,122) > 19.79$, $ps <$ .001.

Mediation Analysis. We have shown that participants selectively endorsed the candidate implicit theory that allows them to support desired conclusions – that opposing candidates are at core unchangeable while their favored candidate *can* change. We predict that this differential implicit theory endorsement might underlie the tendency to discount unflattering information about favored candidate (since they are so changeable) but to view their (unchanging) opponent's past statements as still pertinent to their current standing in the polls. A mediation analysis was conducted ($n = 123$) via bootstrapping using the method outlined by Preacher and Hayes (2008). The condition by voter interaction term was entered as the independent variable (controlling main effects and initial politician implicit theory), candidate implicit theory was entered as the mediator, and participant ratings of how much the negative quotes should affect a candidate's current standing in the election were entered as the dependent variable (see Figure 4).

Bootstrapping (1000 samples, 95% confidence intervals) revealed a significant indirect effect, CI [.90, 2.74], $p < .05$, suggesting that some of the effect of the interaction occurs through implicit theories of a candidate's malleability. The alternate model in which judgments about the negative quotations' relevance acted as the mediator, and implicit theory acted as the outcome, was also significant, CI [-1.98, -.79], p < .05. While plausible – voters' motivation to have the

quotes apply (or not) to the present election could have influenced their judgments of changeability – we chose voter implicit theory as the mediator because (1) implicit theories were reported immediately after voters read the quotations, and (2) the direct effect was still significant after the inclusion of implicit theories – political bias was still enacting a powerful effect on relevance.

Discussion

Studies 1 and 2 demonstrated how people may shift their dominant implicit theory to reach desired conclusions about the self. Study 3 extends this to assessments of important others: political candidates that one cares about supporting or opposing. Voters confront a great deal of information about political candidates coming up to an election, and must decide what facts to weigh as pertinent or irrelevant to their assessment of candidates' current character. The results of Study 3 demonstrate that people do this in a far from even-handed manner, and may recruit implicit theories that help support their contention that decade-old unflattering utterances either are central to a candidate's current standing, or are simply irrelevant to the decision at hand.

Of course, one limitation to Study 3 is that participants were exposed to solely negative information about candidates which does not allow us to determine the causal effect of the valence of past information. Although the mediational analyses lend support to our contention that participants shifted their implicit theories to either deflect or compound the impact of damaging past statements (because implicit theories mediated current judgments of statement relevance), it is possible that voters held an implicit theory specific to each candidate coming into the study (even though they did not differ on their implicit theories of politicians in general); each candidate may have been a 'domain of their own' for each participant.

In Study 4 we seek to replicate and extend Study 3 by including an experimental manipulation of the valence of a political past. In this way we can determine whether voters of same political leaning actually endorse different implicit theories when evaluating the same candidate, depending on the way the candidate's past is described, thereby addressing the ambiguity of Study 3. Further, rather than relying on actual past events we created fabricated favorable or unfavorable records of actions for the same time period (Barack Obama's time in Senate). We sacrifice some ecological validity in favor of increased experimental control (reversing the balance in Study 3).

Study 4

We presented participants with a positive or a negative representation of Barack Obama's time as senator (during 2005 – 2008). As in Study 3, we hypothesized that in the negative past condition, Republican participants would endorse an entity view of President Obama (i.e., that he cannot really change) whereas Democrats would endorse a more incremental view of President Obama (i.e., that he is malleable). Consistent with the effects seen in Studies 1 and 2, we did not expect any significant differences between Republicans and Democrats in the positive condition, because neither malleability nor stability poses an inherent challenge to a favorable past record: an entity theory suggests the candidate will continue to be successful, and an incremental theory allows the candidate to improve (or decline).

Additionally, it is important to note the difference in context between Study 3 and Study 4. In Study 3, the election was in full swing and all politicians were candidates – no one was incumbent and 'safe' from losing their position. In contrast, Study 4 was conducted outside of the election cycle. There was an incumbent (Obama) who is not threatened within an election campaign. Thus, we expected that any observed effects would be stronger among Republicans,

as the Democratic President Obama (the focus on the study) was safer from any damaging effects than the candidates in Study 3.

Method

   Participants. Two hundred and fifty American residents recruited from Amazon's Mechanical Turk participated in our online study in exchange for $0.40 dollars (148 females, 2 undisclosed).

   Participant Inclusion/Exclusion. We excluded six participants who failed an attention check. Additionally, in Study 4 we aimed to examine Democrats and Republicans as clear "supporters" and "opponents" of Obama (respectively). Participants reported their political affiliation at the study outset. Those who reported a party affiliation other than Democrat or Republican (n = 37) were excluded *a priori*. In addition, similar to Morgan et al. (2010), we took into account strength of party affiliation (1 = *not strongly associated*; 7 = *very strongly associated*). Unlike Study 3, which was conducted with an election fast approaching, Study 4 was conducted between electoral cycles hence we sought to identify highly disengaged voters. We identified participants who selected a party affiliation (Democrat or Republican) but selected the lowest possible value (1) for strength of affiliation, or did not indicate affiliation at all. This group of 32 participants was excluded from all analyses. Analyses were conducted on 212 participants (109 women; 120 Democrats, 67 Republicans; M_{age} = 37.75, Range 19-73).

   Procedure. Participants first reported demographics, political orientation measures (i.e., "If a federal election were held tomorrow, which political party would you vote for?") and strength of affiliation. Embedded in this section was one general person implicit theory pre-measure and one implicit theory item specific to Obama: "People [President Obama] can do

things differently now, but the important parts of who they are [he is] cannot be changed." (1 =

strongly disagree; 7 = *strongly agree*).

Experimental manipulation. Participants were randomly assigned to read either a

negative or positive representation of Barack Obama's time as Senator (2005-2008). Appraisals

were described as the result of a bi-partisan review (of all senators 2005-2008) with "strikingly

high" Republican-Democrat consensus. In the positive condition, participants read that the

committee concluded that "Barack Obama was often successful in his efforts… and that his

behavior was consistent with his core goals: the support of working families and the betterment

of America." His summary "grade" was an "A." In the negative condition, participants read that

the committee concluded that "Barack Obama was often ineffectual in his efforts… and that his

behavior often fell far short of his core goals. Rather, his actions often led to an increase in the

unfair powers of big industry and the mega-rich." His summary grade was a "C-."

Dependent measures. After reading the bi-partisan review, participants rated on a scale

from -3 (*very negative*) to 0 (*neither positive nor negative*) to +3 (*very positive*), their overall

evaluation of Obama's Senate record. As in Study 3, participants then completed a modified

version of the Dweck (1999) general person implicit theory scale, which asked participants to

indicate the degree to which they felt Barack Obama was changeable or stable. After this we also

had participants complete the original general personal implicit theory scale. Finally, participants

responded to the question, "Some would say that a politician's past deeds are an indication of

current views and others would say they are irrelevant. How much do you think Obama's track

record as Senator reflects his *current views*?" *(1 = not at all representative*; 7 = *very much*

representative).

Results

Preliminary analysis.

Implicit theories pre-measure. Prior to the manipulation, Democrats endorsed a more incremental initial implicit theory both in general ($M = 3.26$, $SD = 1.38$) and with respect to Obama ($M = 3.08$, $SD = 1.37$) than did Republicans ($M = 2.69$, $SD = 1.22$; $M = 2.04$, $SD = 1.16$ respectively); $F_{general}(1, 182) = 26.92$, $p < .001$, $\eta^2 = .13$; $F_{Obama}(1, 179) = 7.78$, $p = .006$, $\eta^2 = .04$. We control for this variability in our main analysis. Importantly, there were no pre-manipulation differences between the negative and positive conditions for the general person implicit theory pre-measure, $F(1, 179) = .04$, $p = .846$, or the Obama implicit theory pre-measure, $F(1, 182) = .02$, $p = .885$.

Manipulation check. A 2 (condition: negative vs. positive) × 2 (voter: Democrat vs. Republican) ANOVA on participants' evaluations of Obama's Senate record confirmed that his record was viewed more favorably by those who read the positive bi-partisan review ($M = 5.61$, $SD = 1.50$) than by those who read the poor review ($M = 3.14$, $SD = 1.78$), $F(1, 183) = 150.03$, $p < .001$, $\eta^2 = .45$. Not surprisingly, Democrats rated his record more positively overall ($M = 5.14$, $SD = 1.74$) than Republicans ($M = 3.13$, $SD = 1.93$), $F(1, 183) = 92.82$, $p < .001$, $\eta^2 = .34$. Importantly, the interaction was not significant ($p = .196$), hence voters from both parties were affected by the manipulation even if their average assessment was also informed by party allegiance.

Candidate implicit theory. We predicted that, after reading an *unfavorable* review of his past Senate record, Republicans would endorse an entity theory for President Obama (i.e., that he cannot change), whereas Democrats would endorse a more incremental perspective (i.e., that he is changeable). A 2 (condition: negative vs. positive) × 2 (voter: Democrat vs. Republican) ANCOVA on participants' implicit theories for Barack Obama, controlling for initial implicit

theories revealed the expected interaction, $F(1, 175) = 4.06$, $p = .045$, $\eta^2 = .02$. Simple effects

revealed that after reading about a poor Senate record, Republicans rated Barack Obama as

significantly more fixed and unchangeable than did Democrats, $F(1, 175) = 5.75$, $p = .018$, and

significantly more than did Republicans who read about a good Senate record, $F(1, 175) = 5.85$,

$p = .017$ (see Figure 5). In the positive condition, Democrats and Republicans did not differ in

their implicit theories of Obama, $F(1,175) = .17$, $p = .711$.

General person implicit theory. A 2 (condition: negative vs. positive) × 2 (voter:

Democrat vs. Republican) ANCOVA with general person implicit theories as the DV,

controlling for the general person premeasure, did not reveal a condition by voter interaction,

$F(1, 176) = .31$, $p = .577$.

Relevance to present. As in Study 3, voters in the current study must decide how much

relevance to give to Obama's past political record in their current judgments of him. A 2

(condition) × 2 (voter) ANCOVA revealed a significant interaction, $F(1, 174) = 32.82$, $p < .001$,

$\eta^2 = .16$; both main effects were non-significant (p's > .770). Simple effects revealed that

Republicans in the Senate failure condition reported that Barack Obama's past performance

reflected his current views much more than did Democrats, $F(1, 174) = 14.70$, $p < .001$, and

more than did Republicans in the positive condition, $F(1, 174) = 13.71$, $p < .001$ (see Figure 6).

Within the positive condition, Democrats indicated that Obama's performance reflected more of

his present views than did Republicans, $F(1, 174) = 10.69$, $p < .001$, and Democrats in the

negative condition, $F(1, 174) = 19.36$, $p < .001$.

Mediation analysis. As in Study 3, we contend that voters' assessments of the relevance

of Obama's political past will be partly accounted for by their implicit theory endorsement. A

mediation analysis (see Figure 7) was conducted ($n = 179$) via bootstrapping using the method

outlined by Preacher and Hayes (2008). The condition by voter interaction term was entered as

the independent variable (controlling for main effects and the implicit theory pre-measures),

reported implicit theory about President Obama was entered as the mediator, and participant

ratings of relevance of Senate record to current standing was entered as the dependent variable.

Bootstrapping (1000 samples, 95% confidence intervals) revealed a significant indirect effect, CI

[-.27, -.02], $p < .05$, suggesting that some of the effect of the interaction on the perceived

relevance of Obama's Senatorial performance occurs through judgments of Obama's

changeability. As in Study 3, the alternate model wherein the 'current views' item acts as

mediator, and the implicit theory acts as the outcome, was also significant, CI [-.63, -.10]. The

logic behind our preferred model is the same: we argue that voters start with a generalized

motivation to 'harm the opposing candidate' or 'support my candidate' – and then shift their

implicit theory to accommodate that desire; the 'current views' item is the eventual supported

conclusion. As before, the alternate model is of course plausible, where the 'current views' item

is the desired conclusion, and one's implicit theory is shifted to support it. In either case, we

argue the process is that of motivated reasoning.

Discussion

Overall, these findings replicate and extend the findings from Study 3 suggesting that

implicit theories can be strategically employed to suit evaluative motives, not only for the self

but also for important others. The data demonstrate a reliable relative difference between the

implicit theories of Obama endorsed by his supporters versus opponents - but only after reading

about his past failings. Indeed, it appeared to be opponents who drove this effect by gravitating

toward an entity theory to enhance the relevance of his negative past. Obama supporters were

quite incremental across both conditions; it may be that they saw Obama as changeable from the

outset so had no additional need to shift their implicit theories further. Though we have more clearly demonstrated shifting in Study 4, we again primarily measured implicit theory specific to the politician in question. Though we did include general person implicit theory as a secondary measure, it was unaffected by condition. This could be because participants would only ever shift their theories of the candidate themselves. Instead, we suspect that general person theory was unaffected because participants were already able to garner the support they needed to reach their desired conclusion on the initial, candidate-specific scale (Tesser, 2001). Given this ambiguity, in Study 5 we only use the general person implicit theory scale to better test whether people might shift their more general implicit theories if this is the opportunity they are given to support their desired conclusion. Further, we move to support our motivated account by including a neutral condition in which participants consider a candidate they are not biased for or against. We expected that those reading about a neutral candidate (from another country) would not shift their implicit theories in response to valenced information.

Study 5

Similar to Study 3, Study 5 was also conducted in Canada. This study was conducted to address two limitations from the previous study. First, rather than the candidate-specific versions used in Studies 3 and 4, we returned to the general person implicit theories scale). This more directly tests whether people might adjust their general implicit theories to support a desired conclusion about a candidate. Second, we wanted to further test our contention that people shift their implicit theories when sufficiently motivated. To examine this motivated reasoning account we added a neutral control candidate: Tony Abbott – a political leader from Australia - about whom Canadians were expected to know little and care less.

Participants were randomly assigned to read either a negative or positive performance review from five years ago. We predicted that when people read a damaging performance review, supporters would endorse a more incremental implicit theory than would opponents. The neutral condition was expected to fall somewhere between the two motivated groups.

Method

Participants. Participants were recruited from: 1) a local farmers' market, 2) Canadian political discussion boards on the internet, and 3) Mechanical Turk (selecting for Canadian residents). Because we were examining motivated shift in implicit theories, we determined *a priori* to include only those participants who indicated an *in favor* or *opposed* party affiliation on the two central parties represented in our study (Liberal and Conservative). Thus, we did not examine participants who indicated they would vote for another Canadian party (i.e., Green and NDP voters; $n_{green} = 27$, $n_{NDP} = 49$, $n_{missing} = 3$). In total, 208 eligible Canadian participants completed the survey (market: 76, discussion boards: 108, Mturk: 24).

Participant Exclusion. Similar to Morgan et al. (2010), we took into account strength of party affiliation and excluded participants who indicated that they *do not affiliate* with their preferred party at all (23 participants). Finally, twenty-one participants failed the manipulation check (i.e., rated the negative quotes as positive).[4] Thus, 164 participants were used in the final analyses (121 males, 42 female, 1 undisclosed; $M_{age} = 34.15$, SD = 13.26).

Procedure. Participants were invited to participate in a survey on voting strategies in Canada. Market participants completed a pen and paper survey. Internet participants completed the identical survey online.

Pre-measures. First, participants indicated the party they would vote for if an election were held today. Along with demographic and filler items, participants reported their general

person implicit theory on a single premeasure item – "People can do things differently sometimes, but the important parts of who people are can't really be changed" (1 = *strongly disagree*; 6 = *strongly agree*).

Experimental manipulation. The experimental design was a 2 (valence: negative vs. positive) x 3 (political party: Liberal vs. Conservative vs. neutral) between-subjects design. Participants read either a *negative* or a *positive* Independent Performance Review of one of three political party leaders: (1) the Liberal leader in Canada (Justin Trudeau), (2) the Conservative leader in Canada (Stephen Harper), or (3) neutral: the 'Labor leader' in Australia (Tony Abbott); (Abbott is actually the head of a right-wing Liberal party, but to avoid erroneous comparison with Canadian left-wing Liberals, we relabeled him "Labor party"– no participants knew his actual party). The *negative* reviews indicated that an independent Parliamentary Performance Review Committee report was *critical* of [party leader]'s performance in 2008, giving [party leader] a 'C' grade for the year 2008. The *positive* reviews indicated that the report *praised* [party leader]'s performance in 2008, giving [party leader] an 'A' grade for the year 2008.

Dependent measures. After reading the performance review, participants rated the reviews from -3 (*very negative*) to +3 (*very positive*). Participants then completed a 3-item general-person implicit theories scale (Dweck, 1999). Higher numbers indicated a more incremental theory. Finally, participants were asked to report the degree to which they thought the performance review represents the party leader's current character (1 = *not at all*; 7 = *very much*).

Results

As in Study 3, participants were included in the current analysis if they intended to vote either Liberal or Conservative and indicated some degree of party affiliation with either the

Liberal or Conservative party. This allowed us to examine voters who could clearly be considered motivated *supporters* or *opponents* of the featured candidates. Due to the small number of participants in some cells when split into all parties (primarily due to difficulty in recruiting enough conservatives), voters were grouped into three categories for the remainder of the analyses: in *favor* (i.e., Liberal voters in the Liberal candidate condition and Conservative voters in the Conservative candidate condition), *opposing* (e.g., Conservative voters in the Liberal candidate condition and Liberal voters in the Conservative candidate condition), and *neutral* (e.g., both types of voters in the Abbott/neutral condition).

   Implicit theories pre-measure. A Voter (supporter vs. opponent vs. neutral) x Valence (negative vs. positive) ANOVA on the premeasure of general person implicit theories revealed no main effects or interactions (Fs < .672, ps > .414).

   Main analyses. As in previous studies, our main interest was the implicit theory shift when under threat, thus, we tested whether supporters would be more incremental than opponents after reading a negative review. A 2 (valence: negative vs. positive) x 3 (voter: supporter vs. opponent vs. neutral) ANCOVA (with the implicit theories pre-measure as a covariate) revealed a significant valence by voter interaction; $F(2,156) = 3.50$, $p = .033$, $\eta^2 = .04$ (see Figure 8). Neither the main effect of valence ($F(1, 156) = 1.74$, $p = .189$) or voter ($F(2, 156) = .227$, $p = .797$) emerged.

   Within the negative condition, supporters reported a significantly more incremental general person theory of change than those opposed, $F(2, 156) = 5.63$, $p = .018$, $\eta^2 = .04$, and, consistent with the motivated reasoning account, supporters were also marginally more incremental than voters not connected to the party leader (i.e., in the neutral condition), $F(2, 156) = 3.40$, p = .068. Those opposed did not differ from those in the neutral condition ($p = .441$).

Within opponents, participants who read a negative performance review endorsed a significantly more entity theory of change than those who read a positive review, $F(1, 156) = 8.11$, p = .005, $\eta^2 = .05$. There was no significant difference between the performance reviews among supporters or neutral participants.

Relevance of past performance review on current character appraisals. As in Study 4, we were interested if participants felt that the past performance review represents the party leaders' current character. We predict that a differential lay theory endorsement might underlie a tendency to discount a negative history about favored party leaders (as they are changeable) but to view an (unchanging) opponent's negative history as a stable reflection of their current character. To examine this mediation hypothesis, we first examined voters' (supporters and opponents only) assessments of the relevance of the past performance review on the party leaders' current character. A 2 (valence: negative vs. positive) x 2 (voter: supporter vs. opponent) ANCOVA (with the implicit theories pre-measure as a covariate) revealed the expected valence by voter interaction; $F(1,99) = 21.67$, $p < .001$, $\eta^2 = .18$. Neither of the main effects were significant ($Fs < .18$, $ps > .67$). Simple effects revealed that voters deemed their favored party leaders' negative past performance to be less pertinent to current standing than an opponent's negative past ($M_{supporter} = 3.37$, $SD = 1.29$; $M_{opponent} = 4.85$, $SD = 1.67$) and their favored leaders' positive past was deemed more important to current character than an opponent's positive past ($M_{supporter} = 4.90$, $SD = .73$; $M_{opponent} = 3.58$, $SD = 1.66$), $Fs(1,99) > 19.79$, $ps < .004$.

Mediation Analysis. As in Studies 3 and 4, a mediation analysis was conducted including the opponent and supporter groups ($n = 108$) via bootstrapping using the method outlined by Preacher and Hayes (2008). The valence condition by voter (supporter vs. opponent) interaction term was entered as the independent variable (controlling main effects and initial implicit

theory), implicit theory was entered as the mediator, and participant ratings of how the past performance review should affect a candidate's current character were entered as the dependent variable (see Figure 9). Bootstrapping (1000 samples, 95% confidence intervals) revealed a significant indirect effect, CI [.02, .98], $p < .05$, suggesting that some of perception of current character occurs through general person lay theories of malleability.

Discussion

Similar to Study 4, the current study revealed a shift in implicit theories when opponents and supporters read negative information about a candidate's past. Supporters emphasize change, allowing candidates to be forgiven for past missteps; opponents highlight stability, which helps them hold onto the relevance of past failings. Once again, less shifting was seen in the positive condition- either because of a lack of motivation, or because an incremental theory can mean different things to supporters ("further growth is possible") and to opponents ("past successes do not predict future outcomes"). Importantly, no motivated shifting was observed among participants evaluating the neutral candidate, offering additional evidence of the role of motivation.

General Discussion

Across five studies, we demonstrate a dynamic account of the strategic fluidity of implicit theories of change and stability, showing that people actively regulate and shift their endorsement of implicit theories in subtle yet meaningful ways. Further, we demonstrate that this process depends on motivation; when we removed the motivation to reach a particular directional conclusion (manipulated in various ways in Studies 1, 2, and 5), participants did not shift.

When people are faced with information about themselves or relevant others, that information has different implications depending on whether they adopt a belief that people change or stay the same over time. Specifically, negative information is less relevant (and less threatening) now if viewed as potentially changeable rather than fixed: an earlier foible can be relegated to the past or seen as a lasting mark on one's character depending on the implicit theory accessed in making the judgment. Although past research has certainly demonstrated that implicit theories are sensitive to situational factors such as parent/teacher feedback and direct argument/intervention (Good et al., 2012; Mueller & Dweck, 1998; Aronson, et al., 2002; Hong et al, 1999; Plaks & Stecher, 2007), our findings are the first to demonstrate a motivated shift in implicit theories in a variety of domains in which people are motivated to reach a specific, directional conclusion about the self or others.

All five studies in this dissertation were designed to present participants with information about the self or relevant others in which an incremental theory would lead to different conclusions about an individual's present or future attributes than would an entity theory. Studies 1 and 2 demonstrated that people prefer an incremental theory when faced with negative information about the self (either a current or past failure). While past research has shown entity

beliefs to be maladaptive following failure (Dweck & Leggett, 1988), these results provide an intriguing first hint that people may be able to shift away from that perspective when sufficiently motivated to do so, potentially avoiding negative outcomes. Of course, in the real world, people have competing motivations and ways to handle threat: we do not argue that people will always adaptively shift to an incremental view in the face of failure - if they did, far fewer negative effects of entity theory in achievement contexts would be observed in the literature (e.g., Dweck, Chiu, & Hong, 1995b; Henderson & Dweck, 1990; Hong et al., 1999; Nussbaum & Dweck, 2008). However, it may suggest that understanding the motivational influences on implicit theory endorsement could help researchers and educators create even more effective interventions and to understand factors that could put people at risk of adopting maladaptive theories. For instance, people might be especially receptive to arguments in favor of an incremental theory while a recent failure still stings: this may be an ideal time to introduce an intervention. Conversely, people might be at risk of gravitating toward an entity theory after a string of successes, when people would most desire to attribute these outcomes to enduring personal qualities.[5]

Studies 3-5 demonstrated that we may also invoke different implicit theories to interpret the histories of relevant others, such as political candidates we support or oppose. We can brush aside the attack ad "dirt" on our favorite candidate by resonating with an incremental theory, and we can allow similar mud to "stick" to a disliked candidate by shifting toward an entity viewpoint. In each case, we show evidence that participants select an implicit theory that best benefits their current motivations.

Theory fluidity versus chronicity? Although we highlight a previously undocumented fluidity in individuals' implicit theories, our findings are not inconsistent with current theory and research. Past research shows that implicit theories can quite readily be shifted by feedback,

argument or intervention favoring one perspective (Good et al., 2012; Mueller & Dweck, 1998; Aronson, et al., 2002; Hong et al, 1999; Plaks & Stecher, 2007); Dweck and Leggett (1988) recognized the possibility that yet other situational factors might alter people's implicit beliefs. Our findings are the first to demonstrate how readily and systematically people's implicit theories might shift when they can be a tool to help people reach preferred conclusions.

Moreover, our findings do not suggest that chronic individual differences in implicit theories do not matter. Participants only shifted when they were sufficiently motivated by a threat to self-concept, or to defend or cast aspersions on liked or disliked others. In addition, even under these circumstances people did not entirely switch allegiance – people's implicit theories fall on a continuum even though they are often described as "either" incremental or entity, and we describe systematic, non-trivial shifts toward one end or the other of the scale, not total conversion across groups. Nonetheless, these shifts in theory were consequential: they predicted people's reactions to failing a test, and people`s willingness to overlook the past transgressions of political candidates (especially on the eve of an election). Even if these shifts in implicit theories are relatively temporary and fluctuating, they could play an important role in personal performance decisions, or in the voting booth.

It is likely that even with these implicit theory shifts, chronic theories matter. People may even return to some chronic "baseline" when the threat passes. Although our studies are not designed to examine these possibilities, future research should examine the interplay between the chronicity and fluidity of implicit theories. It may be that some people are more apt to shift than others, or perhaps everyone's theory endorsement is subject to revision but within constraints set by their dominant theories (e.g., Sanitioso et al., 1990). Our findings might indirectly shed light as well on how chronic implicit theories develop. If people regularly find themselves in

situations where an entity or an incremental theory allows them to reach their preferred conclusions, they may gravitate toward that preferred theory more and more often until it becomes their chronic or dominant perspective. This might suggest, for instance, that a year of mixed successes in class or in sports would encourage a more incremental perspective than a year of straight A's or wins on the field (see Mueller & Dweck, 1998 for related phenomena). People that constantly succeed may begin to adopt an entity theory of talent over hard work, much like children praised for performance do (Mueller & Dweck, 1998). Indeed, one instance of maladaptive praise ("you're so smart!") does not set a child's implicit theory for life - it is consistent reinforcement of a certain theory over the course of years that is hypothesized to move someone to adopt their chronic implicit theory. In the present research, we posit that this reinforcement need not be so explicit or external. Internally-driven motivations (perhaps paired with more external feedback) may, over time, shape the chronic implicit theories people come to hold.

It should be noted that previous research has demonstrated that in certain circumstances participants react negatively when presented with evidence opposing their chronic theory. Specifically, Plaks, Grant and Dweck (2005) and Plaks and Stecher (2007) found that participants provided with information that violated their dominant theory experienced anxiety and exhibited attempts to re-establish personal control (i.e., persisted longer at a task giving theory-violating feedback). Plaks and colleagues argue that the pattern of results indicated that participants will resist moving from their dominant theory. How, then, do we reason participants will shift on their own? First, in the research conducted by Plaks and colleagues, stimuli were set up to directly contradict people's expectations about others (2005) and their own performance (2007). Hence, in those studies, the implicit theory itself was salient and, presumably, under

threat. We hypothesize that participants may not always be so committed to a salient dominant implicit theory, particularly if some other aspect of the self (or relevant other) is under threat instead. That is, participants will shift their implicit theory to preserve a different and more salient goal. Whereas Plaks and colleagues showed that people are motivated to preserve their dominant theory when it is directly threatened, we demonstrate that people are motivated to shift their implicit theories when other, personally important views are threatened.

Indeed, Plaks and Stecher (2007) argue that people should be made aware of the potential maladaptiveness of each theory, and interventions to educate lay people about the consequences of holding a given theory of change would help them more flexibly adapt to situations. They suggest that such interventions could have implications for academic and interpersonal success. The data presented here, coupled with work by Poon and Koehler (2008), suggests that people already do this flexible adaptation to some degree. However, in many situations, it is obvious that the 'wrong' theory is maintained (e.g., Dweck & Leggett, 1988; Dweck et al., 1995a) and people fall into self-defeating motivational patterns (Nussbaum & Dweck, 2008).

Future Directions

  Motives for implicit theory endorsement. Our findings suggest that a range of appraisal goals can influence the implicit theories people invoke. We focused on goals related to protecting the self and relevant others from threat, and the related goal of disparaging others that could be a source of threat (see also Rattan, et al., 2012). It is plausible that implicit theories may be flexibly summoned in support of many other goals as well: from coping with a trauma to eliciting optimal task motivation, people may benefit from having access to, and the ability to flexibly move back and forth between both theories. Similarly, people may shift toward a particular theory to support their political views on specific issues - causes of and possible

responses to everything from poverty to drug use to homosexuality may be heavily influenced by whether an incremental or entity view is invoked. In close relationships, people may benefit from shifting toward an entity theory when sailing is smooth but quickly lean on an incremental view in stormier weather.

Mechanism. While this paper has provided evidence for the existence of implicit theory shifting, the precise mechanism by which people shift their implicit theories remains undocumented. Indeed, we focus primarily on shifting implicit theories *as the mechanism by which* people successfully support the conclusions they wish to reach. However, past research suggests likely processes that may account for some of this shifting. Sanitioso and colleagues (1990) demonstrated that shifts in self-views are accomplished via a motivated memory search for supporting evidence (and hence limited by the number of supporting instances recalled). Poon and Koehler (2006) show that people have access to supporting examples of both implicit theories: whichever comes to mind might determine the situational shift. Indeed, chronic or dominant theories might be characterized by the set of memories experienced with greatest fluency, with its corresponding effect on judgments of veracity (Unkelbach, 2007; Wänke, Bohner, & Jurkowitsch, 1997).

Who is shifting? Might the tendency to flexibly shift theories (or not) be an individual difference in itself? Work by Ziegler and Stoeger (2010) potentially speaks to this issue. Their research found that highly successful students treated successes and failures with different theories of change: successes were seen as fairly permanent, while failures and ability deficits were seen as changeable. While the authors suggested that gifted students have separate 'domains' for success and failure—even within the highly specific domain of "physics class", for example—we would suggest that highly successful students are simply more adept at shifting

their implicit theories to motivate themselves. That is, when they succeed they will believe (temporarily) in permanence, but when they fail they cleave to mutability. It may be that the more easily a student is able to shift from one theory to the other depending on context, the more they conserve and promote their scholastic motivation, and in turn the more successful they are in academics.

In addition to individual differences in flexibility, it is possible that different people shift their implicit theories in different contexts. In short, if your dominant implicit theory will already support your desired conclusion, no shifting is required; if your dominant theory leads to an undesirable conclusion, you will shift toward the more helpful belief. For example, someone who is already an incremental theorist may not need to shift as much as an entity theorist (if at all) after failure since their dominant theory already protects them from threat. In contrast, it might be the incremental theorist who shifts in contexts where an entity perspective will help them support their preferred conclusions (such as holding on to the past misdeeds of a disliked political candidate). Future research into this issue could pre-select a large number of incremental and entity theorists at the outset to systematically examine where the shifting takes place.

Conclusion

The present research complements and extends past implicit theory research by Dweck and colleagues by demonstrating how people selectively shift their implicit theory endorsement to help them reach the conclusions they most desire about themselves and others. These findings are highly consistent with the body of work demonstrating that implicit theories are sensitive to situational feedback, context and argument (Blackwell et al., 2007; Dweck, 2002; Hong et al., 1999; Molden et al., 2006; Murphy & Dweck, 2010; Plaks & Stecher, 2007. Unlike past

research, however, we demonstrate that people alter their theories without any direct message priming or encouragement to take one perspective or the other: they appear to have access to both and can toggle toward one or the other as the situation demands. This has both positive implications (for self-protection after failure, for instance) and more gloomy ones (people may "attack" others and make their past misdeeds "stick" by selecting an entity theory for the occasion). Voting and policy decisions may be made by appealing to basic assumptions about the fixed or mutable nature of attributes — but even those basic assumptions may not be as reliable or consistently applied as previously thought. This work reveals the dynamic nature of implicit theories of change, and suggests that they are more flexible than previously conceived. This initial step into examining the change in people's theories of change enables re-interpretations of past research, and present several new avenues of future research. Future research should more fully explore the links between theory chronicity and flexibility, and how our knowledge of one informs and modifies our understanding of the other.

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Footnotes

[1] As the task was novel, we ran a brief replication of the legitimacy conditions (i.e.,

success-failure feedback on an ostensibly credible test). In the initial study we did not include a

premeasure of social intelligence implicit theory (because we weren't sure participants would

know what the term meant). In the replication we added a premeasure item defining and

measuring lay theories of social intelligence (and included it as a covariate). Participants who

received failure feedback reported significantly more incremental social intelligence implicit

theory ($M = 4.11$; $SD = 1.20$) than those in the success condition ($M = 3.77$; $SD = 1.26$), $F(1,$

$184) = 8.43$, $p = .004$, $\eta^2 = .04$. In this study, participants who received failure feedback also

endorsed a more incremental general person implicit theory ($M = 3.94$; $SD = 1.26$) than those in

the success condition ($M = 3.73$; $SD = 1.33$), $F(1, 184) = 4.09$, $p = .045$, $\eta^2 = .02$. As expected,

there was no significant effect of the manipulation on the unrelated domain of intelligence, $F(1,$

$184) = .091$, $p = .764$. The counterbalance again did not have a significant effect or interact.

[2] Including the intelligence lay theory premeasure as well did not change the significance

or pattern of effects.

[3] Notably, we failed to predict the unprecedented gains of a third party, the New

Democrats (NDP), hence we excluded a larger number of supporters for this party than

anticipated. If these other voters are included ($n = 87$) as a third voting bloc (the far-left NDP and

Green parties together; they did not differ on any variables of interest), the interaction is still

significant, $F(2,202) = 18.15$, $p < .001$, $\eta^2 = .15$. The results of central interest did not differ from

those reported in the text: examination of the simple effects revealed that these "third" party

supporters behaved like opponents to both the Liberal and Conservative candidates – which they

were. That is, when considering the Liberal candidate they reported a theory of change ($M =$

3.17; SD = 1.20) identical to Conservative voters (M = 2.80, SD = 1.07; contrast p = .161), and significantly less incremental than Liberal voters (M = 4.10, SD = 1.02; contrast p < .001). Conversely, when considering the Conservative candidate they reported an implicit theory of change (M = 2.33, SD = 1.04) identical to Liberal voters (M = 2.45, SD = 1.23; contrast p = .631) and significantly less incremental than Conservative voters (M = 3.45, SD = 1.10; contrast p < .001). In other words, they reported an entity theory of change for both candidates, presumably so the negative pasts would 'stick'.

[4] We chose to remove participants who 'failed' the manipulation check for two reasons: (1) It is possible that participants did not read or process the information for some reason (e.g., lack of attention), meaning they should be removed as they would be with any other attention check, and (2) it is possible that participants engaged in (unmeasured) motivated reasoning immediately and dismissed the committee's feedback as useless or biased, thus eliminating any threat and any motivation.

[5] We recently conducted a pilot study examining the ways implicit theories might change over longer periods of time. We wondered whether people who experienced more academic disappointments over the course of a term might show a tendency to prefer an incremental theory over time, while those who experienced mostly successes might be tempted to begin adopting a more entity perspective. At the beginning of Fall term, we obtained implicit theories (intelligence and general person) scores, then followed up in the Winter term (4-6 months later) with N = 41 students. We asked these students to report extensively on their academic outcomes in the previous term. They list each major test and assignment in each class they took the previous semester, and indicated whether the outcome on that unit was something they viewed as a disappointment, as a success, or as neutral. We also obtained their intelligence and general

person implicit theories a second time. We found that a greater proportion of disappointments over the course of last term predicted a marginal shift toward a more incremental theory of intelligence ($b = .218$, $t = 1.78$, $p = .083$), whereas a greater proportion of successes over the course of last term predicted a significant shift toward a more entity theory ($b = -.312$, $t = 2.72$, $p = .01$). Because of the small sample size and retrospective nature of these outcomes, this finding should be interpreted with caution, but suggests an important route for future research.

Figures
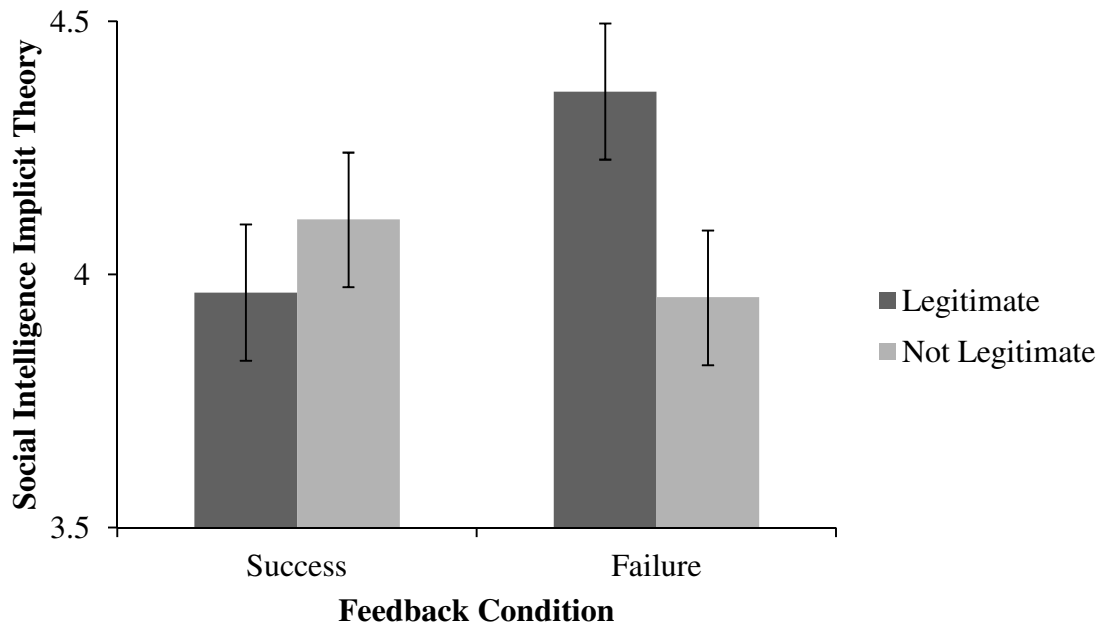
Figure 1. Participant social intelligence implicit theory scores, as a function of feedback and legitimacy conditions (Study 1). Higher numbers indicate a more incremental implicit theory. Means are adjusted for covariates.
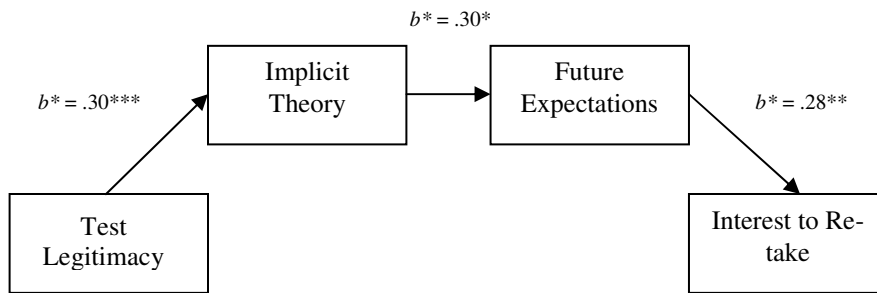
Figure 2. Path analysis using Structural Equation Modeling (bootstrapping, 2000 samples, 95% confidence), Study 1, failure condition. Model fit was excellent. Legitimate failure had a significant and positive indirect effect on expectations of future performance, and a marginal positive indirect effect on interest in re-taking the test. Legitimate failure predicted a more incremental theory of change, which predicted higher expectations of future performance, which predicted increased interest. * p <.05; ** p < .01; *** p < .001.
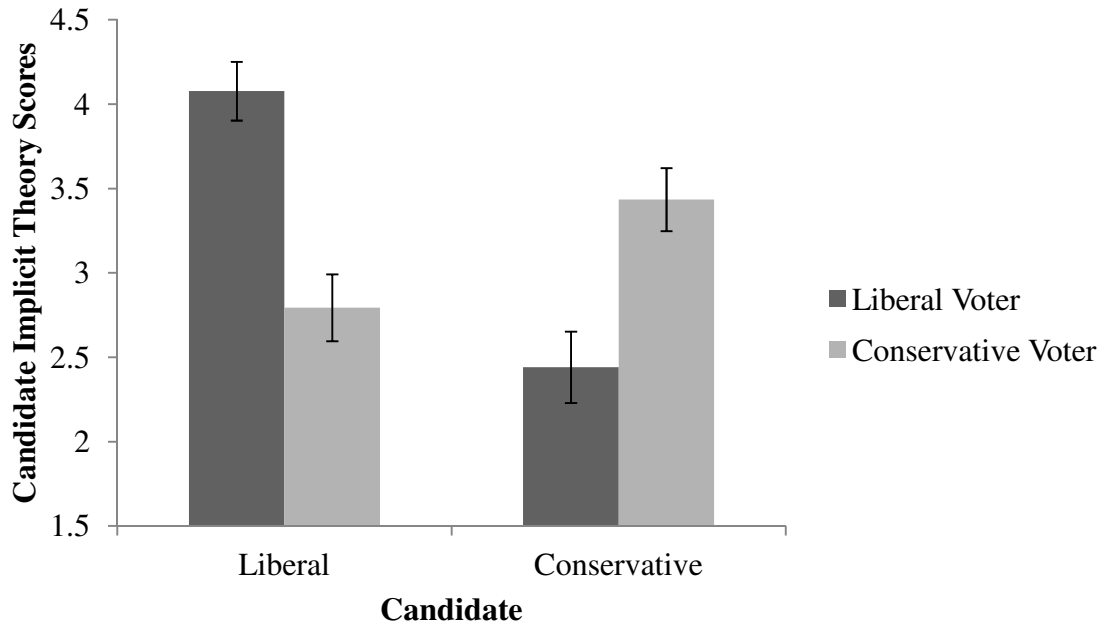
Figure 3. Candidate lay theory scores as a function of condition and political affiliation (Study 3). Higher numbers indicate more changeability (incremental theory). Means are adjusted for covariates.
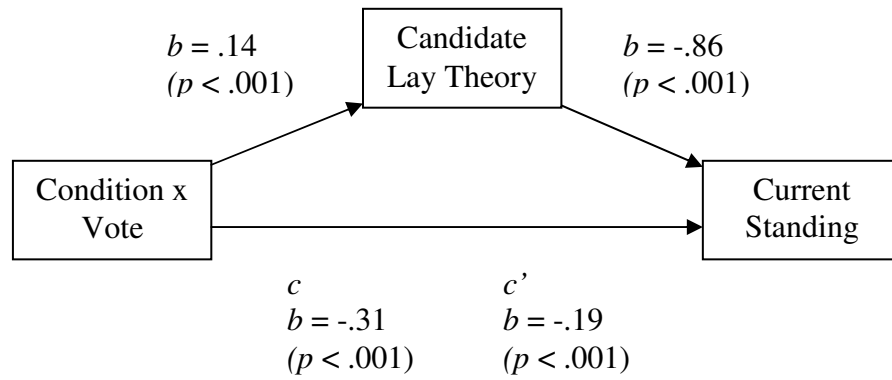
Figure 4. Study 3. Path analysis demonstrating that candidate lay theory partially mediates the

effect of candidate (Harper or Ignatieff) by voter affiliation (Conservative or Liberal) on

judgments of how much negative past quotes should affect a candidate's current standing in the

national election.
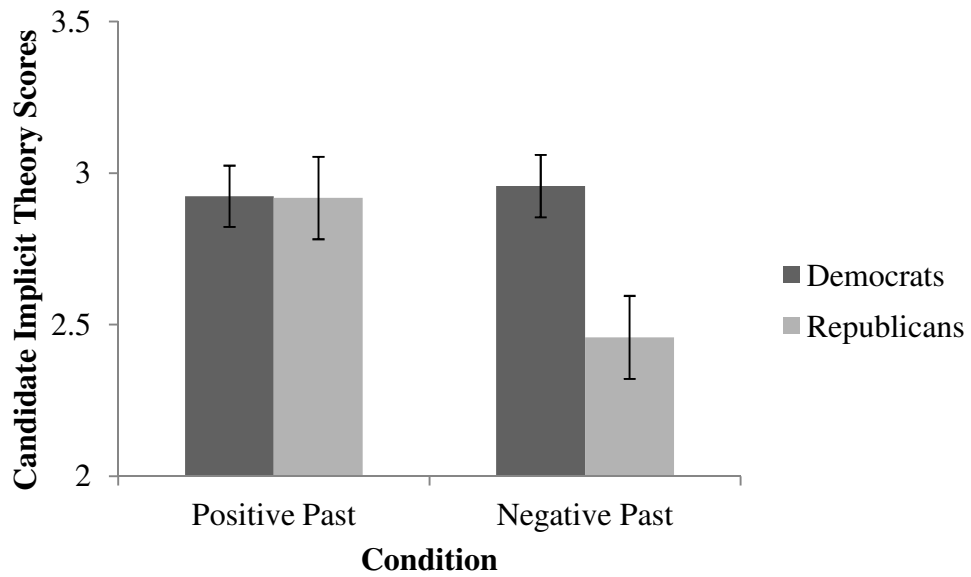
Figure 5. Lay theories of Barack Obama as a function of condition and political affiliation (Study 4). Higher numbers indicate greater changeability (incremental theory). Means are adjusted for covariates.
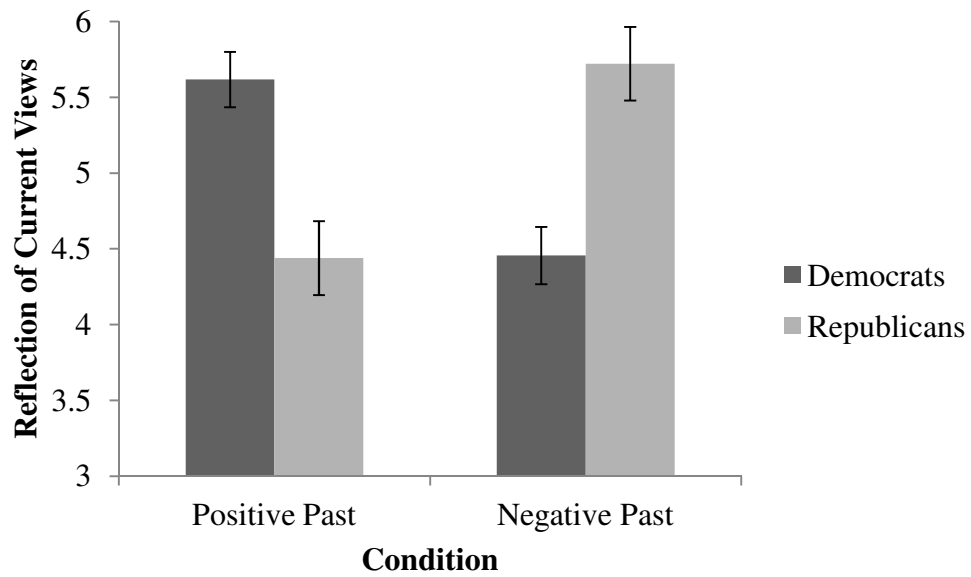
Figure 6. Participant ratings of how much Obama's Senate performance reflects his current state, as a function of condition and political affiliation (Study 4). Higher numbers indicate that past performance is more representative of current standing. Means are adjusted for covariates.

$b = .25$
$(p = .038)$

Obama Lay
Theory

$b = -.46$
$(p = .001)$

Condition x
Vote

Current
Standing

c
$b = -1.20$
$(p < .001)$

c'
$b = -1.09$
$(p < .001)$
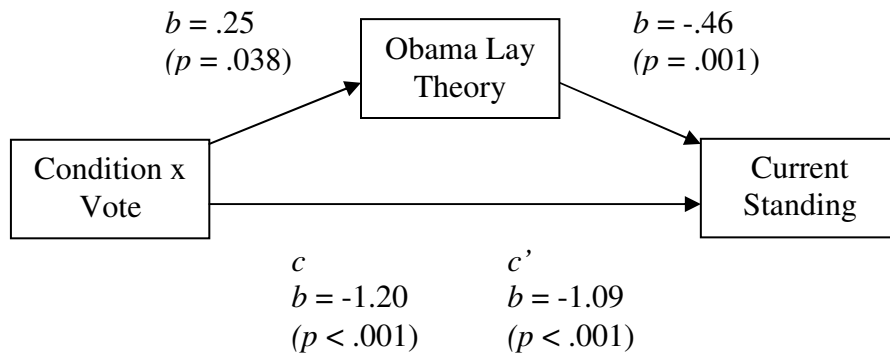
Figure 7. Study 4. Path analysis demonstrating that one's lay theory of President Obama's

changeability partially mediates the effect of condition (positive or negative evaluation) by vote

(Republican or Democrat) on judgments of how much Obama's performance as Senator should

affect his current standing in the national election.
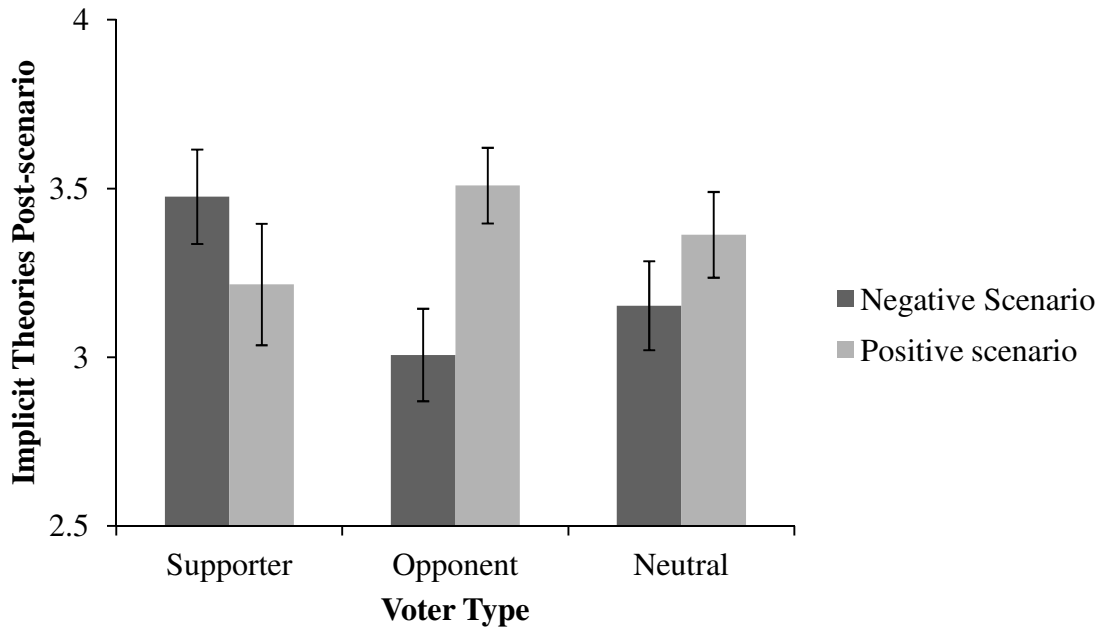
Figure 8. Study 5. Implicit theory ratings post-scenario (adjusted for implicit theory pre-measure), as a function of condition (negative vs. positive) and political affiliation (supporter vs. opponent vs. neutral). Higher numbers indicate the incremental perspective.
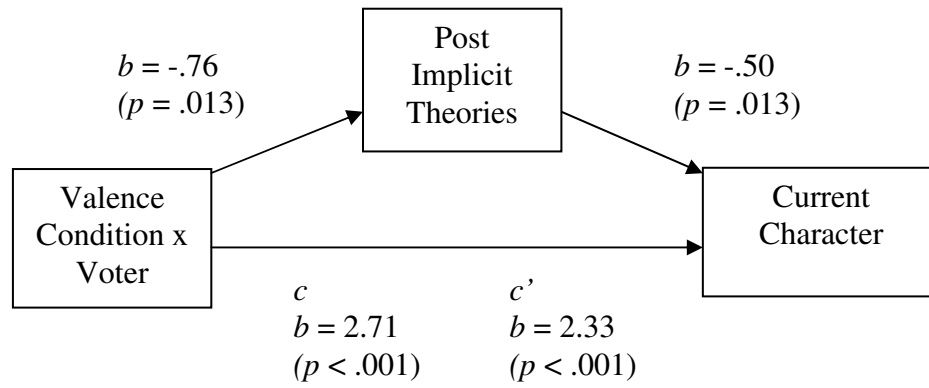
Figure 9. Path model demonstrating the mediating role of lay theory shift on relevance of past performance on current character (Study 5). The interaction between valence (negative vs. positive) and voter (supporter vs. opponent) predicts a shift in general person implicit theories, which in turn affects relevance of past performance on current character.

Tables

Table 1

Study 2: Means, standard deviations and simple effects for main analysis, evaluating how memory valence and target (self vs. other) affect perceptions of the changeability for personality and social skills.

	Social			General		
	Positive	Negative	Comparison	Positive	Negative	Comparison
Personal	3.89 (.95)	4.39 (.96)	$p = .058$	3.02 (1.12)	3.80 (1.34)	$p = .016$
Acquaint.	4.12 (1.04)	3.80 (.91)	ns	3.41 (1.11)	3.31 (1.12)	ns
Comparison	ns	$p = .016$		ns	$p = .060$	

Note. Standard deviations are in parentheses.

Table 2

Study 3: Quotation valence by condition and party affiliation (testing for difference from the neutral midpoint of 0).

Party Affiliation	Candidate	*t*-test	Mean (SD)
Conservative	Con (Harper)	$t(31) = -3.09, p = .004$	-.78 (1.43)
	Lib (Ignatieff)	$t(29) = -7.02, p < .001$	-1.87 (1.46)
Liberal	Harper	$t(25) = -15.47, p < .001$	-2.46 (.81)
	Ignatieff	$t(37) = -5.56, p < .001$	-1.16 (1.29)

Appendices

APPENDIX A - STUDY 1 MATERIALS

Premeasure

Before we begin, we'd like you to answer the following questions:

I enjoy the experience of being in a big crowd.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
⦿	◯	◯	◯	◯	◯

The kind of person someone is, is something basic about them and it can't be changed.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
◯	◯	◯	◯	◯	◯

I care about what others think of me.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
◯	◯	◯	◯	◯	◯

People can do things differently, but the important parts of who they are can't really be changed.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
◯	◯	◯	◯	◯	◯

I seek out new experiences regularly.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
◯	◯	◯	◯	◯	◯

Everyone is a certain kind of person and there is not much that can be done to really change that.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
◯	◯	◯	◯	◯	◯

Socializing tends to exhaust me.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
◯	◯	◯	◯	◯	◯

Your intelligence is something about you that you can't change very much.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
◯	◯	◯	◯	◯	◯

I am an extraverted person.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
◯	◯	◯	◯	◯	◯

Instructions

'Thin-slice social perceptiveness' is a recently discovered aspect of personality in social psychology. Researchers have found that some people can intuit and predict a lot about people they have just met or even just seen. That is, some people have the ability to perceive much about someone from only a 'thin slice' of information (e.g., a minute or two of conversation, a photograph and a bit of information provided). They can 'cold read' people very well – they can tell more about someone without actually meeting them than you might expect.

The flip side of this is that sometimes we <u>think</u> we can tell a lot about people from only a little information, but we are wrong!

Thin-slice social perceptiveness is a key aspect of social intelligence and personality, predictive of a wide range of measures of **life success**. People who possess a high level of ability in this area have better, longer, and happier relationships (romantic and otherwise), tend to earn more and be promoted more often, are better liked in short interactions (e.g., dates, social gatherings), and are more persuasive in negotiations or debates.

Legitimacy Manipulation (legitimate)

The following task is a test of thin-slice social perceptiveness:

Prior to this study, we asked several undergraduates from the University of Waterloo 'What do you want to pursue as a career after you graduate?', and then we either took their picture OR asked them to provide a picture of themselves.

You will be presented with twelve photographs of these undergraduates, as well as two options for what their answer was. One of these responses was actually said by them, and one is made up. Using your best judgment, you are to choose which of the two responses is actually theirs.

This test is a reliable indicator of thin-slice social perceptiveness, and predicts the outcomes you read about earlier (e.g., income, relationship success).

Although it is of course possible for someone to achieve a good score through guessing, it is extremely unlikely. Average people tend to score 58% (7/12) on this test, while those high in ability typically score 83% (10/12) or higher. People low in ability typically score 33% (4/12) or lower. You will be given your results after you complete all the tasks.

Legitimacy Manipulation (non-legitimate)
The following task has been designed to try to test of thin-slice social perceptiveness:

Prior to this study, we asked several undergraduates from the University of Waterloo 'What do you want to pursue as a career after you graduate?', and then we either took their picture OR asked them to provide a picture of themselves.

You will be presented with twelve photographs of these undergraduates, as well as two options for what their answer was. One of these responses was actually said by them, and one is made up. Using your best judgment, you are to choose which of the two responses is actually theirs.

This is not a final version of the test - we are still trying to see if it is a reliable indicator of thin-slice social perceptiveness. We have not yet tested it to see if it predicts the outcomes you read about earlier (e.g., income, relationship success).

It is of course possible for someone to achieve a good score through guessing, but we believe it is highly unlikely. Average people tend to score 58% (7/12) on this test, while those high in ability typically score 83% (10/12) or higher. People low in ability typically score 33% (4/12) or lower. You will be given your results after you complete all the tasks.

Thin-Slice Social Perceptiveness Task

Option A:

"I always wanted to be a veterinarian, or a veterinary assistant. I love animals, and having my working hours be devoted to healing them really appeals to me!"

Option B:

"Medicine - I want to be a doctor. I think there is no higher calling in life than to devote yourself to helping other human beings. I know it's a long road and costs a lot, but I don't mind…I just want a fulfilling life of work.``

Which statement was actually said by the person pictured above?

- ☐ A
- ☐ B

Option A:
"I think I want to be a teacher. Lower grades, maybe primary or kindergarten. I love working with kids, and I don't mind the mess or the noise. I think it's a great job with great benefits."

Option B:
"Stock broker. You need money to live, right? My uncle is a stock broker and it seems like something I'd be good at, and it would fund other things in life. So really, I'd be able to do what I wanted. Freedom, right?"

Which statement was actually said by the person pictured above?

- ☐ A
- ☐ B

Option A:
"I actually don't know. I'm taking tons of different classes right now. I don't have a major. I wish I knew, but… I guess I'll figure it out along the way."

Option B:
"Fire fighter or EMT. It doesn't cost as much as other lines of education, you get to help people, you get full benefits. And there are jobs out there, you know? I wouldn't be graduating and then being unemployed forever."

Which statement was actually said by the person pictured above?
- ☐ A
- ☐ B

Option A:
"I want to go into politics. It sounds stupid. I don't even know how you do it…I'm volunteering now, but some politicians – or lots I guess – come into it from outside things, like business. I don't know how I'll get there, but that's where I want to go in the end."

Option B:
"I don't have a specific goal career. I like spending time with friends and family. I know a family is what I want. I'll want to work as well, but what I do… I'm not specific about it. Life is about people to me."
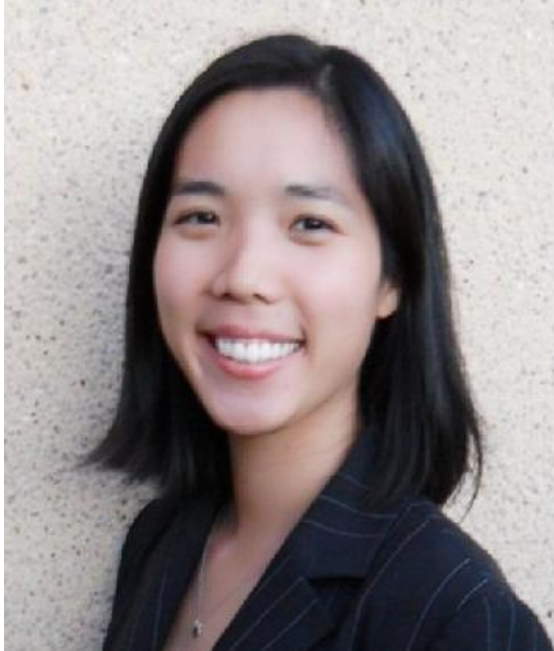
Which statement was actually said by the person pictured above?

- ☐ A
- ☐ B

Option A:
"Bio research. I don't know what branch, exactly, but I'm narrowing down my options. I know after I graduate I want to get my master's degree, and maybe be a lab tech after that. I just want a science job, and I don't want to have to accept really low pay for it."

Option B:
"I don't care what I do, so long as it pays well."

Which statement was actually said by the person pictured above?

- ☐ A
- ☐ B

Option A:
"I really don't know. I'm in geology right now and I hear that's a really 'hot' industry. So I guess I'll end up doing something with that… I'll visit career fairs to figure out what to do."

Option B:
"I'm in engineering so I'll be an engineer."

Which statement was actually said by the person pictured above?

- ☐ A
- ☐ B

Option A:
"Honestly I'd love to be an administrative assistant. A secretary, but a high-up one. For a CEO or something. I love organizing things, and I'm extremely conscientious. I'd be very good at it."

Option B:
"Something in finance or business."

Which statement was actually said by the person pictured above?

- ⬚ A
- ⬚ B

Option A:
"Social work. With kids – there are a lot of kids born into bad families to parents who just don't care, and someone has to fight for them. I know it's a high stress job, but I feel like that's my calling."

Option B:
"Charity. Abroad. I want to do more than just volunteer in other countries – I want to organize and lead projects and make that my career. Live my life making a difference."

Which statement was actually said by the person pictured above?

- ⬚ A
- ⬚ B

Option A:
"I'm in mechanical engineering, but I don't really like it. I could easily get a job in that area after grad but I really don't know if that's what I want to do. I don't know what else I would do."

Option B:
"Civil engineer. Some people say it's boring, but it's almost a guaranteed job so what have I got to lose?"

Which statement was actually said by the person pictured above?

- ☐ A
- ☐ B

Option A:
"I know it sounds weird but I'd like to work in daycare. It's supposed to be stressful but I don't think I'd mind."

Option B:
"Nursing. That's the path I'm on, and they're always hiring. Everyone tells me it's high stress but I already kind of deal with that in this program. I think it would be a fulfilling career – who wouldn't want to help people for a living?"

Which statement was actually said by the person pictured above?

- ☐ A
- ☐ B

Option A:
"I don't know. I hope I get a job. It's supposed to be a tough market out there. I'm worried about my prospects post-graduation. I'm not sure what I'll end up doing. I'll just take whatever offer comes up first."

Option B:
"Software engineer. I'm getting good experience from my co-op and there are plenty of startups in town – I don't think I'll have to struggle to get a job."

Which statement was actually said by the person pictured above?

- ☐ A
- ☐ B

Option A:
"I'd really love to be in academia. I'm in philosophy, so it's not like they're hiring at the Philosophy Factory, right? I love books and reading, and they don't really pay you to do that anywhere else. I hope I can be a prof."

Option B:
"Law. I'm taking my LSATs this year. Should do well. Not sure what kind of law. I'm hoping I get into a good school – first thing's first, right?"

Which statement was actually said by the person pictured above?

- ☐ A
- ☐ B

FEEDBACK
Success
Your score on the thin-slice social perceptiveness task was 11/12 (~92%). 1% of people who take this test achieve a higher score.
Failure
Your score on the thin-slice social perceptiveness task was 3/12 (25%). 92% of people who take this test achieve a higher score.

Post-manipulation Implicit Theories Scale

Finally, we would like you to complete a series of surveys.

Please read each of the following statements carefully. Indicate **the extent to which you agree or disagree** with each statement by circling the number on the scale that best reflects your opinion. You will probably find that you agree with some of the statements, and you disagree with others, to varying extents.

The kind of person someone is, is something basic about them and it can't be changed.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
☐	☐	☐	☐	☐	☐

People can do things differently, but the important parts of who they are can't really be changed.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
☐	☐	☐	☐	☐	☐

Everyone is a certain kind of person and there is not much that can be done to really change that.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
☐	☐	☐	☐	☐	☐

You have a certain amount of intelligence and you really can't do much to change it.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
☐	☐	☐	☐	☐	☐

Your intelligence is something about you that you can't change very much.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
☐	☐	☐	☐	☐	☐

You can learn new things, but you can't really change your basic intelligence.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
☐	☐	☐	☐	☐	☐

You have a certain amount of **<u>social</u>** intelligence and you really can't do much to change it.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
☐	☐	☐	☐	☐	☐

This is a focus test question. Please click the '3' below, and move on to the next question.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
☐	☐	☐	☐	☐	☐

Your **<u>social</u>** intelligence is something about you that you can't change very much.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
☐	☐	☐	☐	☐	☐

You can learn new things, but you can't really change your basic **<u>social</u>** intelligence.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
☐	☐	☐	☐	☐	☐

A person's ability to relate to and get along with others is something very basic about them and it can't be changed very much.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
☐	☐	☐	☐	☐	☐

There is not much that can be done to change a person's social skills and popularity.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
☐	☐	☐	☐	☐	☐

Whether a person is honest, responsible and sincere or not is deeply ingrained in their personality. It cannot be changed very much.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
☐	☐	☐	☐	☐	☐

Whether a person is outgoing or shy is deeply ingrained in their personality. It cannot be changed very much.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
☐	☐	☐	☐	☐	☐

A person's moral character (e.g., honesty, trustworthiness) is something very basic about them and it can't be changed very much.

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
☐	☐	☐	☐	☐	☐

There is not much that can be done to change a person's moral traits (e.g., conscientiousness, uprightness, and honesty).

1 Strongly Disagree	2	3	4	5	6 Strongly Agree
☐	☐	☐	☐	☐	☐

How well did you do on the test?

1 Very Poorly	2	3	4	5	6	7 Very Well
☐	☐	☐	☐	☐	☐	☐

What was your score?

☐ 0/12

☐ 1/12

☐ 2/12

☐ 3/12

☐ 4/12

☐ 5/12

☐ 6/12

☐ 7/12

☐ 8/12

☐ 9/12

☐ 10/12

☐ 11/12

☐ 12/12

How satisfied were you with your score?

Very Dissatisfied	Dissatisfied	Somewhat Dissatisfied	Neutral	Somewhat Satisfied	Satisfied	Very Satisfied
☐	☐	☐	☐	☐	☐	☐

From time to time we test the same individuals a second and third time after intervening weeks (the test would consist of new people and new statements). We would give you updated feedback on your performance.

Would you be willing to be contacted again?

☐ Yes

☐ No

If you selected 'yes', please enter your e-mail below.

[   ]

Whether you selected 'yes' or 'no' - why did you answer the way you did?

[   ]

How interested are you in taking the test again?

1 Extremely Uninterested	2	3	4	5	6	7 Extremely Interested
○	○	○	○	○	○	○

What is your gender?

- ☐ Male
- ☐ Female
- ☐ Other

What is your age?

[   ]

What is your country of origin?

[   ]

You're almost finished the study now. You just have to click to the next page to get the HIT code; your compensation is secured.

We depend on participant focus for clear results. Before you finish, please tell us honestly:

Were you giving this study your full attention?

- ☐ Yes
- ☐ No

APPENDIX B - STUDY 2 MATERIALS

Negative Personal Condition

Everyone has good or bad moments in his/her social life. **Please recall a <u>social situation</u> in the last four years when you felt disappointed or unhappy with your behaviour, or with a social experience. For example, this may be a time when you felt rejected, socially awkward, or unpopular.** Please write a short paragraph to describe the event.

Subjective experience scale – Positive Personal Condition

Everyone has good or bad moments in his/her social life. **Please recall a <u>social situation</u> in the last four years when you felt especially proud or happy with your behaviour, or with a social experience. For example, this may be a time when you felt accepted, socially skilled, or popular.** Please write a short paragraph to describe the event.

Subjective experience scale – Negative Acquaintance Condition

Everyone has good or bad moments in his/her social life. **Please recall a <u>social situation</u> in the last four years when you saw an acquaintance (someone you knew but were not close friends with) have an especially negative experience. For example, this may be a time when you saw someone be rejected, socially awkward, or unpopular.** Please write a short paragraph to describe the event.

Subjective experience scale – Positive Acquaintance Condition

Everyone has good or bad moments in his/her social life. **Please recall a <u>social situation</u> in the last four years when you saw an acquaintance (someone you knew but were not close friends with) have an especially positive experience. For example, this may be a time when you saw someone be accepted, socially skilled, or popular.** Please write a short paragraph to describe the event.

Please indicate, as accurately as possible, the date on which the pleasant event occurred. Please indicate the Day (or your best guess), the Month and the Year that the event occurred. You may not be able to remember exactly, so please just give your best estimate.
Day_____Month _____ Year _____

Implicit Theories Questionnaire

Please read each of the following statements carefully. Indicate **the extent to which you agree or disagree** with each statement by circling the number on the scale that best reflects your opinion. You will probably find that you agree with some of the statements, and you disagree with others, to varying extents.

1	2	3	4	5	6

Strongly   Strongly

Disagree   Agree

1. _____ The kind of person someone is, is something basic about them and it can't be changed.
2. _____ A person's ability to relate to and get along with others is something very basic about them and it can't be changed very much.
3. _____ Whether a person is honest, responsible and sincere or not is deeply ingrained in their personality. It cannot be changed very much.
4. _____ There is not much that can be done to change a person's social skills and popularity.
5. _____ People can do things differently, but the important parts of who they are can't really be changed.
6. _____ Everyone is a certain kind of person and there is not much that can be done to really change that.
7. _____ Whether a person is outgoing or shy is deeply ingrained in their personality. It cannot be changed very much.
8. _____ A person's moral character (e.g., honesty, trustworthiness) is something very basic about them and it can't be changed very much.
9. _____ There is not much that can be done to change a person's moral traits (e.g., conscientiousness, uprightness, and honesty).

APPENDIX C - STUDY 3 MATERIALS

1. To what degree do you tend to follow Canadian national politics? (please circle a number)

1	2	3	4	5	6	7
Not at all						Follow closely

2. Please indicate the extent to which you agree or disagree with the following statement, **as it applies to political candidates**:
"Political candidates can do things differently now, but the important parts of who they are can't really be changed."

1	2	3	4	5	6
Strongly Disagree					Strongly Agree

3. Do you tend to vote in Canadian national elections (i.e., for Members of Parliament)?

1	2	3	4	5	6	7
Not at all			Sometimes			Always

4. If a Federal election were held today, which political party would you vote for? (please circle one)

Green	NDP	Liberal	Bloc Québécois	Conservative

HISTORICAL QUOTATIONS – HARPER CONDITION

Because politicians are in the public eye, they are often taken to task for things they said both recently and many years ago. Then, Canadians have to decide for themselves how relevant such quotes are to current circumstances. Below are several quotes or paraphrases from Stephen Harper from, on average, around the year **2000**. **That is, on average, these quotes are from about 10 years ago.**

"In terms of the unemployed, of which we have over a million-and-a-half, I don't feel particularly bad for many of these people."
- speaking in Montréal.

"Canada appears content to become a second-tier socialistic country, boasting ever more loudly about its economy and social services to mask its second-rate status."
- National Post.

"If you're like all Americans, you know almost nothing except for your own country. Which makes you probably knowledgeable about one more country than most Canadians."
- addressing an American Republican lobby group.

" Canada is a Northern European welfare state in the worst sense of the term, and very proud of it."
- addressing an American Republican lobby group.

"There is no upside to the position Canada took."
- Stephen Harper on Canada refusing to join the United States' war on Iraq as part of the "Coalition of the Willing."
- Maclean's.

HISTORICAL QUOTATIONS – IGNATIEFF CONDITION

Because politicians are in the public eye, they are often taken to task for things they said both recently and many years ago. Then, Canadians have to decide for themselves how relevant such quotes are to current circumstances. Below are several quotes or paraphrases from Michael Ignatieff from, on average, around the year **2000**. **That is, on average, these quotes are from about 10 years ago.**

"If I am not elected (in Canada), I imagine I will ask Harvard to take me back,"
  Ignatieff said. "I hope I'll be back in some shape or form."
–Harvard Crimson.

Michael Ignatieff referred to the UK as his "adopted country," and voted in their elections instead of Canada's.
– "Blood and Belonging"

Ignatieff called the Canadian flag a "passing imitation of a beer label."
– The Observer Magazine (UK)

"You have to decide what kind of America you want. .. It's your country, just as much
  as it is mine."
- Michael Ignatieff while working in the U.S., CPSAN.

Ignatieff said that Canada has an entirely "bogus" reputation for being Peacekeepers. He went on, saying "we used to have this ability, but we gave it away."
– Lecture at Trinity College.

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1. Taken together, how would you rate these quotes? (please circle one)

-3	-2	-1	0	+1	+2	+3
Very Negative			Neither positive or negative			Very Positive

2. On average, these quotes are **from about 10 years ago**, that is, around the year 2000. Taken together, do you think these quotes reflected well or poorly on [CANDIDATE] **at the time that he made the statements?**

-3	-2	-1	0	+1	+2	+3
Reflected Very poorly			Reflected neither well nor poorly			Reflected Very well

3. How would you rate your familiarity with the quotes you just read?

1	2	3	4	5	6	7
Not at all familiar						Very familiar

Please indicate the extent to which you agree or disagree with each of the following statements, **as they apply to [CANDIDATE]**:

1.   [CANDIDATE] can do things differently now, but the important parts of who he is can't really be changed.

1	2	3	4	5	6
Strongly Disagree					Strongly Agree

2. As much as I hate to admit it, you can't teach an old dog new tricks. [CANDIDATE] can't really change his deepest attitudes.

1	2	3	4	5	6
Strongly Disagree					Strongly Agree

3. The 'kind of person' [CANDIDATE] is is something very basic about him and it can't be changed very much.

1	2	3	4	5	6
Strongly Disagree					Strongly Agree

4. Long-held attitudes are a part of [CANDIDATE] and can't change much.

1	2	3	4	5	6
Strongly Disagree					Strongly Agree

Do you believe that these statements should affect [CANDIDATE]'s current standing in the public eye?

1	2	3	4	5	6	7
Not at all						Very much

Demographics:

Age: _____   Gender: M _____   F _____   Prefer not to say _____

APPENDIX D - STUDY 4 MATERIALS

Please indicate the extent to which you agree or disagree with the following statement as it pertains to Barack Obama: "Barack Obama can do things differently now, but the important parts of who he is can't really be changed."

1	2	3	4	5	6
Strongly Disagree					**Strongly Agree**

If a federal election were held today, what political party would you vote for?

Democrats

Republicans

Other (describe in the text box below)

Because politicians are in the public eye, they are often taken to task for things they did both recently and many years ago. Then, Americans have to decide for themselves how relevant such actions are to current circumstances.

On the next page, you will read a bi-partisan review involving Barack Obama from approximately 3-6 years ago.

Afterwards, we will ask you some questions about this.

MANIPULATION

With the 2012 presidential election approaching, people read a lot of information about the different candidates. We are interested in how people respond to different kinds of information. Please read the following paragraph about one of the candidates in the upcoming election.

President Barack Obama is currently approaching the end of his first term as President, and Americans are starting to assess political candidates in the upcoming 2012 national election. Assessing a presidential candidate's current accomplishment and failings can often be difficult – while events are still ongoing, it can be hard to pinpoint the President's role in many other social and economic factors.
It is often helpful to also assess the candidate's past record of actions which are easier to assess concretely with the benefit of hindsight.

 A recent bi-partisan review of the United States Senate career of Current President Barack Obama (2005-2008) is a useful source of information about his track record because his actions in Senate can be compared with his expressed views and values. Notably, this bi-partisan review, jointly conducted by Republicans and Democrats, few conclusions that both political parties stood behind and agreed upon. In other words, there was strikingly high bi-partisan consensus about Barack Obama's past track record in Senate.

POSITIVE CONDITION ADDITION

Evaluating Obama's record as Senator, this bi-partisan committee concluded that "Barack Obama was often successful in his efforts", and "He appeared to have a great desire to pursue the collective betterment of Americans. His behaviour was consistent with his key messages, and his actions as Senator reflected his stated core goals of supporting working families as well as decreasing the unfair powers and financial privileges enjoyed by big industry and the mega-rich."

This review was conducted as part of a larger analysis of the actions of all Senators over this same period (2005-2008). Each Senators actions (considered in light of their goals and values) were assessed separately and given a grade on how effective they were at acting toward their core goals. Overall, the review found Obama's performance as U.S. Senator to be "...consistent, and, all things considered, excellent." The average grade across all Senators was a "B". Barack Obama's grade was an "A".

NEGATIVE CONDITION ADDITION

Evaluation Obama's record as Senator, this bi-partisan committee concluded that "Barack Obama was often ineffectual in his efforts", and "He appeared to have little desire to pursue the collective better of Americans, and his behavior often fell short of his promises. Inconsistent with his key messages, his actions as Senator often did not reflect his stated core goals of supporting working families. Instead, his actions often led to an increase in the unfair powers and financial privileges enjoyed by big industry and the mega-rich."

This review was conducted as part of a larger analysis of the actions of all Senators over this same period (2005-2008). Each Senators actions (considered in light of their goals and values) were assessed separately and given a grade on how effective they were at acting toward their core goals. Overall, the review found Obama's performance as U.S. Senator to be "...inconsistent, and, all things considered, quite poor." The average grade across all Senators was a "B". Barack Obama's grade was an "C-".

How would you rate Barack Obama's track record as Senator?

1	2	3	4	5	6	7
Very Negative			**Neither Negative or Positive**			**Very Positive**

Please indicate the extent to which you agree or disagree with the following statements, as they apply to Barack Obama:

Barack Obama can do things differently now, but the important parts of who he is can't really be changed.

1	2	3	4	5	6
Strongly Disagree					**Strongly Agree**

As much as I hate to admit it, you can't teach an old dog new tricks. Barack Obama can't really change his deepest attitudes.

1	2	3	4	5	6
Strongly Disagree					**Strongly Agree**

The 'kind of person' Barack Obama is, is something very basic about him and can't be changed

1	2	3	4	5	6
Strongly Disagree					**Strongly Agree**

Some would say that a politician's past deeds are an indicator of their deeply held beliefs. Others might completely disagree. To what degree do you believe Mr. Obama's record as Senator represents his current views?

1	2	3	4	5	6	7
Not at all representative						**Very much representative**

APPENDIX E - STUDY 5 MATERIALS

1. To what degree do you tend to follow politics? (please circle a number)

1	2	3	4	5	6	7
Not at all						Follow closely

Please indicate the extent to which you agree or disagree with the following statement, *as it applies to People in general:*

2. People can do things differently sometimes, but the important parts of who people are can't really be changed.

1	2	3	4	5	6
Strongly Disagree					Strongly Agree

3. People can always substantially change the kind of person they are.

1	2	3	4	5	6
Strongly Disagree					Strongly Agree

4. Do you tend to vote in Canadian national elections (i.e., for Members of Parliament)?

1	2	3	4	5	6	7
Not at all			Sometimes			Always

5. If a Federal election were held today, which political party would you vote for? (please circle one)

Green	NDP	Liberal	Bloc Québécois	Conservative

6. How strongly do you affiliate with the political party you indicated you would vote for?

1	2	3	4	5	6	7
Do not affiliate at all						Very strongly affiliate

**Below is an excerpt from a recent press release about politics in Canada [Australia].
It is an <u>independent</u> *Performance Review* of a political party leader's work in 2008.
Please carefully read the information provided and keep it in mind. We will ask some questions about this performance review and the candidate later in the survey.**

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Success

 [REUTERS, [**Ottawa, Canberra**]].The independent Parliamentary Performance Review Committee, with appointees from across the political spectrum from right to left, have released a short report on the performance of **[CANDIDATE]**, current leader of the **[Conservative, Liberal]** Party of Canada **[Labour Party of Australia]**. The report **was** *critical* of **[CANDIDATE'S]** performance in 2008. The bi-partisan committee members noted that "**[CANDIDATE]**'s performance during the turning point of 2008 was marked by an inability to get momentum on the issues he championed during election time" and that "…his statements were fairly inconsistent with the values he campaigned on – he changed his priorities more than once, leading to confusion about what exactly he stood for." **Overall, the committee gave [CANDIDATE] a 'C' grade for the year 2008.**

Failure

[REUTERS, [**Ottawa, Canberra**]].The independent Parliamentary Performance Review Committee, with appointees from across the political spectrum from right to left, have released a short report on the performance of **[CANDIDATE]**, the current leader of the **[Conservative, Liberal]** Party of Canada **[Labour Party of Australia]**. The report *praised* **[CANDIDATE]**'s performance in 2008. The bi-partisan committee members noted that "**[CANDIDATE]**'s performance during the turning point of 2008 was marked by great momentum on the issues he championed during election time" and that "…his statements were very consistent with the values he campaigned on – he set clear priorities, and there was no confusion about what he stood for." **Overall, the committee gave [CANDIDATE] an 'A' grade for the year 2008.**

Please indicate the extent to which you agree or disagree with each of the following statements, **as they apply to people in general.**

1. People can do things differently sometimes, but the important parts of who people are can't really be changed.

1	2	3	4	5	6
Strongly Disagree					Strongly Agree

2. Personality is part of <u>who people are</u> and it can't change very much.

1	2	3	4	5	6
Strongly Disagree					Strongly Agree

3. People can always substantially change the kind of person they are.

1	2	3	4	5	6
Strongly Disagree					Strongly Agree

4. People can significantly change their basic characteristics, no matter who they are.

1	2	3	4	5	6
Strongly Disagree					Strongly Agree

5. People have certain deeply held values and they can't change them very much.

1	2	3	4	5	6
Strongly Disagree					Strongly Agree

6. Whether someone is responsible and sincere or not is deeply ingrained in their personality. It cannot be changed very much.

1	2	3	4	5	6
Strongly Disagree					Strongly Agree

Please think back to the performance review that you read a few moments ago. Read each question carefully and circle a number that best represents your answer to the question.

1. How would you rate this performance review?

-3	-2	-1	0	+1	+2	+3
Very Negative			Neither positive or negative			Very Positive

2. Some would say that a politician's past behaviours are an indicator of their current character. Others might completely disagree. To what degree do you believe the review represents Mr. Harper's **current character**?

1	2	3	4	5	6	7
Not at all representative						Very much representative

Demographics:

Age: _____   Gender: M _____   F _____ Prefer not to say _____