What I Want Versus What Is Right: Does Dispositional Motivation for Objectivity Versus Subjectivity Influence Judgment?

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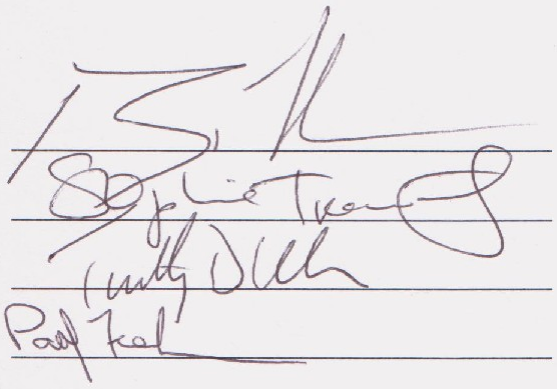

Abstract

Human decision-making is influenced by at least two reasoning motivations – directional goals to achieve desired conclusions, and accuracy goals to achieve correct or objective conclusions (Kunda, 1990). Biased processing toward directional (subjective) goals occurs relatively effortlessly, but *situational* factors, such as having to justify one's decision, motivate people to overcome bias and pursue more objective decision-making and behavior. In this dissertation, I investigated whether this motivation varies *dispositionally* across individuals, and whether that variation predicts social and political judgments. In seven studies, the Motivation for Objectivity versus Subjectivity Scale (MOSS) was developed and validated. The factor structure and reliability of the MOSS was confirmed across three samples: undergraduate students (Studies 1, 5, & 6), Project Implicit volunteers (Studies 2-4), and Mechanical Turk workers (Study 7). The MOSS demonstrated convergent and discriminant validity (Studies 1 & 4), predictive validity for political judgment (Study 2) and social judgment and behavior (Studies 5 & 6), and showed, at most, a mild effect of socially desirable responding (Studies 1& 4).

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Imagine the following scenario: You are a manager at a company and you must make cuts to the budget. Policy dictates that you fire the lowest performing employee. Though firing someone may be unpleasant, this is a simple decision – cuts have to be made, and a policy is in place to make this decision clear, simple, and fair. Now, imagine the same scenario, but the lowest performing employee happens to be your good friend. Now a clear, simple, and fair decision is more difficult. Why?

The latter 'good friend' scenario presents a conflict between a subjectively desired outcome (not firing a good friend) and an objectively determined outcome (following a policy that dictates firing the lowest performing employee). Though most people do not regularly fire employees, this situation – a conflict between a desired outcome and an objective outcome – is a familiar one. Kunda's (1990) motivated reasoning framework can be applied to this decision conflict. The framework outlines two fundamental reasoning goals – directional goals, the desire to reach an outcome favorable for the self or ingroup, and accuracy goals, the desire to reach the correct or objective outcome. 'Correct' in this context means the assessment that would result with no self-interest involved (e.g., using Rawls' veil of ignorance). The 'good friend' decision is difficult because it pits accuracy goals against directional goals, and both are valued and relevant to the judgment.

In scenarios like this one, variation in a situational factor – the relationship between the manager and the employee – influences the extent to which individuals

endorse accuracy or directional decisions. In a sample of undergraduates ($N = 141$), 82% report that they would fire the lowest performing employee in the first scenario, but only 20% say they would fire their good friend in the second scenario. However, note that there is variation in responses across individuals in the same situation – even in the 'good friend' scenario, 20% report that they would fire their good friend, prioritizing accuracy and objectivity over directional goals, even though this outcome has considerable costs for their friend and perhaps their friendship. In addition to being influenced by context, might motivation for pursuing accuracy or directional goals differ *across* individuals? In this dissertation, I investigate the extent to which individuals are dispositionally motivated by accuracy or directional goals, and whether this impacts their social and political judgment and behavior.

Kunda's motivated reasoning framework is a useful one for understanding this conflict of interest, but whether a judgment is 'accurate' in terms of logical justification is not the interest of this dissertation. The interest, rather, is in whether people are dispositionally motivated to set aside self-interest in decision-making. That is, I am concerned with the distinction between *objective* and *subjective* reasoning. For this purpose, objective reasoning is when individuals would make the same decision whether or not they had any self-interest in the outcome. Subjective reasoning is when the presence of self-interest changes the decision from what it would have been had self-interest been absent. 'Self interest' in this context includes one's interests extending to close others such as friends or family, or one's social groups.

The Value of Subjectivity Motivations

Human decision-making and behavior is plagued by reasoning and judgment biases. A common cognitive shortcut is the hindsight bias, also known as the 'I knew it all along' effect. This occurs when learning the outcome of an event leads to overconfidence in the pre-event prediction of the outcome (Fischhoff & Beyth, 1975; Guilbalt, Bryant, Brockway, & Posavac, 2004). Social judgments are biased by stereotypes and prejudices associated with social group memberships (Allport, 1954; Bodenhausen, Kang, & Perry, 2012) and self-enhancement biases paint the self in an overly positive light (Bradley, 1978; Leary, 2007). Further, ostensibly reason-based political judgments are partly influenced by party membership (Campbell, Converse, Miller, & Stokes, 1960; Cohen, 2003) and seemingly uninformative cues such as politicians' facial features (Ballew & Todorov, 2007).

Biases operate relatively automatically and unconsciously, and people are often influenced by biases outside of conscious awareness or control (Fazio, 1990; Greenwald & Banaji, 1995; Wilson, Lindsey, & Schooler, 2000). While biases may not be accurate all of the time, they are often efficient – they save time and precious cognitive resources. In fact, the unconscious has even been described as 'intelligent' (Gigerenzer, 2007) and 'adaptive' (Wilson, 2002) because it simplifies an otherwise endlessly complicated world of sensory input. Additionally, biased processing can be in service of subjective goals – to make decisions favorable for the self or one's group, or just to make decisions quickly and simply.

As implied above, subjective goals can be self-interested, ethnocentric, and lazy. However, subjective goals are not universally negative. For example, loyalty to friends and family is an important value for many people (Brewer, 1991; Haidt & Graham, 2007) and is widely endorsed as an acceptable, and even desirable, practice. However, favoring one's own family indicates, by definition, the application of self or group-interest in decision-making and thus a lack of objectivity. Therefore, the normative value of subjective goals and of pursuing subjective goals may vary across individuals. Some people may pursue biased goals that benefit themselves or their friends or family because they think it is acceptable to do so.

The Value of Objectivity Motivations

Subjective goals are valued and influence judgment, but objective goals are valued, as well. Evidence on self-perceptions of bias suggests that people care a lot about objectivity. People think of themselves as unbiased and report that their own decision-making and behavior is unbiased – even though they recognize that *other people* are generally biased (Pronin, Lin, & Ross, 2002; Pronin & Kugler, 2007). Further, Uhlmann and Cohen (2007) primed objectivity by requiring participants to rate how objective their decision-making is. This served as an effective objectivity prime because most participants (88%) agreed that their decision-making is objective. Thus, people think of themselves as objective and value this self-image.

Though objectivity is valued, it can be difficult to pursue because subjective goals can influence decision-making outside of conscious awareness or control. Still, objective goals can be experimentally activated in a given *situation* and can influence processing

and decision-making. For example, Chen, Shechter, and Chaiken (1996) activated objective goals with a priming procedure that required students to write about being a reporter seeking facts, a role that emphasizes objectivity. Similarly, response involvement, which is the belief one will have to discuss the decision topic again in the future (Chaiken, 1980), and outcome dependence, where one's own personal fate relies on an objective response (Neuberg & Fiske, 1987), activate objective goals and systematic processing.

Situational cues for objectivity, such as outcome dependence and response involvement, fall under the general umbrella of accountability. Accountable decision makers pursue accurate and objective decisions when they think that their decisions will be known to others who care about objectivity (Lerner & Tetlock, 1999). For example, when participants were expecting to have to justify their decisions to an experimenter at the end of a study, they reviewed more relevant information before making a decision, and this accountability manipulation attenuated common impression formation biases, such as stereotyping (Webster, Richter, & Kruglanski, 1996).

Dispositional Motivation for Objectivity Versus Subjectivity

Many *situational* factors influence whether people will pursue objectivity in their judgments, but do individuals differ *dispositionally* in their pursuit of objectivity? Researchers interested in prejudice reduction have indirectly examined this question by developing measures of dispositional motivation to avoid prejudice (Dunton & Fazio, 1997; Glaser & Knowles, 2008; Legault, Green-Demers, Grant, & Chung, 2007; Moskowitz, Gollwitzer, Wasel, & Schaal, 1999; Plant & Devine, 1998). These measures

gauge individuals' motivation to reduce bias toward social groups, and specifically toward African Americans. Notably, the individual difference measure of Motivation to Respond without Prejudice (Plant & Devine, 1998) has been adapted to domains such as gender (Klonis, Plant, & Devine, 2005) and sexual orientation (Ratcliff, Lassiter, Markman, & Snyder, 2006), but the construct is still restricted to measuring motivations to avoid prejudice toward social groups. There are any number of subjective goals that may reduce objectivity in judgment other than social group biases (e.g., self interest, cognitive heuristics). Regardless of its domain-specificity, the large literature on these measures and their demonstrated predictive validity for prejudice reduction (e.g., Butz & Plant, 2009; Legault, Green-Demers, & Eadie, 2009; Park, Glaser, & Knowles, 2008) provides support for the innovation of a dispositional measure of general motivation for objectivity versus subjectivity.

Previous literature has also enumerated the conditions under which biases, such as prejudice, will influence behavior. The MODE (*M*otivation and *O*pportunity as *DE*terminants) model, for example, explains that attitudes are automatically activated upon encountering an object. In turn, these automatically activated attitudes influence behavior unless individuals have the (a) *motivation* to override the influence of the attitude on their behavior, and (b) *opportunity* to do so (Fazio, 1990). The MODE model was created to explain the attitude-behavior relationship, but if applied broadly to any bias that might influence judgment or behavior, it has important implications for the current research. The MODE model implies that the presence of a motivation for objectivity may lead to more objective judgments only when individuals have sufficient

opportunity to override subjective influences on their judgment and behavior. This dissertation will focus on the motivation piece of overcoming bias, holding opportunity constant across participants. The dependent measures were selected because they are ones that allow for sufficient opportunity to override bias if desired, though different dependent measures naturally vary in the extent to which opportunity is present. The relative role of opportunity in objective decision-making, as well as a possible interplay between opportunity and motivation, will be revisited in the General Discussion.

Existing Theory and Measurement of Dispositional Objectivity and Subjectivity

Existing theory supports the claim that motivation for objectivity and subjectivity may operate dispositionally. Two measures have been used to assess these motivations: need for cognitive closure and need for cognition. However, both of these measures are imperfect in their theoretical relevance for objective and subjective motives.

Need for cognitive closure describes a dispositional orientation toward making quick, certain judgments (de Dreu, Koole, & Oldersma, 1999; Webster & Kruglanski, 1994). Decision-makers with high need for cognitive closure generate hypotheses and accept the first one that provides a (remotely) acceptable conclusion and then close the book on their decision. The Need for Cognitive Closure Scale (Webster & Kruglanski, 1994) contains items such as ‘I don't like situations that are uncertain’ and ‘I dislike questions which could be answered in many different ways.’ Because need for cognitive closure encourages quick decision-making, and quick decisions are often influenced by biases, need for cognitive closure is related to more biased and subjective decision-making (Webster & Kruglanski, 1994; Dijksterhuis, Knippenberg, Kruglanski, &

Schaper, 1996). However, need for cognitive closure is a motivation for a reasoning *process*, not a decision *outcome*. Need for cognitive closure is agnostic to the content of the reasoning conclusion. In fact, Kruglanski (1999) refers to need for cognitive closure as a nondirectional motive for this reason.

Need for cognition describes the motivation to engage in thoughtful pursuits (Cacioppo & Petty, 1982). The Need for Cognition Scale (Cacioppo, Petty, & Kao, 1984) essentially measures how much individuals like to think with items such as 'I really enjoy a task that involves coming up with new solutions to problems' and 'Thinking is not my idea of fun' (reverse-scored). Need for cognition (Cacioppo & Petty, 1982) theoretically measures a dispositional accuracy motivation (Thompson, Roman, Moskowitz, Chaiken, & Bargh, 1994). Need for cognition predicts objectivity in decision-making in paradigms where more thought leads to more objective responses – for example, individuals with high levels of need for cognition process persuasive messages more deeply and are less influenced by heuristic cues in the message, such as flashy endorsements (Haugtvedt, Petty & Cacioppo, 1992). Because need for cognition involves additional thought in information processing and decision-making, it may be associated with a higher likelihood of reaching an objective conclusion because it allows the opportunity to override potentially biasing initial subjective goals. However, similar to need for cognitive closure, need for cognition is a motivation for a reasoning *process* and is agnostic to the decision *outcome*.

Need for cognition may be associated with increased objectivity when objective decisions require effortful thought and systematic processing. However, there are some

decisions for which objectivity does not require more thought. For example, recall the judgment scenario from the beginning of this manuscript. The policy in place dictates firing the lowest performing employee, and this is a fair and effective policy that people agree is an objective decision. In this case, a person applying the policy would need to pursue less reasoning to justify their decision than someone who develops rationalizations to skirt the policy in order to help a friend. More thinking in this scenario would be *negatively* associated with objectivity.

In conclusion, even if need for cognition and need for cognitive closure are correlates of objectivity and subjectivity motivations, they are, at best, indirect indicators of these constructs. It would be useful to directly assess objective and subjective motives rather than inferring them from the reasoning process. This is a key difference between existing theory and measurement of objectivity and subjectivity and the measure developed in this dissertation – the Motivation for Objectivity versus Subjectivity Scale (MOSS). In addition, the MOSS forces motivational trade-offs in decision-making between objective and subjective goals.

The Current Research: Objective and Subjective Outcomes as Trade-Offs

The MOSS measures self-reported motivation for pursuing objective outcomes versus subjective outcomes. Since both subjective goals and objective goals are valued, pursuing them when they are presented independently is an obvious and simple choice. If given the choice to help a friend or not, and there is no cost for objectivity, then help the friend. If given the choice to be objective or not, and there is no cost for the self or close others, then do the objective thing. However, in many decision-making situations,

objective and subjective benefits are in conflict, forcing the decision-maker to make trade-offs between them. In order to pursue objectivity, one must sometimes forego a subjective goal (e.g., helping out a friend), or one could decide to help a friend but forego the objectivity of the decision. In this dissertation, I sought to develop and validate the MOSS as an indicator of people's dispositional inclinations for dealing with this tradeoff.

In seven studies, I report validation of the MOSS, investigation of its predictive validity, and theoretical implications of the construct. Using three different samples (undergraduates, Project Implicit volunteers, Amazon Mechanical Turk workers), I tested internal, construct, and predictive validity, as well as test-retest reliability and how social desirability influences responses. In Study 1, a bank of 50 initial items was developed and reduced to a 21-item reliable scale measuring a single latent factor of motivation for objective versus subjective outcomes. Evidence was provided for convergent and discriminant validity, as well as predictive validity with a series of concrete judgment scenarios that forced a single choice between objective and subjective outcomes. In Study 2, predictive validity was established with a political judgment paradigm concerning welfare policy positions. This was extended in Study 3 to political judgment in a new policy domain (education), but predictive validity of the MOSS was not supported in this domain. In Study 4, I tested convergent and discriminant validity and investigated the role of social desirability in MOSS responses. In Study 5, I tested the stability of the MOSS over time and demonstrated predictive validity for self-enhancement cognitive biases and social behavior. In Study 6, predictive validity evidence was provided for intergroup bias in the minimal group paradigm. Finally, in Study 7, the MOSS was

validated with an additional heterogeneous sample of adults (MTurk) and fact-checking was investigated as one potential mechanism for the relationship between MOSS and reduced bias in judgment.

Study 1 – Scale Development

The purpose of Study 1 was to create the MOSS scale and to test its convergent, discriminant, and predictive validity. The MOSS was scored such that higher scores represent motivation for objectivity relative to motivation for subjectivity. Sometimes the additional thought associated with NFC can lead to objective responses, so I predicted a small to moderate positive correlation between NFC and MOSS. Close-mindedness (CM) is a sub-scale of the NFCC scale, and is related to subjective conclusions, so I expected a small to moderate negative correlation between CM and MOSS.

Motivation to Respond without Prejudice is separated into two relatively independent factors. Internal Motivation to Respond without Prejudice (IMS) measures motivations to overcome prejudice because of a strong personal commitment to egalitarianism. Sample IMS items include "I attempt to act in nonprejudiced ways because it is personally important to me" and "Being nonprejudiced is important to my self-concept". External Motivation to Respond without Prejudice (EMS) gauges the motivation to avoid *appearing* prejudiced to others, because egalitarianism is a generally accepted social norm (Plant & Devine, 1998). Both IMS and EMS were included in the study, though I only expected IMS to correlate positively with the MOSS because, theoretically, MOSS measures an internal motivation to avoid bias (or pursue it), rather than concerns about *appearing* biased to others.

Social Desirability (SD) represents the motivation to present oneself in a positive light to others, regardless of whether this self-representation is accurate (Paulhus, 1991). Sample SD items include "I always know why I do things" and "I worry about what people think of me". A positive correlation between SD and the MOSS would imply that MOSS responses were influenced by extraneous factors other than motivations for objectivity versus subjectivity. I created MOSS items that presented both subjective goals and objective goals positively in attempt to minimize this possibility, and I therefore predicted little to no correlation between MOSS and SD. Finally, predictive validity would be demonstrated by a positive relationship between the MOSS and objective judgments in scenarios with forced objective/subjective tradeoffs.

Study 1 Method

Participants

One hundred forty-one undergraduates (57% female; M_{age} = 19.3, SD_{age} = 1.2) from the University of Virginia consented and completed the study online in exchange for partial course credit. Participants' race was 57% White, 26% Asian, 7% Black, 3% multi-racial, 1% American Indian/Alaskan Native, and 5% other or unknown. Participants' ethnicity was 6% Hispanic, 90% non-Hispanic, and 4% unknown. Participants were mostly first-year students (57%), with some second-year (25%), third-year (12%), and fourth-year (7%) students.[1]

Materials

Motivation for objectivity versus subjectivity scale (MOSS). The initial item set for developing the MOSS was 50 items (see Table 1 for full item set and response

[1]Throughout the manuscript, percentages do not always add up to 100% due to rounding.

scales). The items assessed desires for objective or subjective outcomes in three domains where an objective decision can be at odds with a subjective conclusion – self-interest, close other interest (friends, family, social group), and changing beliefs in the face of evidence. The initial item set included agreement statements using a 1 *Strongly disagree* to 7 *Strongly agree* response scale (items 1-37), holistic face valid items (items 38-40) with tailored response scales, concrete items (items 41-48) measuring objectivity and subjectivity motivation in specific contexts (e.g., workplace, legal system), and role items that described an objective role and a subjective role (referees vs. fans; judges vs. lawyers) and required participants to select the role that better characterized their decision-making (items 49 and 50). Items were presented in random order and were preceded by instructions to provide some context to the meaning of accurate outcomes. Because I was interested in motivation for decision-making and not the quality of decision-making, I allowed participants to define an 'accurate decision' for themselves:

> Sometimes people are confronted with choices between the decision that they want to make versus a decision that is more accurate. For example, people may believe something strongly but learn evidence suggesting that their belief is incorrect. Or, people may have a choice between a decision that helps themselves or a friend versus one that is more accurate but helps a stranger instead. For the questions that follow, consider what you do in these situations - favor the approach, decisions, and outcomes that you desire, or the ones that will lead to the most accurate solution?

Construct validity measures. Four scales were assessed to validate the MOSS: the 10-item Motivation to Respond without Prejudice Scale (IMS and EMS; Plant & Devine, 1998), the 18-item Need for Cognition scale (NFC; Cacioppo, et al., 1984), the 10-item Social Desirability scale (SD; Paulhus, 1991), and the 8-item Close-Mindedness (CM) subscale of the Need for Cognitive Closure scale (NFCC; Webster & Kruglanski, 1994). The original Motivation to Respond without Prejudice scale is concerned with prejudice toward African Americans, but I generalized it to reflect prejudice toward social groups. All questionnaires used a 1 *Strongly disagree* to 7 *Strongly agree* response scale.

Predictive validity measures. Judgment scenarios were constructed to pit objective goals against subjective goals in concrete scenarios (see Table 2 for full scenarios and response scales). Two of the scenarios (items 8-11 and items 12-15) were repeated with increased costs for objectivity and increased benefits of subjectivity to assess the boundary conditions of each scenario. For example, one might fire his brother-in-law if it is the most objective decision, but would he fire his sister, or himself?

Procedure

Participants signed up for the study without knowledge of its content through the Psychology Department Participant Pool website and were provided a link that directed them to an entirely computer-administered study. They were told that the study would require them to complete several questionnaires, and that they should try to minimize distractions for the 30 minutes it would take to complete the study.

The block of 50 potential MOSS items (randomized) and block of 15 judgments scenarios (order partially randomized) were presented in a randomized order. Demographics were randomized before or after the questionnaire and judgment blocks. Then, participants completed three questions about environmental concerns for an unrelated pilot study, answered two open-ended prompts gauging their knowledge of the purpose of the study and difficulty of the study, and then were thanked and debriefed.

Study 1 Results

Data reduction and internal validity of the MOSS. Descriptive statistics for MOSS items are listed in Table 1 and descriptive statistics for judgment scenarios are listed in Table 2. The MOSS items displayed a range of means (3.20 to 5.52 for 7-point scales and 2.24 to 3.68 for 5-point scales) and variability (0.93 to 1.57 for 7-point scales and 0.86 to 1.28 for 5-point scales), suggesting that the MOSS items elicit variation between individuals in their motivation to pursue objectivity versus subjectivity. MOSS scores were reversed where appropriate, standardized, and all 50 items were entered into an exploratory factor analysis with oblique rotation. Eight factors revealed eigenvalues greater than one. Examination of these factor loadings revealed a common factor (eigenvalue = 10.76, variance accounted for = 36%) that most items loaded on positively, but the remaining factors had sporadic and small item loadings that cross-loaded on several factors. Compared to the first factor, factors 2-8 also had considerably smaller eigenvalues (1.07-3.27) and accounted for a smaller proportion of the variance (4-11%). A qualitative assessment of these additional factors suggested that they were not

theoretically coherent. This evidence suggests that the MOSS items can be interpreted as assessing a single latent factor.

To reduce the item set and establish a reliable composite score, I removed items using several criteria: low variability, restricted range, unusually high or low means, repetition with similarly performing variables, low factor loadings, and low correlation with total score (see Table 1 for details on each item). Based on these criteria, I selected 21 items that demonstrated good internal consistency, $\alpha = .87$. Next, I re-ran the factor analysis with this subset of 21 items. The factor structure was similar to the full item set – the first factor accounted for a considerable amount of the variance (60%, eigenvalue = 5.43) and while factors two (eigenvalue = 1.28; 14% variance accounted for) and three (eigenvalue = 1.04; 12% variance accounted for) had eigenvalues greater than one, they accounted for a relatively small portion of the variance and did not demonstrate theoretically coherent factor patterns. In Table 1, factor loadings for these 21 items are listed for both factor analyses. For all remaining analyses in Study 1 (unless otherwise stated), I used this subset of 21 standardized items as the MOSS.

Convergent and discriminant validity. Composite scores were created for each scale such that higher scores represent stronger endorsement of that construct: Need for Cognition (NFC; $M = 4.53$, $SD = 0.84$), Internal Motivation to Respond without Prejudice (IMS; $M = 5.14$, $SD = 1.25$), Social Desirability (SD; $M = 4.36$, $SD = 0.93$), and Close-Mindedness (CM; $M = 3.29$, $SD = 0.84$). The MOSS was positively and moderately correlated with NFC ($r(137) = .37$, $p < .0001$) and IMS ($r(138) = .30$, $p < .001$) and negatively and moderately correlated with CM, $r(137) = -.28$, $p = .001$. As expected, the

MOSS did not significantly correlate with SD, $r(138) = .06$, $p = .508$. Table 3 contains correlations between all measured constructs. This table (and several others in later studies) includes three other versions of the MOSS (MOSS-TEN, MOSS-ROLE, and MOSS-HOLISTIC) that will be discussed in the aggregate analysis section after the main studies are reported.

Predictive validity. The judgment scenarios were averaged to create a composite judgment score ($M = 2.28$, $SD = 0.54$) – higher scores represent endorsing accurate or objective outcomes over directional or subjective outcomes. MOSS was significantly correlated with the judgment composite score ($r(136) = .50$, $p < .0001$) and all 15 judgment scenarios in the same direction ($.09 < r\text{s} < .50$, see Table 2 for correlations between MOSS and each judgment scenario). The composite judgment score was also positively correlated with NFC ($r(136) = .22$, $p = .002$) and nonsignificantly negatively correlated with CM, $r(136) = -.09$, $p = .278$. Note that these constructs reveal far weaker associations with judgment than the MOSS. To examine this claim further, I conducted a multiple regression analysis with MOSS, NFC, and CM predicting the judgment composite. For all regression analyses in this manuscript, unstandardized regression coefficients are reported alongside 95% confidence intervals (*CI*'s) and relevant inferential statistics for each coefficient. The MOSS predicted the judgment composite score ($b = 0.51$, $CI = 0.34, 0.68$, $t(132) = 5.99$, $p < .0001$) with NFC ($b = 0.05$, $CI = -0.06, 0.16$, $t(132) = 0.85$, $p = .399$) and CM ($b = 0.90$, $CI = -0.06, 0.16$, $t(132) = 0.90$, $p = .370$) in the model, demonstrating both unique predictive validity of the MOSS and no independent predictive validity of NFC and CM.

Study 2 – Predicting Welfare Policy Preference

The findings from Study 1 suggested that a single latent factor MOSS construct could be measured with 21 items. The MOSS demonstrated good reliability and established convergent, discriminant, and predictive validity with conceptually related scales and judgment scenarios. The purpose of Study 2 was to test predictive validity of the MOSS in the political domain. To this end, I measured partisan bias in political judgment using the 'party over policy' procedure (Cohen, 2003). Previous research with this procedure has demonstrated that partisans prefer a policy more when it is proposed by their own political party than when the same policy is proposed by another political party. I expected that the MOSS would moderate the size of this partisan bias because motivation for objectivity should lead to more reliance on policy details and less reliance on political party heuristics.

Smith, Ratliff, and Nosek (2012) observed that *implicit* preferences toward the policies formed rapidly, and these new implicit preferences mediated the effect of the party bias on *explicit* policy preferences. Therefore, both explicit and implicit policy preferences were assessed and tested for predictive validity. Known groups validation of the MOSS was also tested with political party affiliation. Some Independents are motivated to be nonpartisan in their political judgments (Hawkins & Nosek, 2012), and therefore I predicted that they would demonstrate higher MOSS scores than partisans.

Study 2 Method

Participants

Seven hundred sixty-eight United States citizen volunteers (61% female; M_{age} = 31.9, SD_{age} = 12.6) completed the study through the Project Implicit virtual laboratory (https://implicit.harvard.edu).[2] The racial background of the sample was 77% White, 7% Black, 4% Asian, 8% multi-racial, and 4% other or unknown. Participant ethnicity was 10% Hispanic, 84% Non-Hispanic, and 6% unknown. Modal education was 'some college' or an associate's degree (46%), 21% had completed 'some graduate school,' a master's degree, or an MBA, 20% had a bachelor's degree, 4% were high school graduates, 4% 'some high school', 3% had a JD, MD, or some other advanced degree, and 1% had a PhD.

Materials

MOSS. The 21-item MOSS established in Study 1, the three holistic items (38-40), and the two role items (49 & 50) were administered to test whether the item set could be further reduced to one of these blocks of questions. Two items from Study 1 (44 and 46) were revised so that all items in the 21-item MOSS utilized the same response scale (1 *Strongly Disagree* to 7 *Strongly Agree*). Questions were randomly presented within each block (21-item, holistic, role), and blocks of questions were randomized following the same MOSS instructions presented in Study 1.

Newspaper article. Participants were presented with a fabricated news article and instructed that it was 'like one they would read in the newspaper.' The article contained

[2] Participants who completed the entire study (to debriefing) were not significantly different from people who consented but did not complete the study on gender, $\chi^2(1, N = 1351) = 0.24$, $p = .628$ or education, $t_{satterwthaite}(995.66) = 0.54$, $p = .588$, $d = 0.03$. Completers (M_{age} = 32.0) were slightly older than noncompleters (M_{age} = 30.2), $t(1348) = -2.49$, $p = .013$, $d = 0.14$. Numbers in the Participants section reflect the participants who completed both dependent variables (implicit and explicit plan preference). Degrees of freedom vary based on missing values in predictor variables.

detailed proposals for a very generous welfare policy (*Umbrella Aid Plan*) and a very stringent welfare policy (*Comprehensive Assistance Plan*; see Appendix A for full article). Democrats proposed one policy and Republicans proposed the other policy, and this pairing was manipulated between participants (i.e., the party name and designation for the politicians were switched).

Policy preference. Policy preference served as the dependent measure and was measured implicitly and explicitly. Explicit policy preference was measured with a single preference item (Which of the two welfare plans that you read about do you prefer?) using the scale 1 *I strongly prefer the Comprehensive Assistance Plan to the Umbrella Aid Plan* to 7 *I strongly prefer the Umbrella Aid Plan to the Comprehensive Assistance Plan*.

Implicit policy preference was measured with an Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998; Nosek, Greenwald, & Banaji, 2007). The IAT included the category labels *Umbrella Aid* (stimuli: Umbrella Aid, Umbrella Aid Plan, Full Medicaid coverage, $976/month) and *Comprehensive Assistance* (stimuli: Comprehensive Assistance, Comprehensive Assistance Plan, Partial Medicaid coverage, $300/month) and evaluative labels *Good* (stimuli: glorious, joy, peace, pleasure, happy, love, wonderful, laughter) and *Bad* (stimuli: horrible, evil, awful, agony, terrible, failure, nasty, hurt). In an initial practice block (20 trials), the two concept categories (*Umbrella Aid* and *Comprehensive Assistance*) were located on the top left and right side of the screen, and stimuli appeared one-at-a-time in the center of the screen. Participants pressed the ‘e’ key if the stimulus belonged to the category on the left, and the ‘i’ key if

the stimulus belonged to the category on the right. A second practice block used the same procedure with the evaluative categories *Good* and *Bad*. In the first two critical blocks (20 trials; 40 trials), one concept category and one evaluative category appeared on each side of the screen, and participants categorized stimuli from all 4 categories simultaneously. For example, *Umbrella Aid* and *Good* were categorized to the left and *Comprehensive Assistance* and *Bad* were categorized to the right. Then, a practice block (40 trials) reversed the location of the concept categories, and two more critical blocks (20 trials; 40 trials) again combined the concept and evaluative categories, but this time in the reverse order as the first two critical blocks (e.g., *Comprehensive Assistance* with *Good* and *Umbrella Aid* with *Bad*).

Response latencies were recorded and analyzed using the *D* scoring algorithm (Greenwald, Nosek, & Banaji, 2003). Response latencies faster than 400 milliseconds were excluded from analyses. Error trials required correction before proceeding to the next trial, so error trials were included and the latency for selecting the correct response was used in analyses. Positive scores represent implicit preference for *Umbrella Aid* relative to *Comprehensive Assistance*, and reflect faster response times when *Umbrella Aid* was paired with *Good* than when *Comprehensive Assistance* was paired with *Good*.

Manipulation checks and follow-up questions. Manipulation checks required participants to report which party proposed the Umbrella Aid Plan (*Democrats* or *Republicans*) and which plan was more generous (*Umbrella Aid Plan* or *Comprehensive Assistance Plan*). Follow-up questions assessed the extent to which participants' policy preference was influenced by the following factors (1 *Did not contribute at all* to 5

Contributed a great deal): the details of the policies, their own personal philosophy about the role of government in social issues, and the political party affiliated with the welfare proposals.

Politics questionnaire. A politics questionnaire assessed participants' political interest (1 *Not at all interested in politics* to 5 *Extremely interested in politics*), political ideology (-3 *Strongly conservative* to 3 *Strongly liberal*) separately for social issues (e.g., abortion, gay marriage) and economic issues (e.g., free market policies, taxation), and political party membership (*Democrat*, *Republican*, *Independent – I do not identify with either party*, *Libertarian*, *Green*, *Other*, *Don't know*). Participants who selected *Democrat* or *Republican* were asked a follow-up question about the strength of their party membership (e.g., *Strong Democrat*, *Not very strong Democrat*). Those who selected *Independent* were asked a follow-up leaning party membership question (If you had to choose between Democrats and Republicans, how would you identify your political affiliation?) and responded on a scale from 1 *Strongly Republican* to 7 *Strongly Democrat* with 4 representing *Independent – I don't identify with either party*.

Procedure

Participants discover Project Implicit through various sources (e.g., news coverage, psychology courses) and upon arrival to the site, they first complete a short registration process, during which they report their demographic information. Either immediately after registration or upon their return to the site sometime later, participants were randomly assigned to this study among a pool of approximately 3-10 studies. Once assigned, the study was described as the 'decision-making study' and participants were

told that they would complete a questionnaire about their decision-making habits, read a newspaper article and answer some questions about it, and complete a categorization task. Participants were told that at the end of the study, they would learn the purpose of the study and receive feedback on their performance on the categorization task. Participants could only be assigned to this study once, and were not assigned to this study if they had previously completed a study using the news article described above.

The 'party over policy' procedure first presented the news article, followed by the implicit and explicit policy preference measures (randomized), and then the manipulation checks and follow-up questions (fixed order). The MOSS and 'party over policy' procedure were randomized. The politics questionnaire was always presented after the 'party over policy' procedure and the MOSS, and was followed by a debriefing, which thanked participants, provided IAT results, and explained the purpose of the study.

Study 2 Results

MOSS internal validity. As in Study 1, the items for the 21-item MOSS (M = 4.76, SD = 0.80) demonstrated a range of means (2.46-5.76; all 7-point scales) and standard deviations (1.33-1.92). On the whole, means and standard deviations were higher for the Project Implicit sample than among the undergraduates in Study 1, suggesting that this sample or context was associated with stronger motivations for objectivity versus subjectivity. The 21 MOSS items (reversed where appropriate) were standardized and submitted to an exploratory factor analysis with oblique rotation. Two factors revealed eigenvalues greater than one, with the first factor explaining 75% of the variance (eigenvalue = 5.12), and the second factor accounting for 18% of the variance

(eigenvalue = 1.27). Examination of factor loadings revealed consistent and large loadings (.26-.66) on the first factor, but small and inconsistent loadings on the other factor, providing additional support for the single factor structure observed in Study 1. The MOSS also demonstrated good internal consistency, $\alpha = .86$. Means, standard deviations, factor loadings, and correlation with the total score are listed in Table 4.

Predictive validity for political judgment. Plan preference was scored such that positive values represent preference for the generous welfare plan (*Umbrella Aid*) relative to the stringent welfare plan (*Comprehensive Assistance*). To examine whether MOSS moderated party influence on political judgment, I conducted two separate multiple regression analyses on Democrats and Republicans with explicit plan preference (M = 0.31, SD = 2.13) and implicit plan preference (M = 0.20, SD = 0.49) as outcomes, $r(313) = .53$ $p < .0001$. Explicit and implicit plan preference use different scales, so unstandardized regression coefficients should be interpreted according to each variable's distribution. Main effects of the MOSS (mean-centered), the party proposing the generous plan (-*.5* for Republicans, *.5* for Democrats), and participant party affiliation (-*.5* for Republicans, *.5* for Democrats), all 2-way interactions, and the 3-way interaction were entered into each model. The 2-way interaction between participant party affiliation and party proposer reflects the expected party influence effect – partisans prefer the plan proposed by their party than the opposite party, regardless of its content. A 3-way interaction was predicted, reflecting moderation of this effect by MOSS. Regression coefficients for all terms in both models appear in Table 5.

A main effect of participant party affiliation emerged for both explicit (b = 2.14, CI = 1.72, 2.56, t(305) = 10.03, p < .0001) and implicit plan preference, b = 0.35, CI = 0.25, 0.45, t(305) = 6.75, p < .0001. Democrats preferred the generous welfare plan (M_{exp} = 1.16, SD_{exp} = 1.80; M_{imp} = 0.34, SD_{imp} = 0.45) more than Republicans did, M_{exp} = -1.04, SD_{exp} = 1.90; M_{imp} = -0.03, SD_{imp} = 0.48. Two-way interactions between participant party affiliation and party proposer also emerged for both explicit (b = 1.47, CI = 0.63, 2.31, t(305) = 3.44, p < .001) and implicit plan preference, b = 0.49, CI = 0.28, 0.69, t(305) = 4.68, p < 0001. Democrats preferred the generous welfare plan when their own party proposed it (M_{exp} = 1.46, SD_{exp} = 1.64; M_{imp} = 0.44, SD_{imp} = 0.43) more than when Republicans proposed the identical plan, M_{exp} = -1.41, SD_{exp} = 1.54; M_{imp} = -0.16, SD_{imp} = 0.45. Republicans demonstrated the reverse effect and preferred the generous plan (disliked it less) when Republicans proposed it (M_{exp} = -0.69, SD_{exp} = 2.15; M_{imp} = 0.09, SD_{imp} = 0.48) than when Democrats proposed it, M_{exp} = -1.41, SD_{exp} = 1.54; M_{imp} = -0.16, SD_{imp} = 0.45. As predicted, a 3-way interaction emerged between party affiliation, party proposer, and the MOSS for implicit plan preference, b = -0.28, CI = -0.53, -0.02, t(305) = -2.14, p = .033. As shown in Figure 1, partisans who reported stronger motivation for objectivity versus subjectivity were less influenced by the party proposing the policy than partisans who reported weaker objectivity motivation (stronger subjectivity motivation). This 3-way interaction was not statistically significant for explicit plan preference, b = -0.45, CI = -1.49, 0.59, t(305) = -0.86, p = .392.[3]

[3] Participants' report of the extent to which the party affiliated with the policy contributed to their preference was non-normally distributed, so a dichotomous variable was created where *-.5* represented *Did not contribute at all* (n = 124) and *.5* represented *Contributed a little, some, a lot,* and *a great deal* (n = 188). Entering this influence variable into the regression models revealed a 3-way interaction with

Known groups validation. A one-way ANOVA was conducted to determine whether Democrats (n = 231) and Republicans (n = 149) differed from Independents (n = 270) on the MOSS, and they did not, $F(646) = 1.19$, $p = .304$, $\eta_p^2 = .00$. Further, no differences were observed between weakly and strongly identified Democrats (ns = 118 and 112; $t(227) = 0.11$, $p = .915$) or Republicans (ns = 92 and 56; $t(146) = 0.00$, $p = .998$). Finally, no differences on the MOSS were observed between Independents who reported leaning toward the Democratic (n = 85) or Republican parties (n = 59) and Independents who reported no leaning tendencies (n = 126), $F(267) = 0.15$, $p = .863$, $\eta_p^2 = .00$.

Study 2 Discussion

Study 2 demonstrated predictive validity of the MOSS for political judgments. MOSS predicted less reliance on party cues for forming implicit policy preferences toward novel policy plans. However, this effect did not emerge for explicit policy preferences. The test may have been underpowered to detect the 3-way interaction for explicit preference (Type II error), or the finding that MOSS was related to reduced party bias for implicit bias could be a fluke (Type I error). A more theoretically interesting possibility is that the debiasing properties indicated by the MOSS are relatively uncontrollable, predicting automatically-activated associations rather than controlled reporting of preferences. This explanation seems unlikely given that MOSS is a self-

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proposing party and participant party affiliation for explicit ($b = 3.70$, $CI = 1.96, 5.44$, $t(304) = 4.18$, $p < .0001$) and implicit ($b = 0.62$, $CI = 0.18, 1.06$, $t(304) = 2.80$, $p = .001$) plan preference. Participants who reported not being influenced by the proposing party were, in fact, not influenced by the proposing party, as evidenced by a nonsignificant 2-way interaction between proposing party and participant party affiliation for both explicit ($b = -0.76$, $CI = -2.20, 0.69$, $t(120) = -1.03$, $p = .303$) and implicit ($b = 0.15$, $CI = -0.23, 0.53$, $t(120) = 0.77$, $p = .443$) plan preference compared to participants who reported some influence from the proposing party (explicit: $b = 2.95$, $CI = 1.90, 4.00$, $t(184) = 5.53$, $p < .0001$; implicit: $b = 0.77$, $CI = 0.52, 1.03$, $t(184) = 5.99$, $p < .0001$).

reported motivation that individuals are aware of and can report. I further examine how the MOSS may operate and how it reduces bias in the General Discussion.

It is also possible that the selection of stimulus materials interfered with detecting an effect of the MOSS predicting explicit policy preferences. Even though the particular policies proposed in Study 2 were novel (*Umbrella Aid* and *Comprehensive Assistance*), the content of the policies was welfare, a topic that demonstrates strong partisan differences. In fact, the difference in policy preference for stringent versus generous welfare policies between Democrats and Republicans, collapsing across what party proposed the policies, was quite large, $d_{exp} = -1.16$, $p < .0001$; $d_{imp} = -0.78$, $p < .0001$. If participants had strong preconceived beliefs about welfare, then there may have been less opportunity for motivations to avoid partisan influence to affect judgment. Further, the mismatched condition (where Democrats proposed the conservative stringent plan and Republicans proposed the liberal generous plan) may have confused high-MOSS partisans' preferences if they recognized the real-world inaccuracy of this party-ideology pairing. In Study 3, I examined political judgment in a new policy domain that is less partisan than welfare to address this possibility.

Study 3 – Predicting Education Policy Preference

In Study 3, I examined a new policy issue – education for children with disabilities. In previous research (Hawkins & Nosek, 2012), the education policy debate has revealed weaker partisan differences in policy preference than welfare. If the stark partisan difference in the plans is removed, the strong subjective biases to favor one's

own party may be reduced, and policy preferences may therefore be more sensitive to a reduction in bias influence.

Study 3 Method

Participants

Six hundred and six (61% female; M_{age} = 29.8, SD_{age} = 12.7) consenting volunteers completed the study on Project Implicit.[4] In an effort to recruit partisans, only US citizens who self-identified as liberal or conservative on the political ideology item on the Project Implicit registration were eligible to complete the study, and then only participants who self-identified as Democrat or Republican in the study were retained. The race of participants was 85% White, 5% Black, 3% Asian, 5% multi-racial, and 2% other or unknown. The ethnicity of participants was 7% Hispanic, 91% Non-Hispanic, and 2% unknown. Modal education was 'some college' or an associate's degree (37%), 21% had completed 'some graduate school,' a master's degree, or an MBA, 18% had a bachelor's degree, 6% were high school graduates, 10% 'some high school', 4% had a JD, MD, or some other advanced degree, and 3% had a PhD.

Materials and Procedure

The materials and procedure were identical to Study 2 except the two policies were changed to the *Integrated Classrooms Plan*, which proposed that children with disabilities be taught in mainstream classrooms alongside children without disabilities,

[4] Participants who completed the study (to debriefing, n = 1178) were not different from participants who consented but did not complete the study (n = 602) on age ($t(1778) = 0.92$, $p = .357$) or education $t(1778) = 0.92$, $p = .357$), but they differed by gender, $\chi^2(1, N = 1777) = 4.44$, $p = .035$. Completers were significantly more likely to be female (55.2%) than noncompleters (60.5%). Numbers in the Participants section are smaller than the number of completers because they reflect only self-reported Democrats and Republicans who completed both dependent variables – implicit and explicit plan preference.

and the *Special Programs Plan*, which proposed that children with disabilities be taught in separate classrooms with one-on-one instruction (see Appendix B for full article). The party who proposed the policies was again manipulated between participants, and all mention of the *Umbrella Aid Plan* and *Comprehensive Assistance Plan* in Study 2 was changed to the *Integrated Classrooms Plan* and *Special Programs Plan* in Study 3, including the explicit judgment item, the manipulation checks and follow-up questions, as well as the IAT, which now used the labels *Integrated Classrooms* (stimuli: integrated classrooms, mainstream classrooms, inclusive activities) and *Special Programs* (stimuli: special programs, separate classrooms, one-on-one instruction).

Study 3 Results

MOSS internal validity. The 21 MOSS items ($M = 4.84$, $SD = 0.82$; descriptive statistics for each item are listed in Table 6) were reverse-scored where appropriate, standardized, and submitted to factor analysis with oblique rotation. Two factors with eigenvalues greater than one were identified. The first factor accounted for 74% of the variance (eigenvalue = 5.29), and this was considerably higher than the second factor (19%; eigenvalue = 1.33). Examination of factor loadings revealed large and consistently positive loadings on F1 (0.20-0.74), but smaller and inconsistent loadings on F2, again providing support for a single latent factor structure. Consistent with Studies 1 and 2, the MOSS demonstrated good internal consistency, $\alpha = .86$.

Policy preference. The dependent variables were scored such that higher values represented preference for the mainstreaming plan (*Integrated Classrooms Plan*) relative to the *Separate Programs Plan*. On average, mainstreaming was preferred both explicitly

(M = 0.10, SD = 1.99) and implicitly (M = 0.16, SD = 0.42), $r(606) = .41$, $p < .0001$. To examine whether MOSS scores moderated party bias on political judgment, I followed the same analysis strategy as Study 2. Regression coefficients for the full models appear in Table 5. For explicit preference, a main effect of party proposer emerged, b = -0.34, CI = -0.68, -0.01, $t(597) = -2.02$, $p = .044$. On average, participants demonstrated a slight explicit preference for the mainstreaming plan when Democrats proposed it (M = 0.20, SD = 1.93) more than when Republicans proposed it, M = -0.10, SD = 2.09. For implicit preference, a main effect emerged for the MOSS, b = 0.04, CI = 0.00, 0.08, $t(597) = 2.07$, $p = .039$. Participants who reported higher objectivity motivations on the MOSS implicitly preferred the mainstreaming plan, $r(605) = .09$, $p = .022$.[5]

A 2-way interaction between participant party affiliation and party proposer emerged for both explicit plan preference (b = 1.93, CI = 1.26, 2.60, $t(597) = 5.68$, $p <$ .0001) and implicit plan preference, b = 0.49, CI = 0.35, 0.62, $t(597) = 6.97$, $p < .0001$. Democrats preferred the mainstreaming plan more when it was proposed by Democrats (M_{exp} = 0.49, SD_{exp} = 1.91; M_{imp} = 0.30, SD_{imp} = 0.37) than by Republicans (M_{exp} = -0.13, SD_{exp} = 1.90; M_{imp} = 0.05, SD_{imp} = 0.41), and Republicans preferred the mainstreaming plan more when it was proposed by Republicans (M_{exp} = 0.63, SD_{exp} = 2.10; M_{imp} = 0.24, SD_{imp} = 0.40) than by Democrats, M_{exp} = -0.69, SD_{exp} = 1.90; M_{imp} = 0.02, SD_{imp} = 0.42. Contrary to hypotheses, the predicted 3-way interaction between participant party affiliation, party proposer, and the MOSS was not a significant predictor of explicit plan

[5] Dropping the participants who failed the manipulation checks (n = 80) did not change the significance of the 2-way or 3-way interactions, though the main effect of the MOSS on implicit plan preference was no longer significant at conventional levels with these participants removed, $p = .074$.

preference (b = 0.09, CI = -0.70, 0.88, t(597) = 0.22, p = .827) or implicit plan preference, b = 0.04, CI = -0.12, 0.20, t(597) = 0.48, p = .628. [6]

Study 3 Discussion

In Study 3, the MOSS produced good internal validity in a third, independent sample. The main purpose of Study 3, however, was to extend the findings of Study 2 and demonstrate predictive validity of the MOSS for political judgment in another policy domain, and this was not supported. Political party bias in policy judgments was observed for both explicit and implicit policy preference, but this was not moderated by MOSS. One main difference between the welfare policies in Study 2 and the education policies in Study 3 is that the welfare policies are clearly partisan, whereas the education policies are not. I chose this policy domain precisely for this reason, with the reasoning that removing the partisan nature of the plans would make clear that avoiding party influence was the objective response. Speculatively, the exact opposite effect may have occurred. Perhaps the welfare policies in Study 2, being extremely partisan in nature, cued partisans' awareness that they might be influenced by the party affiliated with the policies. This would lead high-MOSS partisans to resist this influence in their preference

[6] A dichotomous variable was created for participants' report of the extent of party influence where *-.5* represented *Did not contribute at all* (n = 228) and *.5* represented *Contributed a little, some, a lot,* and *a great deal* (n = 326). A 3-way interaction between influence, proposing party, and participant party affiliation emerged for explicit (b = 4.59, CI = 3.31, 5.88, t(596) = 7.00, p < .0001) and implicit (b = 0.34, CI = 0.07, 0.62, t(596) = 2.43, p = .015) plan preference. Participants who reported not being influenced by the proposing party revealed smaller 2-way interactions between proposing party and participant party affiliation for both explicit (b = -0.88, CI = -2.04, 0.27, t(224) = -1.50, p = .134) and implicit (b = 0.25, CI = 0.02, 0.48, t(224) = 2.17, p = .031) plan preference than participants who reported some influence from the proposing party (explicit: b = 3.71, CI = 2.99, 4.43, t(372) = 10.11, p < .0001; implicit: b = 0.60, CI = 0.43, 0.76, t(372) = 7.14, p < .0001). Participants who reported that they were not influenced by the party affiliated with the policy demonstrated higher MOSS scores (M = 5.05, SD = 0.83) than those who reported that they were influenced (M = 4.71, SD = 0.79; t(601) = 4.94, p < .0001, d = 0.40), but no 4-way interaction between influence, MOSS, proposing party, and participant party affiliation emerged for explicit (p = .502) or implicit (p = .718) plan preference.

for the plans, but no correction from low-MOSS partisans. This explanation requires some awareness of possible bias from the proposing party on the part of high-MOSS partisans, and their ability to somehow correct for it in their implicit preferences. Future research can investigate this explanation and explore how this correction process might work.

Another possible explanation is that the non-partisan nature of the education plans in Study 3 did not provide a clear response of objective preference. That is, because neither education plan was clearly conservative or liberal, and therefore did not clearly align with the ideology of either the Democratic or Republican parties, high-MOSS partisans were unable to clearly identify an objective preference. If this were true, then people – even those motivated for objectivity – might reasonably use the next best information available, the party proposing the plan. For low-MOSS partisans, the motivation to prefer the policy proposed by their party would be subjective, but for high-MOSS partisans, they might view this own-party preference as the objectively best response available to them. This explanation would suggest that in order for objectivity-motivated individuals to make objective responses, the objective response needs to be available and clearly distinct from possible sources of subjective influence. This explanation is more coherent with the theoretical development of MOSS, but more research will be necessary to distinguish between these two possible explanations. In any case, the results from the first three studies provide mixed support for the predictive validity of the MOSS.

Study 4 – Sensitivity to Social Desirability

If being objective and unbiased is a valued characteristic, then individuals might endorse objectivity over subjectivity because they are motivated *to appear* objective, rather than motivated *to be* objective. Study 4 examined the role of self-presentation in MOSS responses by manipulating the instruction set for the MOSS scale to elicit socially desirable responses (*should feelings* condition) or true responses (*real feelings* condition), and compared these conditions to a control condition with standard MOSS instructions. Study 1 provided preliminary evidence that social desirability does not significantly correlate with MOSS, but this instructional manipulation tested it more directly. At least three possible outcomes could emerge:

1. If objectivity motivation is not viewed as a socially desirable response, then the *should feelings* and *real feelings* conditions should both elicit similar responses to the *control* condition.
2. If objectivity motivation is a socially desirable response but does not influence MOSS under normal reporting conditions, then the *should feelings* instructions should elicit higher MOSS scores than the *control* and *true feelings* instructions (which would not differ from each other).
3. If objectivity motivation is socially desirable and influences MOSS responses under normal instructions, then both the *should feelings* and the *control* condition should reveal higher MOSS scores than the *true feelings* condition.

In the political domain, political knowledge can operate similarly to objectivity motivation – more knowledgeable citizens may rely less on party cues than less

knowledgeable citizens (Jessee, 2000). If MOSS and political knowledge are highly correlated, it would suggest that political knowledge, and perhaps not MOSS, is driving the reduction in biased political judgments observed in Study 2. A strong correlation between MOSS and political knowledge would necessitate a follow-up study directly testing the predictive utility of political knowledge and MOSS for political biases, but a small or moderate correlation would not. I predicted a positive, but nonredundant, correlation between MOSS and political knowledge.

Motivation for objectivity versus subjectivity may be related to ability or performance – people who are motivated more by objectivity than subjectivity may also produce objective responses more frequently. Indeed, Studies 1 and 2 support this claim on average. However, the *motivation* to be objective and the *ability* to be objective are theoretically distinct. Individuals could care about objectivity, even if their personal capabilities or the circumstances prevent them from arriving at an objective conclusion. To this end, I predicted that academic performance measures (proxy for intelligence or intellect) would positively, but not strongly, correlate with MOSS.

Study 4 also included an implicit measure of motivation for objectivity versus subjectivity. The MOSS is an explicit measure that requires individuals to introspect and report on their motivations. Implicit measures, however, capture associations that individuals may not be willing, or able, to report (Greenwald & Banaji, 1995; Nosek, Hawkins, & Frazier, 2011). Further, implicit measures can add predictive validity to explicit measures for judgment and behavioral outcomes (Greenwald, Poehlman, Uhlmann, & Banaji, 2009), especially for behaviors that are relatively spontaneous

(McConnell & Leibold, 2001) and when explicit preferences are unreported or unreportable (Hawkins & Nosek, 2012; Nock et al., 2010). If variation is detected on an implicit measure of motivation for objectivity versus subjectivity, this may provide a complimentary measure to MOSS for predicting behavior and might provide additional convergent validity and measurement flexibility for motivation for objectivity versus subjectivity.

Study 4 Method

Participants

Six hundred seventy consenting volunteers (67% female; M_{age} = 31.2, SD_{age} = 14.2) completed the study online at Project Implicit.[7] The sample was restricted to U.S. citizens only, since the political knowledge items were specific to the U.S. political context. The racial background of the sample was 78% White, 9% Black, 4% Asian, 6% multi-racial, and 3% other or unknown. The ethnic background of the sample was 84% White non-Hispanic, 9% Hispanic, and 7% unknown. Participants' modal education was 'some college' or an associate's degree (49%), 19% had 'some graduate school', a master's degree, or MBA, 15% had a bachelor's degree, 5% had 'some high school,' 5% were high school graduates, 3% had a JD, MD, or some other advanced degree, 3% had a PhD, and 0.3% (2 participants) reported having a junior high school education.

Materials

[7] Participants who completed the study to debriefing (n = 390) were not different from participants who consented but did not complete the study (n = 280) on age ($t(668) = -1.92$, $p = .055$), education ($t(662) = -1.74$, $p = .082$), or gender, $\chi^2(1, N = 666) = 0.10$, $p = .750$.

Political knowledge. Political knowledge was measured with 11 factual questions (randomly presented) about the current American political system (adapted and updated from Delli Carpini, & Keeter, 1993; see Appendix C for political knowledge questions). 'Don't know' responses were coded as incorrect and proportion of correct responses served as the political knowledge score.

Standardized test scores. Self-reported ACT scores were reported on a scale from 1 to 36 in 1-point increments. The SAT scoring system changed in 2005 from a 1600-point scale to a 2400-point scale, so participants were informed of this and given the option to report their score on one (or potentially both) of these scales in 50-point increments. All three questions included the response options 'did not take this test,' 'prefer not to say,' and 'don't remember.'

Social desirability manipulation on MOSS. The standard MOSS instructions were used in the control condition (reported in Study 1). In the *real feelings* condition, the following statements were added to the instruction set and appeared before each MOSS item (items were presented one-at-a-time): 'Please respond to the following questions as you **really feel**, regardless of how you think you **should feel**. No answers are more right or wrong than other answers – we are interested in your **true feelings**.' The *should feelings* condition intended to elicit socially desirable responding if it exists on the scale, so the following statements were added to the instruction set and appeared before each MOSS item: 'Please respond to the following questions as you think you **should feel**, even if it is different from how you **really feel**. Some answers may be more right or wrong than other answers – we are interested in how you think you **should feel**.'

Implicit preference for objectivity versus subjectivity. An IAT measured implicit preference for objectivity versus subjectivity. The procedure, as well as the *Good* and *Bad* category stimuli, was identical to the IAT that measured preferences for the policy proposals in Studies 2 and 3. The concept categories were changed from the policy labels to *Benefits Me* (stimuli: Benefits Me, Benefits Us, Rewards Me, Rewards Us, Promotes Me, Promotes Us) and *Benefits Truth* (stimuli: Benefits Truth, Benefits Accuracy, Rewards Truth, Rewards Accuracy, Promotes Truth, Promotes Accuracy). Data cleaning and analyses followed the same procedure as Studies 2 and 3, and difference scores were computed such that higher scores represented preference for *Benefits Truth* (objectivity motivation) relative to *Benefits Me* (subjectivity motivation).

Procedure

Registration and study assignment procedures on Project Implicit followed Studies 2 and 3. The only difference was that the study was called the 'motivation study' and participants were told that they would complete a couple of questionnaires regarding their motivations for decision-making and behavior, answer some questions about current politics, and complete a categorization task in a random order. Participants were randomly assigned to receive the control instructions, *real feelings* instructions, or *should feelings* instructions for the 21-item MOSS, which was randomized with the political knowledge task and the standardized test scores. The implicit measure was always completed last, followed by debriefing, in which participants were thanked, given information about the purpose of the study and their individual results on the IAT.

Study 4 Results

MOSS internal validity. Table 7 displays descriptive statistics for the MOSS in each instruction condition. Items were reverse-scored where appropriate, standardized, and submitted to an exploratory factor analysis with oblique rotation. In each instruction condition, the factor structure resembled Studies 1-3, with large and interpretable first factors in the normal instruction condition (the control condition; n = 152; eigenvalue = 4.69, variance accounted for = 56%), *real feelings* condition (n = 138; eigenvalue = 4.48, variance accounted for = 57%) and *should feelings* condition (n = 158; eigenvalue = 4.95, variance accounted for = 62%). Subsequent factors were considerably smaller and had less meaningful factor structures than the first factor. The MOSS was internally reliable in the control condition (α = .83), *real feelings* condition (α = .83), and *should feelings* condition, α = .84.

Social desirability of MOSS. To examine whether MOSS responses differed by social desirability instructions, I conducted a one-way ANOVA with instruction condition (control, *real feelings*, *should feelings*) as a predictor of MOSS scores, and this was significant, $F(2, 453) = 4.64$, $p = .010$, $\eta_p^2 = .02$. The *should feelings* condition (M = 4.79, SD = 0.84) revealed higher MOSS scores than the *real feelings* condition (M = 4.55, SD = 0.80; $t(300) = -2.49$, $p = .013$, $d = -0.29$) and the control condition (M = 4.54, SD = 0.79; $t(313) = -2.69$, $p = .008$, $d = -0.31$), which contained the standard MOSS instructions. The *real feelings* condition and control condition did not significantly differ from each other, $t(293) = -0.12$, $p = .904$, $d = -0.01$. Because there were differences in MOSS responses between the conditions, instruction condition will be included in the remainder of the analyses for this study. If a 2-way interaction between MOSS and

condition emerges, then the relationship between MOSS and the dependent variable will be reported and interpreted separately by condition, but if no interaction emerges, then MOSS will be reported collapsing across instruction conditions.

Political knowledge. To test whether MOSS was related to political knowledge, a multiple regression analysis was conducted with political knowledge as the dependent variable and the main effects and 2-way interaction of MOSS and condition as predictors. MOSS exhibited a main effect ($F(1, 442) = 20.03$, $p < .0001$, $\eta_p^2 = .04$), but no main effects emerged for condition ($F(2, 442) = 1.89$, $p = .152$, $\eta_p^2 = .01$) or the interaction between condition and MOSS, $F(2, 442) = 2.00$, $p = .136$, $\eta_p^2 = .01$. Political knowledge ($M = .57$, $SD = .27$) and MOSS ($M = 4.54$, $SD = 0.79$ collapsed across condition) were positively and modestly correlated, $r(448) = .22$, $p < .0001$.[8]

Standardized test scores. To determine whether MOSS was related to standardized test scores (proxy for intelligence), three identical analyses were conducted with ACT score, pre-2005 SAT score, and post-2005 SAT score as dependent variables. No main effects of MOSS ($F(1, 135) = 1.11$, $p = .293$, $\eta_p^2 = .01$), condition ($F(2, 135) = 2.61$, $p = .077$, $\eta_p^2 = .04$), or interaction ($F(2, 135) = 2.97$, $p = .055$, $\eta_p^2 = .04$) emerged for ACT score. Similarly, MOSS did not reveal a main effect for pre-2005 SAT score ($F(1,128) = 2.29$, $p = .133$, $\eta_p^2 = .02$) or post-2005 SAT score ($F(1, 127) = 0.19$, $p = .661$, $\eta_p^2 = .00$), condition did not reveal a main effect for pre-2005 SAT score ($F(2, 128) = 1.07$, $p = .346$, $\eta_p^2 = .02$) or post-2005 SAT score ($F(2, 127) = 0.70$, $p = .498$, $\eta_p^2 = .01$),

[8] Two of the political knowledge items (items 3 and 5) did not include 'don't know' response options, and participants were perhaps more likely to guess on these two items. Since 'don't know' was coded as incorrect, and lacking a 'don't know' response may have increased the number of correct responses on these items simply due to chance, I re-ran these analyses with these two items removed and results were not different.

and the interaction between MOSS and condition was also nonsignificant for both pre-2005 SAT score ($F(2, 128) = 1.14$, $p = .323$, $\eta_p^2 = .02$) and post-2005 SAT score, $F(2, 127) = 0.69$, $p = .501$, $\eta_p^2 = .01$.

Implicit motivation for objectivity. On average, participants demonstrated no implicit preference for objectivity (*Benefits Truth*) relative to subjectivity (*Benefits Me*), $M = 0.03$, $SD = 0.44$. To examine whether implicit motivation for objectivity and explicit motivation for objectivity were related, IAT scores were regressed on condition, MOSS, and their interaction. MOSS predicted IAT scores ($F(1, 352) = 23.38$, $p < .0001$, $\eta_p^2 = .06$), but no main effect of condition ($F(2, 352) = 0.23$, $p = .793$, $\eta_p^2 = .00$), or interaction between condition and MOSS was observed, $F(2, 352) = 0.44$, $p = .645$, $\eta_p^2 = .00$. Implicit and explicit objectivity motivations were significantly correlated, $r(358) = .23$, $p < .0001$.

Study 4 Discussion

Study 4 demonstrated a small-to-moderate relationship between the MOSS and political knowledge, and no relationships between MOSS and standardized test scores (proxy for intelligence), providing support for both convergent and discriminant validity. The instructional manipulation on the MOSS revealed that even though objectivity motivations seem to be the socially desirable response (MOSS scores were higher in the *should feelings* condition), the control condition and *true feelings* condition did not differ, suggesting that people are not responding in a socially desirable manner under normal conditions. However, this interpretation is open to critique because all three instruction conditions may be influenced by socially desirable responding. Future research could test

instructional manipulations asking participants to report how *other people* would respond on the questionnaire and how *other people* really feel. Presumably, this would remove any motivations to present oneself in a positive light, since *other people* are the target. If a common belief exists that objectivity motivations are morally appropriate, but that most people cannot live up to these standards, then a difference between these two conditions would be observed. Further, the convergent validity demonstrated with the positive relationship between MOSS and implicit motivation for objectivity suggests that implicit motivation for objectivity might add predictive validity to MOSS.

Study 5 – Predicting Objective Behavior

Predictive validity of the MOSS was examined with judgment scenarios using objective/subjective tradeoffs in Study 1 and for political judgment in Studies 2 and 3. Across studies, the evidence for predictive validity was mixed. In Study 5, I examined whether MOSS predicted self-enhancement cognitive biases and social behavior and sought to replicate evidence for convergent and discriminant validity with Need for Cognition (NFC) and Need for Cognitive Closure (NFCC). Finally, I examined the test-retest reliability of the MOSS.

In Study 5, I assessed three self-enhancement cognitive biases: the above-average effect, self-serving bias, and false-consensus effect. The above-average effect is the tendency for individuals to rate their own positive qualities and abilities as better than average at rates that are statistically impossible (Dunning, Meyerowitz, Holzberg, 1989). Self-serving bias represents the tendency to credit one's successes to personal abilities or traits, but attribute one's failures to other people or circumstances (Snyder, Stephen, &

Rosenfield, 1976). The false-consensus effect is the tendency for individuals to exaggerate the extent to which others share their personal beliefs (Ross, Greene, & House, 1977). These self-enhancement biases are presumed to be influenced by self-interest against objective evidence, such as disregarding base-rates of public opinion in the false-consensus effect. I expected that MOSS would predict reduced self-enhancement biases in these paradigms, indicating more reliance on objective evidence, rather than self-interest.

Social behavior was assessed with a modified version of the classic Dictator Game (DG; Engel, 2011; Forsythe, Horowitz, Savin, & Sefton, 1994), where a 'decider' receives a sum of money (e.g., $5.00) and can give any portion of it to a 'receiver.' The perspective of the DG was manipulated within subjects. In the *objective condition,* which was always administered first, participants were told that the 'decider' and the 'receiver' were other people in the study, but the participant was neither the 'decider' nor the 'receiver.' In the *subjective condition*, which was always administered second, participants were reminded that earlier in the study, they played a game with a 'decider' and a 'receiver.' They were told that they would play the same game again, but now participants were told that they were the 'deciders' and would be paid real money in the form of a gift card after the study based on their decision. Similar decisions between the objective and subjective conditions served as the measure of objective social behavior. I predicted that MOSS would be related to objective social behavior – making similar judgments when the participant stood to benefit as when the participant did not stand to benefit.

Study 5 Method

Participants

Eighty-two University of Virginia undergraduates (56% female; M_{age} = 19.5, SD_{age} = 2.2) consented and completed the study in the laboratory in exchange for partial course credit. The racial background of the sample was about half White (49%), with 33% Asian, 9% Black, 7% multi-racial, and 2% other or unknown. The ethnic background of the sample was 90% non-Hispanic White and 10% Hispanic. Forty-nine percent of participants were first-year students, 32% second-year students, 11% third-year students, and 9% fourth-year students.

Materials

Social behavior task. The modified DG described two people in a game, the 'decider,' who had $5.00 and could choose to give any amount of it to the 'receiver,' or keep the money for him/herself. Allocations were listed from $0 to $5.00 in $0.05 increments. Participants were told that the money was real, and that they both the 'decider' and the 'receiver' were real people in the study, but that the game was anonymous, so the 'decider' and 'receiver' would not be told each other's identities or the participant's identity. The dependent measure was the difference between the amounts given to the 'receiver' in the *objective condition* versus the *subjective condition*.

Above –average effect. The above-average effect was measured by asking participants, 'Compared to other UVa [University of Virginia] students approximately your age and gender, how X are you?' (procedure adapted from Beer & Hughes, 2010). Ten positive personality traits were presented in a random order (likable, mature, decent,

positive, capable, understanding, educated, competent, disciplined, and ethical) and rated on a scale ranging from 1 *Much less than the average UVa student* to 7 *Much more than the average UVa student* with the midpoint 4 *About the same as the average UVa student*. The above-average effect would be revealed by average ratings significantly higher than the midpoint.

Self-serving bias. Self-serving bias was measured by presenting participants with five outcomes that could be evaluated for success or failure relatively easily (test performance, progress toward nutritional goals, progress toward fitness goals, getting enough sleep, and saving money; Reifenberg, 1986). Participants were told to think about a time when they succeeded at each outcome, and separately to think of a time when they failed at each outcome (10 items presented randomly). Then, they rated why they succeeded or failed at each outcome on a scale from 1 *Mostly due to other people or circumstances* to 7 *Mostly due to my own personal qualities or abilities* with the midpoint 4 *Equally due to other people or circumstances and to my own personal qualities or abilities*. Self-serving bias would be revealed by higher scores for successes than failures.

False-consensus effect. The false-consensus effect was measured by having participants rate whether they agreed or disagreed on a dichotomous scale ('self' ratings) with 12 opinion statements (Hoch, 1987; see Appendix D for opinion statements). Separately, they reported the percentage (0-100% in 5% increments) of students in the current study who agreed with each statement ('group' ratings). The 'self' ratings and 'group' ratings were randomized, and the order of opinion statements was randomized within each set of ratings. The false-consensus effect would be revealed by higher

estimates of ‘group’ ratings for opinion statements the participant agreed with than when the participants disagreed with the opinion statement.

Procedure

Three hundred ninety-two participants completed the 21-item MOSS online as part of an initial pretesting session, but participants were not recruited based on their participation. Participants were unaware of any connection between pretesting and the current study, or the current study content when they signed up for the study. Upon arrival to the lab, they were greeted by one of six experimenters (one male, five female, all University of Virginia undergraduates) who knew the study hypothesis. The experimenters administered informed consent and initiated the study, which was self-administered on the computer, and then left the study room for the remainder of the session. An initial screen instructed participants that they would complete a questionnaire, a number of decision tasks, and some questions about politics. Participants completed the study in groups of 1-6 in a single large room, but each participant worked independently at his/her own computer station.

The objective condition of the dictator game was followed by the three self-enhancement cognitive biases (randomized) and then the subjective condition of the dictator game. The 21-item MOSS was randomly presented before or after the set of judgments. Next, participants completed the 18-item Need for Cognition scale administered the same as in Study 1 and a 15-item brief version of the Need for Cognitive Closure scale (Roets & Van Hiel, 2011) in a random order. Then, participants completed a politics questionnaire that was identical to the one used in Studies 2 and 3, with the

addition of an item asking who participants voted for in the 2012 election with the response options: *Barack Obama*, *Mitt Romney*, *A third party candidate or write-in candidate*, *I didn't vote*, *I can't remember*, and *I'd rather not say*. Finally, participants completed a demographics questionnaire, were debriefed and probed for previous knowledge of the study content, and thanked. All participants, regardless of their actual decision in the dictator game, were provided the maximum allowable reward ($5.00) in Amazon.com gift cards and were asked not to tell their classmates about the study.

Study 5 Results

MOSS internal validity. The 21 MOSS items ($M = 4.10$, $SD = 0.71$; $\alpha = .81$) were reverse-scored where appropriate and factor analyzed with oblique rotation (see Table 6 for item means). Three factors with eigenvalues greater than one accounted for 79% of the variance. The first factor (eigenvalue = 4.97) accounted for 47% of the variance, with the second (eigenvalue = 2.13; variance accounted for = 20%) and third (eigenvalue = 1.27; variance accounted for = 12%) accounting for considerably less variance. These results are suggestive of additional factors on the MOSS, but examination of factor loadings did not reveal theoretically coherent latent variables, so a one-factor solution was retained.

Test-retest reliability. Test-retest reliability on the MOSS was examined by correlating the MOSS administered at pretesting ($M = 4.11$, $SD = 0.60$; $\alpha = .83$) and during the main study for the 43 participants who completed both the main study and pretesting. The correlation was strong ($r(43) = .78$, $p < .0001$), suggesting that the MOSS is reliable over a two to three-month time period.

Predictive validity of MOSS for above-average effect. Ratings of one's own positive traits were significantly above average in every one of the 10 traits tested ($0.40 < ds < 1.01$). These ratings were reliable ($\alpha = .77$), so the 10 items were averaged to create a single above-average score for each participant ($M = 4.85$, $SD = 0.71$), $t(81) = 10.81$, $p < .0001$, $d = 1.19$. MOSS was related to the above-average effect, such that more objectively-motivated individuals demonstrated reduced bias, $r(82) = -.24$, $p = .030$. Correlations between all measured variables and effects are displayed in Table 8.

Predictive validity of MOSS for self-serving bias. To compute self-serving bias scores, participants' ratings of internal/external attribution for failures were subtracted from their attribution ratings for successes. A self-serving bias significantly greater than zero emerged for last test performance ($t(81) = 3.07$, $p = .003$, $d = 0.34$) and getting enough sleep ($t(81) = 3.17$, $p = .002$, $d = 0.35$), but not for saving money ($t(81) = 1.39$, $p = .168$, $d = 0.15$), reaching nutrition goals ($t(80) = -0.20$, $p = .840$, $d = -0.02$), and reaching fitness goals, $t(81) = -0.24$, $p = .807$, $d = -0.03$. Together, the five items demonstrated low reliability ($\alpha = .50$), but when they were averaged to create a single self-serving bias score ($M = 0.34$, $SD = 1.27$), it was significantly different from zero, $t(81) = 2.41$, $p = .018$, $d = 0.27$. MOSS was negatively and nonsignificantly correlated with self-serving bias, $r(82) = -.19$, $p = .089$.[9]

Predictive validity of MOSS for false-consensus effect. For the false-consensus effect, participants rated their own agreement ('self' ratings) and the percentage of other

[9] Restricting self-serving bias to only the two items that produced a significant self-serving bias effect ($\alpha = .45$; $M = 0.71$, $SD = 1.66$; $t(81) = 3.87$, $p < .001$, $d = 0.43$) did not produce a significant correlation with MOSS, $r(82) = -.02$, $p = .838$.

people who agreed ('group' ratings) with 12 opinion statements. To create a false consensus score, I first computed the average agreement among the sample with each of the 12 statements ('actual' agreement). Then, I computed the overestimation of 'group' ratings for items that participants agreed with by subtracting the 'actual' agreement for that item from the 'group' rating for that item. For items that participants disagreed with, I computed an underestimation score by subtracting the 'group' rating from the 'actual' agreement for that item. Essentially, this provides a percentage score that represents the absolute value of *mis*estimation in the direction of one's own opinion from the 'actual' agreement for each item. A false-consensus effect in the expected direction was observed for seven of the twelve opinion statements ($0.04 < d\text{s} < 0.41$; four were significant), and five statements demonstrated the reverse effect ($-0.03 < d\text{s} < -0.30$; two were significant). The twelve statements were modestly reliable ($\alpha = .53$) and the average score did not reveal a false-consensus effect significantly different from zero ($M = 0.01$, $SD = 0.10$), $t(81) = 0.94$, $p = .351$, $d = 0.10$. MOSS was negatively and nonsignificantly correlated with the false-consensus effect, $r(82) = -.11$, $p = .342$.[10]

Predictive validity of MOSS for objective social behavior. Objectivity in social behavior was computed by subtracting the amount of money contributed (scored 1-101 for \$0.00-\$5.00 in \$0.05 increments) in the *subjective condition* from the o*bjective condition*. A zero score represents totally objective behavior, positive scores represent subjective behavior (giving less when the participant stood to gain than when the decision

[10] Restricting the false-consensus effect to only those four items that produced a significant effect ($\alpha = .10$; $M = 0.06$, $SD = 0.11$; $t(81) = 4.53$, $p < .001$, $d = 0.50$) did not produce a significant correlation with MOSS, $r(82) = -.06$, $p = .578$.

was about strangers), and negative scores represent a kind of self-sacrifice (giving more when the participant could have kept the money), M = -1.17, SD = 27.20. Surprisingly, participants did not give more in the objective condition than the subjective condition (H_0 = 0), $t(81)$ = -0.39, p = .698, d = -0.04. MOSS was nonsignificantly negatively related to self-interested social behavior, $r(82)$ = -.18, p = .108.

Relative predictive validity. Contrary to Study 1, MOSS did not significantly correlate with Need for Cognition (NFC; M = 4.45, SD = 0.90; $r(82)$ = .02, p = .848) or Need for Cognitive Closure (NFCC; M = 4.53, SD = 0.84; $r(82)$ = -.10, p = .395). To examine whether MOSS predicted judgment better than NFC and NFCC, a multiple regression model was run with the three independent predictors on the above-average effect, since it was the only effect to produce significant relationship with MOSS. MOSS predicted reduced above-average effect (b = -0.24, CI = -0.45, -0.03, $t(78)$ = -2.24, p = .028) with NFC and NFCC in the models. NFCC produced a nonsignificant main effect (b = 0.08, CI = -0.12, 0.28, $t(78)$ = 0.80, p = .423), and NFC unexpectedly produced a positive effect (b = 0.24, CI = 0.05, 0.42, $t(78)$ = 2.56, p = .012), suggesting that NFC is related to higher above-average effect (see Table 8 for pair-wise correlations).

Study 5 Discussion

Strong test-retest reliability for the MOSS over the course of 2-3 months was demonstrated in Study 5, and mixed evidence was provided for predictive validity of self-enhancement biases and objective social behavior. MOSS significantly predicted just one of the biases tested, the above-average effect, though the effects were in the hypothesized direction with each outcome. Due to data collection constraints, Study 5 was

underpowered, which may have resulted in the nonsignificant relationships between MOSS and the other outcomes. Further, the dictator game produced objective behavior to a surprisingly high degree – 56% of the participants gave exactly the same amount of money to the 'receiver' when they were the 'deciders' and stood to gain, as when a stranger was the 'decider,' and the participant stood to gain nothing. Participants may have been motivated by a desire to be consistent across the objective and subjective conditions of the task, and this could have resulted in the high number of people who displayed perfectly objective behavior and may have obscured the predictive power of the MOSS for this outcome. A between-participants design to measure this outcome may reveal a different result.

Since the order of the judgment tasks and MOSS was randomized in this study, I examined whether completing the judgment tasks influenced the MOSS (this is addressed for all studies in the aggregate results section that follows Study 7) and vice versa. Interestingly, completing the MOSS prior to the judgment tasks influenced responses on the judgments tasks, especially the Dictator Game. Participants who completed the MOSS first showed non-significantly decreased above-average effect ($t(80) = -1.69$, $p = .095$, $d = -0.38$) and self-serving bias ($t(80) = -1.79$, $p = .077$, $d = -0.40$), and especially, objective behavior in the Dictator Game, $t(80) = -3.34$, $p = .001$, $d = -0.75$. MOSS order did not impact the false-consensus effect, $t(80) = 0.08$, $p = .938$, $d = 0.02$. Including study order as covariate in multiple regression analyses revealed main effects of MOSS for the above-average effect ($b = -0.25$, $CI = -0.47, -0.04$, $t(79) = -2.35$, $p = .022$), self-serving bias ($b = -0.36$, $CI = -0.75, 0.02$, $t(79) = -1.87$, $p = .066$), and allocation behavior in the

Dictator Game, b = -7.67, CI = -15.57, 0.23, $t(79)$ = -1.93, p = .057.[11] The sub-sample of participants who completed the MOSS last (n = 49) demonstrated moderately-sized negative correlations between the MOSS and above-average effect ($r(49)$ = -.22, p = .127) and allocation behavior ($r(49)$ = -.36, p = .011), but a much smaller correlation for self-serving bias, $r(49)$ = -.06, p = .705. These exploratory follow-up analyses require replication in a study design where MOSS is administered after the dependent measures, but they provide suggestive evidence that MOSS predicts reduced bias in the above-average effect and allocation behavior.

Study 6 – Predicting Intergroup Bias

In Study 6, I investigated whether MOSS moderates intergroup bias. Minimal groups were created in the laboratory and intergroup bias toward the minimal groups was measured with an allocation task (adapted from Pinter & Greenwald, 2011). Compared to participants who are motivated for objectivity, participants who are motivated for subjectivity should be more influenced by their group memberships and subsequently identify with, and favor, their groups more strongly.

MOSS is a dispositional motivation, but as reviewed in the Introduction, objectivity can be situationally activated by holding people accountable for their decisions. Situational and dispositional objectivity might interact to influence judgment and behavior in (at least) three possible ways: (1) a situational objectivity motivation might be stronger for participants who are dispositionally motivated for objectivity, (2) a situational objectivity motivation might be ineffective on high-MOSS participants

[11] The 2-way interaction between study order and MOSS was tested for each outcome, but did not produce significant effects (ps > .117), so this term was dropped from the models to conserve degrees of freedom.

precisely because they are already motivated for objectivity, or (3) situational and dispositional objectivity may operate independently. To this end, a situational objectivity motivation was manipulated with accountability instructions. I expected that accountability would moderate intergroup bias, and also tested whether situational and dispositional motivations for objectivity might interact to influence intergroup bias.

Ingroup identification was measured both explicitly and implicitly to illuminate the conditions under which implicit identities can be modified. Implicit intergroup bias and ingroup identification has been demonstrated in minimal group contexts (Ashburn-Nardo, Voils, & Monteith, 2001; Gregg, Seibt, & Banaji, 2006; Pinter & Greenwald, 2011). However, some debate exists regarding the malleability of implicit intergroup preferences. While existing implicit racial preferences have been experimentally altered by viewing counterstereotypical exemplars (Dasgupta & Greenwald, 2001; Joy-Gaba & Nosek, 2010), or by engaging egalitarian goals (Mann & Kawakami, 2012), novel implicit intergroup preferences have proved difficult to change (but easy to form) with abstract information (Gregg et al., 2006; Ranganath & Nosek, 2008). This mixed evidence for changing implicit preferences suggests that accountability *might* reduce implicit ingroup identification, but that this is a particularly strong test of my hypothesis.

Study 6 Method

Participants

Two hundred thirty-seven participants (69.8% female; M_{age} = 18.8, SD_{age} = 1.4) consented and completed the study in exchange for partial course credit. Sixty-nine percent of participants were first-years, 19% second-years, 7% third-years, and 5%

fourth-years. The sample was mostly White (66%), with 20% Asian, 6% Black, 6% multi-racial, and 3% other or unknown. Eighty-eight percent of participants were White non-Hispanic, 6% Hispanic, and 6% unknown.

Materials

Minimal group induction. For the minimal group induction (adopted from Pinter & Greenwald, 2011), participants were told to imagine the following scenario: "As an ice-breaker exercise in an Art History class at UVa, students were asked whether they prefer pointillism or cubism styles. They were then divided into the green or yellow group, based on their preferences." Participants were then randomly assigned to study five names of the green group or the yellow group (manipulated between participants) for 45 seconds, and given two memory tests – the first easier than the second – in order to compel memory for the names in the group (see Greenwald & Pinter, 2011).

Explicit group identification. Identification with the minimal groups was measured explicitly by having participants rate their agreement (1 *Strongly disagree* to 7 *Strongly agree* with 4 *Neither agree nor disagree*) with four items: (1) I identify with the Green Group, (2) I identify with the Yellow Group, (3) I feel attached to the Green group, and (4) I feel attached to the Yellow Group. To model the relative nature of the implicit identification score (described below), I reverse scored the Yellow group identification and attachment items (items 2 and 4). This produced a reliable composite score of group identification ($\alpha = .84$), where higher scores represented identification with the Green group relative to the Yellow group.

Implicit group identification. Implicit group identification was measured with a group identification Implicit Association Test (IAT) assessing associations between the concepts *Green* and *Yellow* with *Self* and *Other* (Greenwald & Pinter, 2011; Greenwald et al., 1998). The IAT procedure and analytic strategy was identical to that described in Studies 2-4, but the attributes *Good* and *Bad* were replaced with *Self* (individual stimuli: me, myself, self, mine) and *Other* (individual stimuli: their, them, they, others), and the concept categories and stimuli were changed. The Green and Yellow category stimuli consisted of the names of members of the Green and Yellow groups that were memorized during the minimal group induction. Positive scores represent implicit identification with the Green group relative to the Yellow group, and reflect faster response times when *Green* was paired with *Self* than when *Yellow* was paired with *Self*.

Intergroup bias. Intergroup bias was measured with a resource allocation task (see Pinter & Greenwald, 2011). Participants were told to imagine that there was a small amount of money left over from a previous study and it could be distributed to two other participants in the room – one member of the Yellow group and one member of the Green group. Seven possible allocations were listed with a 7-point response scale (1 *Strongly disagree* to 7 *Strongly agree*). Three allocations reflected a bias for the Green group (e.g., $2.10 for the Green group, $1.10 for the Yellow group), three reflected a bias for the Yellow group (e.g., $1.80 for the Green group, $2.20 for the Yellow group), and one reflected a fair allocation ($1.70 for the Green group, $1.70 for the Yellow group). The three green-favoring allocations were reliable ($\alpha = .93$), and therefore averaged to create a composite intergroup bias score for the Green group. Likewise, the three yellow favoring

allocations were reliable ($\alpha = .93$), and averaged to create a composite intergroup bias score for the Yellow group.

Accountability manipulation. The accountability manipulation was delivered by the research assistant (RA) using a standardized script that each RA memorized. An instruction screen directed participants to see the RA in a neighboring room after the minimal group induction. The RA explained that later in the study, participants would allocate money between the Green and Yellow groups, and that afterward, they would come back to the RA's room and explain why they allocated the money the way they did. As the RA described these instructions, she subtly motioned toward a video camera in the room to imply that the interaction might be video-recorded. However, participants did not actually explain their reasoning at the end of the study, nor was anything video-recorded. The purpose of this manipulation was to create a context of accountability (adopted from Webster et al., 1996). Later, as part of the instructions for the allocation task, participants in the accountability condition (but not the control condition) were reminded that they would explain their allocation decisions to the RA. The purpose of this reminder was to reinforce the accountability manipulation.

Procedure

Study sign-up and participant arrival procedures were similar to Study 5, except that the introduction screen informed participants that they would complete a memorization task, a couple categorization tasks, a small questionnaire, and a rating task. Participants completed the study in groups of 3-6, but each participant worked independently at his/her own computer station. Three female University of Virginia

undergraduates served as experimenters, and they were not blind to the study hypothesis, but they were blind to condition until participants arrived at their door for the accountability instructions (or not).

After providing consent, participants completed the minimal group induction, and whether they studied the Green group names or the Yellow group names was counterbalanced between participants. Next, participants were randomly assigned to the accountability or control condition. All participants completed explicit and implicit identification measures in a randomized order, followed by the allocation task. Participants then completed two manipulation checks asking them whether they were mindful of what the experimenter would think of their responses on the allocation task and whether it seemed like the experimenter cared about their responses on the allocation task. Finally, participants completed the MOSS, a demographic questionnaire, were gauged for suspicion, and debriefed.

Study 6 Results

Data from 23 participants were removed because of technical errors and five participants were removed because they failed to follow instructions and did not speak with the RA and, therefore, did not receive the full accountability manipulation.[12] Participants were probed for suspicion during debriefing, and one participant stated that the purpose of the accountability manipulation was to encourage him/her to allocate money more fairly toward the two groups. Removing the six participants from this study session did not change the effects, so they were retained for all analyses.

[12] The five participants who did not receive the accountability instructions from the experimenter still received the reminder accountability instruction on the resource allocation page, but this is a much weaker version of the accountability manipulation. Leaving these five participants in the sample did not change the results.

MOSS internal validity. The 21 MOSS items ($M = 4.15$, $SD = 0.63$) revealed good internal consistency ($\alpha = .82$; see Table 6 for item means). Standardized MOSS scores (reversed where appropriate) were submitted to an exploratory factor analysis with oblique rotation and revealed three latent factors with eigenvalues greater than one (1.28-4.36). The first factor accounted for 54% of the variance and demonstrated high and consistent factor loadings. The other two factors accounted for considerably less variance (F2 = 21%; F3 = 16%) and demonstrated inconsistent and relatively smaller factor loadings, providing support for a single latent factor structure.

Explicit ingroup identification. Participants randomly assigned to study Green group names were more strongly explicitly identified with the Green group ($M = 4.90$, $SD = 0.90$) than participants randomly assigned to study Yellow group names ($M = 3.16$, $SD = 0.81$), $t(234) = 15.59$, $p < .0001$, $d = 2.04$. Since the minimal group induction produced identified group members, I reversed-coded scores in the Yellow group condition and collapsed the two conditions to create a single explicit identification score representing the degree of explicit identification with one's own minimally-assigned group ($M = 4.87$, $SD = 0.86$; *4* = neutral identification).

Implicit ingroup identification. Participants who studied the Green group were more implicitly identified with the Green group than the Yellow group ($M = 0.58$, $SD = 0.31$), and those who studied the Yellow group were more implicitly identified with the Yellow group than the Green group ($M = -0.47$, $SD = 0.33$), $t(223) = 24.58$, $p < .0001$, $d = 3.29$. Therefore, I reverse-coded the IAT score for the yellow group to create a single

implicit identification score with one's own minimal group (M = 0.53, SD = 0.33; *0* = neutral identification).

Intergroup bias. Both Green and Yellow group members liked the allocation that gave similar amounts of money to each group, M = 5.66, SD = 1.51. However, Green group members endorsed allocations favoring the Green group (M = 3.74, SD = 1.56) more than Yellow group members did (M = 2.49, SD = 1.12), $t_{satterthwaite}(213.09) = 7.03$, $p < .0001$, d = 0.96. Similarly, Yellow group members endorsed allocations favoring the Yellow group (M = 3.60, SD = 1.71) more than Green group members did (M = 2.90, SD = 1.29), $t_{satterthwaite}(211.84) = -3.51$, p = .001, d = 0.48. Given this evidence of intergroup bias, I reversed-coded scores for Yellow group members and combined the minimal group conditions to create a single composite score of own-group favoritism, M = 3.67, SD = 1.63.[13]

Effect of accountability on intergroup bias. Participants in the accountability condition explicitly identified less with the group they studied (M = 4.73, SD = 0.87) compared to those in the control condition (M = 4.99, SD = 0.83), $t(234) = 2.43$, p = .016, d = 0.32. Accountable participants also demonstrated less intergroup bias (M = 3.20, SD = 1.58) than those in the control condition (M = 4.09, SD = 1.57), $t(231) = 4.27$, $p < .0001$, d = 0.56. No differences were observed between the accountability (M = 0.52, SD

[13] A script error presented the *Slightly disagree* option (*3* value) on the allocation task as *Slightly agree* (*5* value) for the majority of the study sessions (n = 195). Because the response scale was clearly marked from 1 *Strongly disagree* to 7 *Strongly agree*, it is assumed that participants were able to understand the response scale, even with this error. Supporting this assumption, participants who completed the study with the error in the scale (n = 195) did not demonstrate significantly different allocation scores (M = 3.69, SD = 1.64) than participants who completed the study after the error was caught and corrected (n = 38; M = 3.60, SD = 1.64), $t(231) = -0.32$, p = .754.

= 0.34) and control conditions (M = 0.54, SD = 0.32) on implicit identification, $t(223)$ = 0.44, p = .659, d = 0.06.[14]

Predictive validity of the MOSS for intergroup identification and bias The MOSS was related to intergroup bias ($r(231)$ = -.20, p = .002) – objectivity motivated participants demonstrated less favoritism for the groups that they studied. I also tested whether the situational accountability manipulation and the dispositional objectivity motivation might interact to predict weaker bias with a multiple regression using the main effects and 2-way interaction between MOSS (centered on its mean) and accountability. The main effect of accountability was significant (b = -0.83, CI = -1.24, -0.42, $t(227)$ = -3.98, p < .0001) and the main effect of MOSS was not significant, b = -0.41, CI = -0.87, 0.06, $t(227)$ = -1.73, p = .086. Also, the interaction between the MOSS and accountability on intergroup bias was not significant (b = -0.06, CI = -0.72, 0.60, $t(227)$ = -0.19, p = .852), suggesting that situational accountability and dispositional objectivity may operate independently, at least in the context of intergroup bias for minimal groups.

An identical regression analysis was conducted to determine whether MOSS predicted reduced identification with the minimal groups similarly to situational accountability, and whether they interacted to reduce identification. Main effects emerged for both situational accountability (b = -0.26, CI = -0.48, -0.04, $t(231)$ = -2.32, p = .021) and MOSS, b = -0.29, CI = -0.53, -0.04, $t(231)$ = -2.31, p = .022. Participants held

[14] Since the accountability condition required interaction with the RA, and three different RAs administered the study, I tested whether the RA influenced the effect of the accountability condition on explicit and implicit identification and intergroup bias. The RA did not influence any dependent variable as a main effect (ps > .318) or as an interaction with accountability condition (ps > .136).

situationally accountable and participants who were dispositionally motivated to be objective both identified less with the groups that they studied. A non-significant 2-way interaction (b = 0.32, CI = -0.03, 0.67, t(231) = 1.82, p = .070) hinted that higher motivation for objectivity was related to reduced identification in the control condition (r(126) = -.21, p = .018), but not in the accountability condition, r(109) = .03, p = .778.

In a similar regression, no main effects of accountability (b = -0.01, CI = -0.04, 0.15, t(219) = -0.33, p = .745) or MOSS (b = 0.05, CI = -0.04, 0.15, t(219) = 1.08, p = .281) were observed for implicit identification. A 2-way interaction (b = -0.14, CI = -0.28, -0.01, t(219) = -2.05, p = .042) revealed a positive, nonsignificant relationship between MOSS and implicit identification for control participants (r(121) = .10, p = .266) but a negative, nonsignificant relationship for MOSS and implicit identification for accountable participants, r(102) = -.17, p = .086.

Study 6 Discussion

Study 6 provided some support for predictive validity of the MOSS for intergroup bias and ingroup identification in a minimal group context. When intergroup bias was the outcome, situational and dispositional motivations for objectivity produced main effects but not interactions, suggesting that these two motivations operate relatively independently. However, when identification was the outcome, a nonsignificant interaction hinted that the MOSS was related to explicit identification differentially in the control versus accountability conditions. If this effect were replicated, it could reveal an interactive relationship between situational and dispositional motivations for objectivity. These findings require further research to determine when – and for what outcomes –

situational and dispositional motivations for objectivity will moderate bias. However, the suggestive finding that the MOSS was related to reduced identification in the control condition but unrelated to identification in the accountability condition could mean that dispositional motivation for objectivity may play a more important role in predicting social outcomes when no situational cues to reduce bias are present.

The interaction between MOSS and accountability for implicit identification is puzzling. Neither MOSS nor situational accountability exhibited zero-order correlations with implicit identification, but the interaction hints that high-MOSS participants who also encounter situational accountability reveal reduced implicit identification with their minimal group. The expectation that implicit identification might be influenced by situational accountability was, admittedly, a strong test of the hypothesis, since relative to explicit preferences, implicit preferences are harder to control. This finding is preliminary, and requires replication, but suggests that debiasing implicit preferences may require a double-dose of objectivity motivation, both situational and dispositional.

Study 7– Predicting Fact-Checking

The previous studies provided some evidence that people who are dispositionally motivated to be objective are less biased in their judgments and behavior, and Study 7 was a first step toward understanding how this bias reduction might occur. A large literature on motivated reasoning suggests that individuals are reluctant to change their beliefs in the face of contradicting evidence, often finding ways to dismiss the evidence as irrelevant or invalid (Bastardi, Uhlmann, & Ross, 2011; Lord, Ross, & Lepper, 1979). Holding on to one's desired beliefs despite contradictory evidence is self-interested, and

the objective response would be to evaluate the new evidence, and, if perceived to be valid, change one's beliefs in line with the new evidence. For this reason, several of the MOSS items assessed willingness to change one's beliefs if provided evidence to the contrary. Checking the accuracy of one's positions (commonly known as fact-checking) is one route to learning accuracy evidence that may contradict one's beliefs, and fact-checking may potentially lead to altering those beliefs in favor of objectivity. After all, individuals cannot learn of evidence that does not support their beliefs and judgments if they never seek out evidence about the accuracy of their beliefs and judgments. Study 7 assessed fact-checking behavior in the context of politics, and I predicted that MOSS would be related to fact-checking behavior.

Previous samples have consisted of undergraduates and Project Implicit volunteers, and both oversample demographically young, well-educated, liberals. The PI samples were more heterogeneous than the student samples, but PI volunteers may have intrinsic motivations for participation in research. Therefore, a secondary goal of Study 7 was to assess the MOSS with an independent large, heterogeneous sample. Participants were recruited from Amazon's Mechanical Turk (MTurk) website, an online paid participant pool. MTurk provides as reliable and valid data as other online samples and lab samples (Burhmester, Kwang, & Gosling, 2011).

Study 7 Method

Participants

Two hundred eighty-eight U.S. citizens (43.1% female; M_{age} = 36.0, SD_{age} = 12.8) consented and completed the study on Amazon's Mechanical Turk website. The race of

the sample was 83% White, 7% Black, 3% Asian, 3% multi-racial, and 3% other or unknown. The ethnicity of the sample was 90% White non-Hispanic, 6% Hispanic, and 3% unknown. The modal education was 'some college' or an associate's degree (43%), and 28% had a bachelor's degree, 17% a master's degree, MBA, or 'some graduate school', 8% a high school diploma, 3% a JD, MD, or other advanced degree, 0.7% had 'some high school', and 0.35% (1 person) had a PhD. Participants were paid $.50 USD for completing the study.

Materials

Political knowledge quiz. The political knowledge quiz contained six questions adopted from different quizzes posted on Factcheck.org in 2012 presented in a random order (see Appendix E for full list of questions and responses). Participants were told they would answer some questions about current politics, reassured that it was okay if they did not know the answers, and to guess if necessary. The goal of these instructions was to discourage participants from searching for the answers on the internet. For each question, one response was correct (e.g., the number of Americans receiving foodstamps has increased by nearly 50% while President Obama has been in office), and the other responses reflected either a bias in favor of Democrats (e.g., the number of Americans receiving foodstamps has stayed the same while President Obama has been in office) or in favor of Republicans (e.g., the number of Americans receiving foodstamps has nearly doubled while President Obama has been in office).

Fact-checking task. The fact-checking task used the same questions as the political knowledge quiz, and occurred in stages: CHECK, EXPLANATION, and

REVISE. In the CHECK stage, one of the questions appeared on the screen, and participants were asked whether they would like to see the answer to the question (response options *yes* or *no*). If participants responded *no*, they moved on to the CHECK stage of the next question. If they responded *yes*' they were provided the correct answer and asked if they would like to see an explanation of the correct answer. If *no*, they proceeded to the CHECK stage of the next question. If *yes*, they moved on to the EXPLANATION stage, where they were provided with an explanation for the correct answer (see explanations in Appendix E) and asked whether they would like to revise their response with three response options: *Yes, I would like to change my response*, *No, I don't care to change my response*, and *No, I got the answer correct the first time*. If participants selected either *no* option, they moved to the CHECK stage of the next question. If they selected *yes* at the EXPLANATION stage, they moved on to the REVISE stage. In the REVISE stage, participants were presented the question again with the same response options that appeared in the political knowledge quiz, and given the opportunity to provide their response. This procedure (CHECK, EXPLANATION, and REVISE) continued for each of the six questions in the political knowledge quiz.

Procedure

Participants self-selected into the study that was advertised with the following description: "In this study, you will complete a questionnaire about your decision-making habits, answer some political questions, and receive some political information." Participants were told that the study was designed by researchers at the University of Virginia Department of Psychology, and the technical side was managed by the non-

profit organization Project Implicit, but were told nothing more about the researchers or Project Implicit. The study was self-administered entirely online.

The political knowledge quiz preceded the fact-checking task in a fixed order, and these tasks were randomized with the MOSS. Next, participants completed the politics questionnaire administered in Study 5, a demographics questionnaire, and then were debriefed and compensated.

Study 7 Results

MOSS internal validity. The 21-item MOSS ($M = 4.55$, $SD = 0.86$) demonstrated good internal consistency, $\alpha = .89$. The average MOSS scores were higher than the student sample averages observed in Studies 1, 5, and 6, and closer to the Project Implicit sample means observed in Studies 2-4 (items means in Table 6). MOSS scores were reverse-scored where appropriate, standardized, and factor analyzed with oblique rotation. Three latent factors revealed eigenvalues greater than one (1.18-5.99). The first factor was largest, accounting for 72% of the variance, and demonstrated large and consistent factor loadings. The other two factors accounted for considerably less variance (14%; 15%) and had smaller and inconsistent factor loadings.

Political knowledge and fact-checking. Correct responding was averaged across the six political knowledge items, and participants responded correctly to 35.7% of the questions on average, a performance well above chance (16.7%) but with considerable error. The error is desirable as the questions were intended to be difficult so that politically biased judgment could be revealed. Responses reflected a Republican bias 34.9% of the time and a Democratic bias 29.4% of the time. These two bias scores are not

directly comparable, as there were more possible Republican-biased responses than Democratic-biased responses. Rather, the meaningful comparison is between Democrats and Republicans on each bias score. Higher Democratic bias scores for Democrats than for Republicans would indicate own-party bias for Democrats, and vice versa for Republican bias scores. Democrats demonstrated higher Democrat bias (37.3%) than did Independents (27.9%) and Republicans (17.2%), and Republicans demonstrated higher Republican bias (45.3%) than did Independents (37.2%) and Democrats (26.5%). The percentage of correct responses was similar for Democrats (36.2%), Independents (34.9%), and Republicans (37.5%).

Composite scores were created for the percentage of items that participants fact-checked (CHECK stage; 86.5%) and the percentage of items for which participants viewed the explanation of the correct response (EXPLANATION stage; 52.1%). To create a revision composite score, I computed the percentage of items that participants elected to revise after viewing the explanation (REVISE stage) only for items that they answered incorrectly (59.9%). This is because participants would presumably only revise their response if they got it wrong originally in the political knowledge quiz.

Predictive validity of MOSS for fact-checking. Zero-order correlations were computed to examine whether higher objectivity motivation was related to political knowledge test performance, party bias scores, and the various measures of fact-checking. Table 9 contains the full set of correlations. MOSS did not significantly relate to knowledge or fact-checking. The only significant correlations that emerged were for MOSS and the bias scores, but not in the expected direction, at least for Democrats. For

Democrats, higher MOSS was related to more Democratic-biased responses ($r(107) = .21$, $p = .023$) and less Republican-biased responses, $r(107) = -.27$, $p = .005$. I had predicted that objectivity motivation would be related to *less* own-party bias. Republicans' correlations were in the expected direction, but nonsignificant. For Republicans, higher MOSS scores were non-significantly related to less Republican-biased responses ($r(41) = -.18$, $p = .255$) and more Democratic-biased responses, $r(41) = .13$, $p = .410$.[15]

Study 7 Discussion

The pattern of MOSS responses provided support in a new sample for the single latent factor structure observed in the previous samples. Results from the fact-checking procedure revealed that participants, on average, checked the accuracy of their responses to political questions if given the opportunity to do so. About half of those participants viewed the explanation for the correct response, and then about half of those participants revised their incorrect response. However, this variation in fact-checking behavior was not predicted by MOSS scores. This study did not provide any evidence that fact-checking is a mechanism by which objectivity-motivated individuals make less biased judgments.

Fact-checking is a proposed debiasing mechanism that occurs after a judgment has been made. Another possibility is that MOSS debiases judgment earlier in the

[15] An alternative analysis strategy is to use frequencies rather than percentages so that participants with five correct responses and one Democrat-biased response would not be treated the same as participants with six incorrect Democratic-biased responses. Counts of bias scores (*-1* Democratic-biased, *0* Correct response, *1* Republican-biased) correlate with Democratic-biased percentages ($r(286) = -.86$, $p < .0001$) and Republican-biased percentages ($r(286) = .90$, $p < .0001$) highly but not perfectly, suggesting there may be some value to analyzing frequencies instead of percentages. However, correlations between the MOSS and summed bias score reveals a similar pattern to the percentage scores reported in the main text.

decision process, such as at the information processing stage. If potentially biasing influences can be ignored, intentionally or unintentionally, when information is initially encountered, then judgments will be less influenced by those ignored biases. The many possible mechanisms that might help high-MOSS individuals debias their decisions and behavior will be explored in the General Discussion.

Given the high rates of checking the accuracy of one's responses, this paradigm might also be improved to investigate the relationship between MOSS and fact-checking. For example, introducing some small cost for fact-checking might reveal that only those participants who are particularly motivated to learn the accuracy of their responses (i.e., objectivity-motivated individuals) would endure a cost to fact check their answers. Future research with similar paradigms could require participants to pay a small amount of their participation reward (e.g., a penny or nickel) or to make a small time commitment (e.g., enter a 'captcha') to view the correct response. Perhaps if there were a cost to fact-checking, a relationship between MOSS and fact-checking behavior would be observed.

Aggregate MOSS Analyses across Studies 2-7

In each study, several analyses were conducted to determine whether the MOSS was correlated with demographic variables, whether the MOSS could be reliably and validly reduced to a shorter item set, and whether the MOSS was impacted by completing prior tasks in a study. These analyses are of practical concern for researchers desiring to administer the MOSS, and demographic correlates and influence from prior tasks are of potential theoretical concern. Understanding the relationship between demographic variables and MOSS can help illuminate the origin and development of objectivity

motivation if, for example, age or education were related to MOSS scores. Gender differences or political ideology differences might suggest socialization as one precursor to objectivity motivation. If MOSS is influenced by prior task completion, the content of those tasks might suggest possible interventions to alter or train motivation for objectivity versus subjectivity.

The results of these analyses for each study are presented in Tables 10, 11, and 12 respectively. For conciseness in the text, MOSS data was aggregated for Studies 2-7 and these results are presented for the full dataset, $n = 2417$. Study 1 was excluded from these aggregate analyses because it included MOSS items that did not use the same response scale, and so the values are not identical to Studies 2-7. The individual results from Study 1 appear in the tables.

Demographic Correlates with MOSS

To determine whether MOSS was related to various demographic variables, MOSS was regressed on gender (coded as *-.5* for female, *.5* for male), political ideology (*-3* for strongly conservative, *0* for moderate/neutral, *+3* for strongly liberal), age, and education (*1* represents elementary school education and *9* represents PhD). The student samples were all coded as *5* for education, representing 'some college or an associate's degree.' Studies 5-7 collected social and economic political ideology separately, so these were averaged to create a single political ideology score to be comparable to Study 4.[16]

[16] The single-item measure of political ideology was correlated in the aggregate with social ($r(1954) = .81$, $p < .0001$) and economic political ideology ($r(1953) = .78$, $p < .0001$), and the latter two were correlated with each other ($r(1950) = .58$, $p < .0001$), suggesting that creating a composite score from the two separate items was a reasonable coding strategy.

Age (b = 0.02, CI = 0.01, 0.02, t(2145) = 10.34, p < .0001), political ideology (b = 0.03, CI = 0.01, 0.05, t(2145) = 3.08, p = .002), and gender (b = 0.21, CI = 0.14, 0.28, t(2145) = 5.66, p < .0001) emerged as significant predictors of the MOSS. Older and politically liberal individuals demonstrated higher MOSS scores than younger (r(2414) = .25, p < .0001) and politically conservative (r(2395) = .06, p = .002) individuals respectively. Men (M = 4.80, SD = 0.81) reported stronger objectivity motivations than did women, M = 4.60, SD = 0.83. With the other predictors in the model, education did not significantly predict MOSS, b = 0.01, CI = -0.02, 0.04, t(2145) = 0.74, p = .461.

Can the MOSS Item Set Be Reduced?

Practical use of the MOSS would benefit from a shorter item set. In each study, a 10-item version of the MOSS (MOSS-TEN) was created from the 10 items that correlated highest with the total 21-item MOSS score and tested for validity and reliability alongside the 21-item MOSS. Table 11 displays the correlation between each MOSS item and the total score, as well as reliability of the MOSS-TEN, descriptive statistics for the 21-item MOSS and MOSS-TEN, and the correlation between the two versions of the scale for Studies 1-7. Items that were selected for the MOSS-TEN in each study are marked with an asterisk.

The MOSS-TEN performed similarly to the 21-item MOSS with regard to internal validity, demonstrating similar aggregate reliability estimates (21-item MOSS α = .86; MOSS-TEN α = .86) and descriptive statistics (21-item MOSS M = 4.65, SD = 0.83; MOSS-TEN M = 4.66, SD = 1.00), r(2417) = .92, p < .0001. Study 4 provided evidence that the MOSS-TEN was not strongly impacted by social desirability under

normal reporting circumstances. Similar to the 21-item MOSS, participants reported stronger objectivity motivations ($M = 4.97$, $SD = 1.01$) when they reported how they *should feel* on the MOSS, regardless of how they *really feel*. However, no differences were observed between control instructions ($M = 4.52$, $SD = 1.04$) and when participants reported how they *really feel*, regardless of how they *should feel* ($M = 4.57$, $SD = 0.95$), $F(453) = 9.63$, $p < .0001$, $\eta_p^2 = .05$. In Study 5, the MOSS-TEN demonstrated acceptable test-retest reliability ($r(43) = .70$, $p < .0001$), comparable to the 21-item MOSS, $r(43) = .78$, $p < .0001$.

The MOSS-TEN performed similarly to the 21-item MOSS with regard to convergent and discriminant validity in Study 1 (see Table 3). In Study 4, the MOSS-TEN correlated at comparable levels as the 21-item MOSS with political knowledge ($r(448) = .21$, $p < .0001$) and implicit motivation for objectivity ($r(358) = .22$, $p < .0001$), and was uncorrelated with standardized test scores: ACT ($r(141) = .05$, $p = .587$), pre-2005 SAT ($r(141) = -.12$, $p = .183$), and post-2005 SAT, $r(133) = .00$, $p = .973$. The MOSS-TEN did not correlate with Need for Cognition or Need for Cognitive Closure in Study 5, but neither did the 21-item MOSS (see Table 8). Predictive validity was demonstrated for the MOSS-TEN in a similar manner as the 21-item MOSS in Study 1 (see Table 3) and Study 5 (see Table 8). Study 2 demonstrated that the MOSS-TEN moderated the extent to which political partisan biases influenced political judgments ($b = -0.21$, $CI = -0.43, 0.01$, $t(305) = -1.91$, $p = .057$), and the MOSS-TEN negatively predicted intergroup bias for minimal groups in Study 6, $r(231) = -.18$, $p = .006$.

Taken together, this evidence suggests that reducing the MOSS to 10 items would increase practical utility without sacrificing validity and reliability. The items that comprised the MOSS-TEN varied slightly for each sample and each study, but items 1, 2, 12, 21, 22, 23, 24, 25, 26, and 29 appeared on the list of items that comprised the MOSS-TEN most frequently. These are the same ten items that load most highly on the 21-item MOSS score for the aggregate dataset, and are therefore recommended for a shorter 10-item MOSS (items are bolded Table 11).

Shorter versions of the MOSS. A shorter 3-item holistic MOSS and a 2-item role MOSS were tested in Studies 1-3. However, these scales demonstrated lower reliability in the aggregate data from Studies 2 and 3 (MOSS-HOLISTIC $\alpha = .71$; MOSS-ROLE $\alpha = .56$) and lower correlation with the 21-item MOSS (MOSS-HOLISTIC $r(1350) = .64$, $p < .0001$; MOSS-ROLE $r(1352) = .50$, $p < .0001$) than MOSS-TEN. Both shorter scales demonstrated some evidence for construct and predictive validity in Study 1, but weaker than the 21-item MOSS (see Table 3). The MOSS-HOLISTIC performed much better than the MOSS-ROLE on predictive validity in Study 1, though not quite as well as the 21-item MOSS and MOSS-TEN. These two shorter scales were dropped after the first three studies. Of these two shorter options, the MOSS-HOLISTIC performed better with regard to both internal and predictive validity, so in situations where the full 21-item MOSS or MOSS-TEN cannot be administered, the MOSS-HOLISTIC might be appropriate.

Study Order Comparisons: Is MOSS Sensitive to the Order of Measurement?

MOSS was designed to measure individual differences in motivations for decision-making, and as such, it is important to understand if – and if so, when – MOSS is influenced by prior tasks. Table 12 displays the effect of study order on the 21-item MOSS and the MOSS-TEN for each study and describes the other tasks in that study. Across seven studies, the aggregate effect of the order of MOSS (*-.5* for MOSS first, *.5* for MOSS second) was very small for both the 21-item MOSS (b = -0.10, CI = -0.16, -0.03, $t(2415) = -2.85$, $p = .004$) and MOSS-TEN, b = -0.12, CI = -0.20, -0.04, $t(2415) = -2.90$, $p = .004$. This evidence suggests that prior tasks lead to slightly lower MOSS scores (21-item MOSS $M = 4.61$, $SD = 0.83$; MOSS-TEN $M = 4.61$, $SD = 0.99$) than when the MOSS is completed first in the study (21-item MOSS $M = 4.71$, $SD = 0.84$; MOSS-TEN $M = 4.73$, $SD = 1.01$). However, the effect of prior tasks on MOSS is quite small.

General Discussion

Reasoning is motivated by at least two processing goals – directional goals, representing subjective and desired outcomes, and accuracy goals, representing objective outcomes (Kunda, 1990). Previous research has demonstrated that directional goals are pursued through relatively automatic processing, but situational cues for objectivity can override this biased processing. Further, individual differences in motivations for reasoning quickly and definitely (need for cognitive closure) and carefully and deeply (need for cognition) moderate decision outcomes. However, these individual difference measures are process-oriented and independently measure orientations toward accuracy *or* directional processing. The measure developed here – motivation for objectivity versus

subjectivity (MOSS) – gauges motivations for outcomes, not processes, and pits objectivity goals against subjectivity goals, to determine which motivation is stronger.

Summary of Results and Contribution to Existing Literatures

Internal validity of the MOSS was demonstrated across seven studies using different samples (undergraduates participating for credit, Project Implicit volunteers, Mechanical Turk workers) and settings (laboratory, online). The MOSS demonstrated strong reliability, a single latent factor structure, and in Study 5, good test-retest reliability. Convergent validity was demonstrated with positive relationships between MOSS and Need for Cognition (NFC) and Internal Motivation to Avoid Prejudice (Study 1), political knowledge and implicit motivation for objectivity (Study 4), and a negative relationship between MOSS and Need for Cognitive Closure (NFCC; Study 1). Discriminant validity was demonstrated with a small and nonsignificant correlation between the MOSS and social desirability (Study 1) and standardized test scores (Study 4). However, MOSS was unrelated to NFC and NFCC in Study 5. Thus, MOSS is reliable, correlates with other constructs it is theoretically similar to, and does not correlate with other constructs that are not theoretically similar.

Beyond what a measure is, it is also important to understand what a measure does. MOSS predicted reduced judgment bias in concrete scenarios forcing trade-offs between objective and subjective outcomes (Study 1), own-party bias in implicit welfare policy preferences (Study 2), the above-average effect and social allocation behavior in the Dictator Game (Study 5), and intergroup favoritism and explicit ingroup identification in the minimal group paradigm (Study 6). However, the MOSS failed to predict own-party

bias in explicit welfare policy preferences (Study 2), own-party bias in explicit and implicit education policy preferences (Study 3), the false-consensus effect and self-serving bias (Study 5), and fact-checking in a political context (Study 7).

The internal validity evidence suggests that the MOSS *is measuring something*, the construct validity evidence suggests that the MOSS *is measuring something akin to motivation* for objectivity versus subjectivity, and the predictive validity evidence suggests that the MOSS *is doing something*. Though the mixed evidence for predictive validity suggests a need for theoretical refinement, the current evidence suggests that some individuals may demonstrate weaker cognitive heuristics and self and group-favoring biases because of motivations to avoid them.

This dissertation contributes to the literature on accountability and systematic processing (Chaiken, 1980; Lerner & Tetlock, 1999) by demonstrating that, in addition to situational factors that elicit objectivity, some individuals are dispositionally motivated to overcome bias, and this variation predicts decision-making. Might situational debiasing interventions work better for people who are also dispositionally motivated to be objective? Study 6 tested this question with mixed results. Situational accountability and MOSS independently predicted intergroup bias, but a suggestion of an interaction between the two emerged for explicit and implicit identification. The results were inconclusive, but suggested that MOSS might play a more important role in social judgment when accountability conditions are absent. Understanding the relative importance of situational and dispositional motivations for objectivity and their potential interaction will be an important next step for this research.

This evidence for the MOSS also contributes to the literature on individual differences in objective and subjective decision-making motivations (Cacioppo & Petty, 1982; Webster & Kruglanski, 1994), especially to the understanding of these motivations when they are in conflict. MOSS demonstrated predictive validity above and beyond Need for Cognition (NFC) and Need for Cognitive Closure (NFCC) for concrete judgments scenarios (Study 1) and the above-average effect (Study 5). This suggests that investigating these decision-making motivations as potentially conflicting interests can add predictive power, at least for some types of outcomes. Further, the MOSS extends the current literature on motivation for prejudice reduction (Plant & Devine, 1998) to domain-general motivation for objectivity.

Features of Debiasing: Awareness, Motivation, and Opportunity

The mixed results for predictive validity begs the question: What was different between the outcomes that MOSS predicted and the outcomes it failed to predict? One feature that varied across the different outcomes was the salience of the objective judgment. The concrete scenarios in Study 1 explicitly pitted objective against subjective outcomes, so high-MOSS individuals could identify the objective response. The strongly partisan nature of the welfare policies in Study 2 may also have highlighted the party-ideology mismatch to high-MOSS partisans. The education policies in Study 3 were not as strongly partisan as the welfare plans, and therefore may have partially hidden the objective judgment. The above-average effect measured in Study 5 required participants to rate themselves as better or worse than average on 10 successive positive personality traits. Perhaps during those ratings, high-MOSS participants recognized that they were

over-estimating their positive traits and that was objectively inaccurate. Similarly, the objective behavior task administered the Dictator Game decision twice in different contexts, and high-MOSS participants could have recognized that the objective response was to respond similarly across the two versions of the game. The false-consensus effect and self-serving bias were measured more indirectly, which may be why MOSS didn't predict those biases. Finally, the minimal groups paradigm used in Study 6 is quite artificial, and therefore high-MOSS participants may have been aware of their own desire to identify with and favor their minimal groups.

This explanation highlights two possible conditions that might be necessary for MOSS to reduce bias: awareness of the bias, and the opportunity to override it. Theorists have drawn distinctions between motivation and opportunity to overcome bias (Fazio, 1990) and awareness of bias (Wilson et al., 2000). Given that the MOSS demonstrated stronger and more consistent predictive validity for outcomes with procedures that provided clear objective responses, high-MOSS participants may have better recognized the possible influence of bias, and were able to override the influence of that bias on their responses. These conditions could be tested by manipulating whether participants are aware of the particular bias and whether the bias is controllable. A future study could provide participants with information about the false-consensus effect to raise awareness of the bias, and inform them of how it is measured to isolate opportunity to override it. A third condition could combine the previous two and examine whether awareness, opportunity, or both are necessary for MOSS to reduce bias in judgment.

What this explanation does not resolve is whether individuals need to be aware that they are being influenced by bias at the moment the bias exerts its influence. *Motivated overriding* occurs when the bias is recognized as potentially influential in the moment and intentionally adjusted, whereas *automatic overriding* occurs when the bias is unintentionally adjusted in the moment. Automatic overriding does not require recognition and intentional adjustment of the bias in the moment, but requires recognition in the abstract that the bias exists in one's mind and can possibly influence judgment and behavior (Wilson et al, 2000). Requiring participants to make judgments after cognitively fatiguing tasks should help distinguish between these two processes, as motivated overriding requires sufficient cognitive resources (Hofmann, Gschwendner, Castelli, & Schmitt, 2008; Hofmann, Gschwendner, Friese, Wiers, & Schmitt, 2008). The finding that MOSS reduced party bias in implicit policy preferences in Study 2 supports an automatic overriding explanation, but these findings were inconsistent across studies and require more evidence.

Possible Bias Reduction Mechanisms

There are many possible mechanisms by which individuals who are motivated to be objective may actually arrive at more objective conclusions. First, they may be inherently less self-interested. This could be tested by measuring subjective decision-making in situations where there is no objective cost. If high-MOSS individuals are simply less self-interested, they would demonstrate less subjective judgments in these scenarios. Second, high-MOSS individuals may ignore (intentionally or unintentionally) potentially biasing information when forming judgments. It has been demonstrated that

egalitarian goals decrease stereotype activation, which is often conceived of as an automatic and uncontrollable process (Moskowitz & Li, 2011). This mechanism would suggest that objectivity motivation may exert its debiasing influence very early in the decision process. Third, high-MOSS individuals may acknowledge biasing information but cognitively separate it from objective information when forming judgments. It is hard to imagine how this might occur cognitively, but it could be possible to disrupt links between mental concepts. As previously reviewed, it is also possible that MOSS may operate through motivated or automatic overriding, and this should be tested.

There may also be tools or abilities that high-MOSS individuals have that allow them to better enact these debiasing mechanisms. For example, as tested (and unsupported) in Study 7, checking the accuracy of their decisions after making them may be one method of assessing the effectiveness of previous debiasing efforts. Further investigations of the different outcomes predicted by implicit motivation for objectivity and MOSS could also shed light on the different mechanisms through which MOSS might operate. For example, if some individuals have strong correlations between implicit and explicit motivation for objectivity, this may suggest that the motivations are highly internalized and perhaps automatized, and those individuals may debias judgment at earlier stages in the decision-making process.

Limitations and Future Research

Does reward influence MOSS scores? Mean MOSS endorsement varied across seven studies with three different samples. UVa undergraduates (Studies 1, 5, & 6) revealed the lowest mean endorsement of objectivity motivation, Project Implicit (PI)

volunteers (Studies 2-4) revealed the highest MOSS endorsement, and MTurk workers (Study 7) were right in between undergraduates and PI volunteers (see Table 6 for a comparison). Standard deviations were also smaller for the student samples than the PI and MTurk samples, likely because students are a demographically homogenous sample.

There are several possible explanations for the variation in mean MOSS endorsement across studies. First, PI and MTurk participants completed the study online, and undergraduates in Studies 5 and 6 completed the study in the laboratory. To the extent that objectivity motivations are a socially desirable response, it could be argued that completing the study online might have elicited more socially desirable responding on the MOSS. However, this is an unlikely explanation for three reasons: (1) in Study 1, undergraduates completed the MOSS online and revealed similar mean endorsement as the undergraduates who completed the study in the lab (see Table 1 for Study 1 means), (2) previous investigations have revealed that other socially desirable responses (e.g., reporting positive attitudes toward stigmatized social groups) are *lower* online than in the lab (Evans, Garcia, Garcia, & Baron, 2003; Joy-Gaba & Nosek, 2010) and (3) the evidence from Studies 1 and 4 suggest that social desirability does not influence MOSS responses very much. Another possible explanation is that PI and MTurk samples were older than undergraduate samples and age correlated with MOSS. However, the MTurk sample was older on average (M_{age} = 36.0) than the PI samples (M_{age} = 31.9; 29.8; 31.2) but demonstrated lower MOSS scores.

Perhaps the most plausible explanation for differences in mean MOSS endorsement across samples is that compensation for participation differed between

samples. Undergraduates were compensated with course credit, MTurk workers were paid $.50 for participation, and PI participants volunteered. PI volunteers' only incentive was receiving feedback on the implicit measure that they completed in the study. Therefore, undergraduates and MTurk workers may have been motivated to participate simply for the reward, but PI participants were perhaps motivated to participate for intrinsic reasons. If this were true, it is reasonable to assume that people who are intrinsically motivated to participate in scientific studies without reward are perhaps different psychologically than those who participate in order to receive a reward. Future research can test this possibility by manipulating the size of reward that MTurk participants receive. If this mechanism is responsible for the differences in mean MOSS endorsement between samples, then a smaller reward should result in a sample more similar to PI volunteers and higher mean MOSS endorsement than a larger reward.

Where does MOSS come from? If MOSS is a stable individual difference, it must have some origin in psychological development. Study 4 provided evidence that MOSS was unrelated to standardized test scores, suggesting that MOSS is not redundant with cognitive abilities, at least as indicated by standardized tests scores. MOSS could originate in cultural socialization. For example, the United States is home to an individualistic culture (Triandis, Bontempo, Villareal, Asai, & Lucca, 1988) and collectivistic cultures may be more motivated for subjectivity due to their stronger emphasis on interpersonal relationships. On the other hand, Americans may be WEIRDer (Western, Educated, Industrialized, Rich, and Democratic; Henrich, Heine, & Norenzayan, 2010) than much of the rest of the world, leading to stronger motivations for

self-interest. The current samples are almost entirely American, so future cross-cultural work on the MOSS can increase ecological validity and theoretical understanding of the MOSS by shedding light on the cultural origins of the construct.

MOSS may also originate in moral development. In fact, some of concrete judgments in Study 1 that MOSS predicted resemble the classic moral dilemma where the protagonist, Heinz, must decide between his desires to help his spouse attain life-saving medicine and to abide by the law (Kohlberg, 1969; Levine, Kohlberg, & Hewer, 1985). Part of this decision requires an evaluation of law-following as right or wrong, but the morality of law-following is not what MOSS aims to measure. Rather, MOSS is conceptualized as this question: would Heinz be equally likely to break the law to help his wife as he would to help a stranger? An affirmative response to this question is an objective judgment, free from self interest. To the extent that moral development may assist in the formation of answers to this question, MOSS may originate in moral development. That age was related to MOSS and moral development occurs over the lifespan provides some suggestive evidence for MOSS being part of moral development.

Can MOSS be trained? The MOSS was unchanged by completing prior tasks in all studies but one (Study 6), where an accountability manipulation increased MOSS scores (see Table 12). Minimally, these results suggest that situational and dispositional motivations for objectivity may interact to influence judgment and behavior. Further, if accountability does, in fact, change participants' motivation for objectivity, even if only temporarily, this would suggest that trait motivation for objectivity could be altered with the right tools. For some individuals (e.g., judges, referees) and some roles (e.g.,

leadership, negotiation), the goal for decision-making is objectivity. If MOSS could be increased with an intervention, this could be a potentially useful training tool for individuals or roles for which objectivity is at a premium in decision-making. Further, in Study 5, participants demonstrated reduced self-enhancement bias and increased objective behavior in the different versions of Dictator Game after completing the MOSS, suggesting that simply completing the MOSS might be one such tool for increasing objectivity.

Conclusions

Desired outcomes and subjective biases pervasively influence human judgment and behavior, but situational and dispositional motivations for objectivity can lead to overriding these subjective biases to arrive at objective conclusions. Understanding the situations that – and the individuals who – are more or less likely to be motivated for objectivity can help reduce the influence of subjective biases in decisions that demand objectivity. This could potentially increase objectivity in important public arenas such as the legal system and social justice policy.

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Appendix A

Newspaper Article with Welfare Plans for Study 2.

State Undecided on New Welfare Law

Republicans and Democrats remained deadlocked on the debate over the future of the state welfare program.

At the heart of the conflicts are benefits from Aid to Families with Dependent Children (AFDC) – the cash assistance provided to poor parents living below the poverty line. Along with food stamps and Medicaid, AFDC comprises the central tier of the welfare program, and it is where Republicans and Democrats disagree most vehemently. Each party has proposed a separate AFDC amendment to the current welfare statute.

Democrats and Republicans have strong philosophical differences in the stance on AFDC benefits

Paul Koretz (R) has proposed a plan that is supported by the majority of house Republicans. His plan, called the Comprehensive Assistance Plan, sets the benefits provided to poor families with a child at $250/month – with an extra $50 in payment for every additional child. Under this plan, a poor family with two children would be granted $300/month in state funds – along with partial coverage for medical insurance through Medicaid. The proposal also imposes a lifetime limit of 1.5 years of benefits for those who are able-bodied.

The Republicans believe their plan, the Comprehensive Assistance Plan, to be fair and equitable. Republican Nethanial Llewellyn remarked, "This legislation is reasonable. It helps parents in need without undermining a basic work ethic and sense of personal responsibility."

On the other hand, Democrats assert that the program does not go far enough, and may ultimately hurt recipients by cutting off welfare to families still in need. They have proposed a counter-amendment, sponsored by Ray Hans (D), called the Umbrella Aid Plan. Under that plan, the benefits to poor families with a child are set at $776/month with an extra $200 in payment for each additional child. Under this plan, a poor family with two children would be granted $876/month – along with full Medicaid coverage. The proposal imposes an 8 year time limit on benefits for able-bodied parents.

The Democrats argue that their proposed amendment, the Umbrella Aid Plan, is superior to that proposed by the Republicans. Democrat William Glaser remarked, "The Republican's plan will only add to the burden of poor parents. The plan we have proposed is rational and just, and will serve to lighten the load for the state's poor by providing coverage where needed."

Appendix B

Newspaper Article with Education Plans for Study 3.

State Undecided on New Education Law

Republicans and Democrats remained deadlocked on the debate over the future of the state education program.

At the heart of the conflict is the Individuals with Disabilities Education Act (IDEA) – federal legislation that ensures equal education opportunities for children with disabilities. IDEA determines the appropriate approach for the education of children with disabilities, and it is where Republicans and Democrats disagree most vehemently. Each party has proposed a separate IDEA amendment to the current education statute.

Democrats and Republicans have strong philosophical differences in their stance on IDEA approaches

Paul Koretz (R) has proposed a plan that is supported by the majority of house Republicans. His plan, called the Special Programs Plan, requires children with disabilities to be educated in separate settings from the mainstream classroom. Children with disabilities receive individualized instruction based on each child's special needs and unique strengths and weaknesses. Children work one-on-one with special educators on life-training skills.

The Republicans believe their plan, the Special Programs Plan, to be fair and equitable. Republican Nate Llewellyn remarked, "This legislation is reasonable. It helps children with special needs learn important skills without subjecting them to ostracism by their peers."

On the other hand, Democrats assert that the program separates children with disabilities and constitutes unequal education. They have proposed a counter-amendment, sponsored by Ray Hans (D), called the Integrated Classrooms Plan. Under that plan, children with disabilities are integrated into the mainstream classroom. Special educators collaborate with teachers to design activities that can be inclusive of all students. Learning is focused on social and interpersonal skills gained from classroom experiences alongside children without disabilities.

The Democrats argue that their proposed amendment, the Integrated Classrooms Plan, is superior to that proposed by the Republicans. Democrat William Glaser remarked, "The Republicans' plan will only add to the stigma of individuals with disabilities. The plan we have proposed is rational and just, and will serve to integrate all individuals publically and communally in society."

Appendix C

Political Expertise Questions for Study 4 (Updated from Delli Carpini & Keeter, 1993). Correct Answers Are Bolded.

1. In the event of death or incapacity of the President, if the Vice President is unable or unwilling to serve, who is next in line to assume Presidential duties?
    a. Chief Justice of the Supreme Court
    b. Secretary of State
    c. Speaker of the House of Representatives
    d. Don't know

2. What percentage vote of the House and the Senate is needed to override a Presidential veto?
    a. A bare majority
    b. Two-thirds
    c. Three-fourths
    d. Ninety percent
    e. Don't know

3. How many Justices are on the Supreme Court?
    a. 1-15 (**9**)

4. Abraham Lincoln was:
    a. A Republican
    b. A Democrat
    c. Don't know

5. Which state was Mitt Romney previously governor of?
    a. Maine
    b. Utah
    c. New Jersey
    d. Rhode Island
    e. Massachusetts
    f. Pennsylvania

6. Chris Christie presently holds which office?
    a. Secretary of State
    b. Secretary of Labor
    c. Secretary of Defense
    d. Senator from New Jersey
    e. Governor of New Jersey
    f. Senator from Delaware
    g. Governor of Delaware

h. Don't know

7. John Boehner is:
   a. A Republican
   b. A Democrat
   c. Don't know

8. Eric Cantor is:
   a. A Republican
   b. A Democrat
   c. Don't know

9. David Axelrod is:
   a. A Republican
   b. A Democrat
   c. Don't know

10. Which party presently holds the majority of seats in the United States House of Representatives?
    a. Republicans
    b. Democrats
    c. Don't know

11. Which party presently holds the majority of seats in the United States Senate?
    a. Republicans
    b. Democrats
    c. Don't know

Appendix D

Opinion Statements Measuring False-Consensus Effect in Study 5 (Hoch, 1987).

1. I would like to spend a year in London or Paris.
2. I am an impulse buyer.
3. I am a homebody.
4. A nationally advertised brand is usually a better buy than a generic brand.
5. I would rather spend a quiet evening at home than go out to a party.
6. I am more concerned about nutrition than most of my friends are.
7. Television is my primary form of entertainment.
8. I am concerned about how much sugar I eat.
9. I would rather live in or near a big city than in or near a small town.
10. Children cannot get a good education in schools today.
11. The government should exercise more control over what is shown on television.
12. There is too much talk these days about what is good and bad for you when it comes to food.

Appendix E

Political Knowledge Quiz and Explanations from Study 7. Correct Responses Are Bolded, Republican Bias Responses Are Marked with a Superscript 'R' and Democratic Bias Responses Are Marked with a Superscript 'D'.

1. How much has the number of persons receiving food stamps changed under President Obama?

Decreased almost 25%[D]
Stayed the about same [D]
Increased almost 50%
Nearly doubled[R]

Explanation: The number of persons receiving food stamps has gone up 46 percent under Obama. During the 2012 election season, Mitt Romney stated that "able-bodied" persons have doubled, but he was referring only to able-bodied adults without dependents. They make up less than 10 percent of all food stamp recipients. Romney exaggerated when he said that Obama's waiving of a work requirement caused that increase.

2. What impact will the Affordable Care Act (commonly known as Obamacare) have on federal deficits, according to the nonpartisan Congressional Budget Office?

It will reduce the deficit by more than $1 trillion over 10 years [D]
It will reduce the deficit by more than $200 billion over 10 years
It will increase the deficit by more than $200 billion over 10 years[R]
It will increase the deficit by more than $1 trillion over 10 years[R]

Explanation: Factoring in the effects of both the costs of the health care law -- including federal subsidies for lower-income individuals to help them purchase insurance, expansion of Medicaid eligibility and tax credits for small businesses that provide coverage -- as well as revenues it would produce -- including a reduction in the growth in Medicare spending and various taxes -- Congressional Budget Office has estimated that the law would reduce the federal deficit by $210 billion over the 2012-2021 period.

3. How will President Obama's deficit-reduction plan from his 2013 fiscal budget slow the growth of Medicare spending?

Will not shift any costs to seniors [D]
Will shift some costs to seniors, but only for higher-income people [D]
Will shift some cost to higher-income seniors as well as new beneficiaries
Will shift costs to seniors, but will give them government grants to pay the extra costs[R]

Explanation: On “Fox News Sunday,” Treasury Secretary Tim Geithner said that the president’s proposals to slow Medicare growth are “not shifting costs to seniors.” But there are four proposals that would increase costs to some seniors by $32.9 billion over 10 years, beginning in 2017. Some of it is from increased premiums under Medicare Part B (medical insurance) and D (prescription drugs) for higher-income seniors. But there are also new ways new beneficiaries will pay more: an added $25 Medicare Part B deductible each year in 2017, 2019 and 2021; a $100 copay for home-health care; and a premium surcharge for those who purchase Medigap coverage.

The administration proposes to increase premiums under Medicare Part B (medical insurance) and D (prescription drugs) for higher-income seniors by 15 percent and freeze the high-income thresholds at current levels “until 25 percent of beneficiaries under parts B and D are subject to these premiums.” According to Kaiser Family Foundation estimates, the income thresholds for paying higher premiums by 2035 will be equivalent to about $47,000 for individuals and $94,000 for couples “in today’s adjusted inflation dollars.”

4. Mitt Romney said in a May 2012 fundraiser that 47 percent of Americans who don't pay any federal income taxes are "dependent upon government." Which of the following statements is true about the 47 percent?

They vote almost entirely Democratic[R]
Most of them do not have jobs[R]
About one in five of them are senior citizens
More than half of them are senior citizens [D]

Explanation: In its most recent analysis in July 2011, the Tax Policy Center found that among the 46.4 percent of Americans who owed no federal income tax, about half of them people whose incomes are so low that when standard income tax provisions -- personal exemptions for taxpayers and dependents and the standard deduction — are factored in, that simply leaves no income to be taxed. Those are people who earned less than about $27,000. About 22 percent receive senior tax benefits, and are mostly older people on Social Security whose adjusted gross income is less than $25,000. Another 15.2 percent owed no income tax because they receive tax credits for children and the working poor. The rest ended up owing no federal income tax due to various tax expenditures such as education credits, itemized deductions or reduced rates on capital gains and dividends.

Although Romney said the 47 percent who pay no federal income tax "will vote for the president no matter what," that doesn't jibe with polling data. It’s safe to say that most of the 46.4 percent referred to by Romney are in the lower-income brackets. According to the most recent Gallup polls of registered voters at the time, 37 percent of those making less than $36,000 a year indicated they plan to vote for Romney. Polls from Rasmussen Reports and the Pew Research Center also indicated that while Obama was more popular

among low-income people, Romney enjoyed support from a sizable percentage, about 40 percent. Also, a map put out by the Tax Foundation of the 10 states with the highest and lowest percentage of filers with no federal tax liability shows that the states with the highest percentage of non-filers are, by and large, states that typically vote Republican, while the 10 states with the lowest percentage of non-filers tend to lean Democratic.

5. Lockheed Martin warned that it would have to lay off as many as 10,000 workers in 2012 as a result of what?

President Obama's downsizing of the military[R]
Automatic defense cuts scheduled in congress's Budget Control Act of 2011
Obamacare[R]
Over-use of defense funds from Bush-era foreign policy [D]

Explanation: A viral email claims "Lockheed is going to lay off 123,000 defense workers due to Obama's downsizing of the military." That's not true. Lockheed's entire workforce is 123,000. However, in June, the company's CEO said "a very rough 'seat of the pants' estimate is that we might be required to lay off about 10,000 employees." He blamed it on the automatic defense cuts that will be triggered next year under the Budget Control Act of 2011. The spending cuts are the result of a congressional failure to enact further deficit-reduction measures. Congress and the Obama administration are expected to attempt to negotiate an agreement to avoid the cuts.

6. Planned Parenthood clinics performed more than 11 million medical services in 2010. Which of the following statements is true of their services?

Abortion procedures make up about 27% of their services[R]
Abortion procedures make up about 15% of their services[R]
Abortion procedures make up about 3% of their services
Abortion procedures make up less than 1% of their services [D]

Explanation: Abortion procedures make up 3 percent of Planned Parenthood's services in 2010. Testing and treatment of sexually transmitted diseases is the largest category of services -- 38 percent. Breast and cervical cancer screening and prevention made up 14.5 percent of Planned Parenthood's services. In the Oct. 16 presidential debate, President Obama said that women "rely on" Planned Parenthood "for mammograms, for cervical cancer screenings." The clinics themselves do not perform mammograms but do give referrals to patients to mammography centers.

Table 1. Descriptive Statistics and Factor Structure of the MOSS for Study 1.

Item	Item Text	Mean	StDev	r with Total	50-item F1 loading	21-item F1 loading
1	Accuracy is the most important quality of decision-making, even if the decisions challenge my current beliefs.	4.47	1.31	.43	.45	.44
2	When making decisions, accuracy is more important than supporting my current beliefs.	4.55	1.24	.53	.54	.53
3	If confronted by evidence that my position is incorrect, I will change my position.	4.72	1.29	.45	.47	
4	If confronted by evidence that one of my treasured beliefs is incorrect, my first inclination is to take the evidence seriously and question my belief.	4.09	1.34	.41	.40	.40
5	If I were presented with unequivocal evidence that a belief I hold strongly is untrue, I would change my belief.	4.74	1.57	.47	.48	
6	If confronted by evidence that one of my treasured beliefs is incorrect, my first inclination is to seek out what is wrong with the evidence so I can retain my belief. (R)	3.88	1.47	.31	.29	.32
7	If I were presented with strong evidence that a belief I hold strongly is untrue, I would be pretty sure that there is something wrong with the evidence. (R)	4.49	1.37	.45	.44	.47
8	When I hear evidence that challenges a belief I hold strongly, I question the source of the evidence. (R)	3.20	1.35	.19	.15	
9	When I hear news from sources that contradict my beliefs, I think it is probably untrue or incomplete. (R)	4.06	1.33	.12	.08	
10	I am more likely to doubt news reports from sources that contradict my beliefs more vigorously than news from sources that agree with my beliefs. (R)	3.28	1.48	.17	.14	
11	It is more important to me to get the answer right than to get the answer I want.	5.14	1.11	.40	.41	.33
12	In situations where there is an accurate outcome that has some personal cost, it is important to do the accurate thing.	4.71	1.16	.65	.68	.61
13	Even if I suffer personally, I try to make accurate decisions.	4.83	1.21	.46	.49	
14	Making the correct decision is more important to me than personal gain.	4.76	1.38	.60	.63	
15	Accuracy is the most important quality of	4.30	1.29	.53	.57	

	decision-making, even if the decisions have negative consequences for me.					
16	I try to make accurate decisions unless I will suffer personally because of it. (R)	3.45	1.48	.44	.47	
17	If confronted with the choice between an outcome I want versus an outcome that is accurate, it is difficult for me to choose the accurate outcome. (R)	3.80	1.19	.23	.23	
18	In decisions where there will be personal costs for making the accurate decision, I think it's OK to decide for personal gain. (R)	4.18	1.24	.57	.61	
19	If my future aspirations would be threatened by making an accurate decision, I would decide the outcome that preserves my future opportunities. (R)	3.42	1.29	.46	.46	
20	I think it's OK to deviate from the truth to achieve an outcome that benefits me. (R)	4.62	1.42	.60	.63	.54
21	Accuracy is the most important quality of decision-making, even if the decisions have negative consequences for my friends or family.	3.74	1.26	.55	.57	.67
22	When making decisions, accuracy is most important, even if another course of action could benefit my friends or family.	4.09	1.30	.60	.63	.65
23	It is important to me to make accurate decisions, and this sometimes means less than optimal outcomes my friends or family.	4.18	1.26	.46	.49	.56
24	If I have to decide between doing what is right and something that benefits my social group, I choose the right thing.	4.83	1.34	.46	.49	.49
25	If I can make an accurate decision based on evidence, it is important to me to do so regardless if people I care about have to pay the cost.	3.98	1.40	.36	.38	.43
26	When making decisions, helping out friends or family is more important than making correct decisions. (R)	3.75	1.29	.55	.59	.63
27	I am unwilling to hurt people I love in order to make an accurate decision. (R)	3.33	1.42	.30	.31	.34
28	The "correct" decision is the one that helps one's friends and family most, not the one that is most consistent with the facts. (R)	4.25	1.51	.40	.45	
29	If the accurate decision has negative consequences for my friends, I would be inclined to choose something else. (R)	3.49	1.12	.46	.47	.51
30	If the natural outcome of a fair process will result in a negative outcome for my friends or family, I	3.57	1.23	.43	.44	.54

	would intervene to change the outcome. (R)					
31	Above all else, I want my decisions to be accurate.	4.94	1.29	.39	.41	
32	It is important to me to make accurate decisions.	5.52	0.93	.32	.36	
33	I pursue accuracy in my decision-making.	5.43	1.02	.29	.31	
34	If the natural course of events is leading to an outcome that is not my preferred outcome, then I am inclined to intervene so that my preferred outcome occurs. (R)	3.71	1.26	.43	.45	.42
35	I think it is okay to deviate from policy when making decisions if it leads me to the decision I want. (R)	4.17	1.32	.57	.61	.56
36	It is okay to bend the law when making decisions if it leads to the decision I want. (R)	4.75	1.41	.39	.43	
37	If I know I want a certain outcome, I try hard to get to that outcome even if the facts contradict it. (R)	4.06	1.34	.49	.50	
38	Sometimes people are faced with a choice between making an accurate decision that is counter to their currently held beliefs versus an inaccurate decision that reinforces their currently held beliefs. How do you choose when faced with these scenarios?	4.17	1.25	.48	.48	
39	Sometimes people are faced with a choice between making an accurate decision that is counter to their self-interests versus an inaccurate decision that benefits themselves in some way. How do you choose when faced with these scenarios?	4.05	1.18	.61	.66	
40	Sometimes people are faced with a choice between making an accurate decision that is counter to the interests of their friends or family versus an inaccurate decision that is in the interest of their friends or family. How do you choose when faced with these scenarios?	3.60	1.24	.58	.61	
41	If you were assigned to be a referee for a game between your favorite sporting team or athlete and your least favorite team or athlete, could you put aside your feelings about the competitors and judge the game fairly?	3.43	1.28	.25	.26	
42	If you lived during the time of the World War II and were eligible, would you have volunteered to fight against the Nazis?	3.18	1.17	-.01	-.01	
43	Imagine that you discovered that members of your company were conducting illegal business practices. If you reported them to the authorities,	3.38	.86	.40	.42	

	it might cause you to lose your job. Would you report them?					
44	If you witnessed a violent crime and knew that testifying in court against the offender would potentially endanger your life, would you still testify?	3.54	1.04	.39	.40	.37
45	If your boss (or teacher, or mentor) was guilty of illegal or unethical behavior, would you turn him/her into the authorities?	3.68	0.79	.19	.22	
46	If you knew your family member committed a serious crime and the cops asked you to testify against him/her, would you do it?	2.76	1.08	.40	.41	.48
47	If a good friend cheated on a test, would you tell the teacher about it?	2.24	0.86	.17	.18	
48	If several players on your favorite professional sports team were found guilty of using illegal performance-enhancing drugs, would you still support the team? (R)	2.88	1.10	.28	.28	
49	A judge is supposed to consider the facts and come to an accurate solution. A lawyer is supposed to advocate for his or her side as strongly as possible. In general, is your decision-making more like a judge or a lawyer?	4.03	1.49	.47	.53	
50	In sports, the job of a fan is to support and cheer for his/her team. The job of the referee is to call the game fairly, regardless of what team he/she wants to win. In your everyday decisions, do you see yourself as more of a fan or a referee?	3.88	1.53	.49	.53	

Note. Items 1-37 use a 7-point scale (1 *Strongly disagree* to 7 *Strongly agree*), item 38 uses a 7-point scale (1 *Always decide in favor my current beliefs* to 7 *Always decide in favor of accuracy*), item 39 uses a 7-point scale (1 *Always decide in favor of myself* to 7 *Always decide in favor of accuracy*), item 40 uses a 7-point scale (1 *Always decide in favor of friends or family* to 7 *Always decide in favor of accuracy*), items 41-48 use a 5-point scale (1 *Definitely not* to 5 *Definitely yes*), item 49 uses a 7-point scale (1 *Always more like a lawyer* to 7 *Always more like a judge*), and item 50 uses a 7-point scale (1 *Always more like a fan* to 7 *Always more like a referee*).

Table 2. Descriptive Statistics for Judgment Scenarios from Study 1 and Correlations with 21-item MOSS.

#	Item Text	Mean	StDev	*r* with MOSS
1	After eating at a restaurant, your waiter brings you the check, but he forgot to include your drinks on the bill. Do you mention this to him/her or simply pay the incorrect, reduced amount? *1 Definitely tell the waiter to 5 Definitely pay the reduced amount*	3.43	1.37	.27**
2	You are distributing education funds to all the state universities in your home state. If you follow policy and distribute funds based on the number of students enrolled, your university will get a smaller percentage of the funds than you think it deserves. Do you deviate from policy and give more to your university? *1 Definitely follow policy to 5 Definitely deviate from policy*	3.88	0.99	.50†
3	You are casting your voting ballot in your local election and come across a particular position that you know nothing about. You don't know what the responsibilities of this particular position are or anything about the candidates running for the position. However, you can see their party affiliation on the ballot. Do you vote for the candidate who shares your party affiliation or do you skip this particular race and move to the next one? *1 Definitely skip this particular race to 5 Definitely vote for the candidate who shares my party affiliation*	2.97	1.28	.15
4	Two people you work with are going up for a raise. One of them is a friend who you happen to work with, and the other is someone you don't know. The person you don't know is objectively better at his/her job than your friend. Who gets your support for the raise?" *1 Definitely the person I don't know to 5 Definitely my friend*	3.03	1.03	.16
5	You have to decide between two potential job candidates - one who went to your university and one who went to your rival university. The person who went to your rival university is clearly a better candidate. Who do you hire? *1 Definitely the candidate who went to my rival university to 5 Definitely the candidate who went to my university*	3.93	0.96	.27**
6	You are on a review board at a local high school, where the budget and employment cuts for the upcoming year are being discussed. You have to decide between letting go a former teacher of yours or a new teacher who has been with the school district for only one year. Your former teacher, with whom you were very close, has missed many days during the past year, and her students have expressed dissatisfaction with her teaching styles and methods. The new teacher, however, has not been absent once and has happy, high-achieving students. Who do you cut? *1 Definitely my former teacher to 5 Definitely the new teacher*	3.85	0.90	.15
7	After shopping at the grocery store, you are back in your car and realize that the teller accidentally gave you a $20 bill instead of $1 bill for your change. Do you walk back to the store to return the change or	3.15	1.39	.21*

	keep the $20? *1 Definitely return the change to 5 Definitely keep the $20*			
8	You are a manager at a company and you must make cuts to the budget. Policy dictates that you cut the lowest performing employee. Do you fire this employee, or deviate from policy and fire someone else? *1 Definitely fire this employee to 5 Definitely deviate from policy*	4.17	0.79	.09
9	Same scenario as before, but the lowest performing employee is a friend of a friend. Do you fire the employee, or deviate from policy and fire someone else? *1 Definitely fire my friend to 5 Definitely deviate from policy*	3.54	0.91	.33†
10	Same scenario as before, but the lowest performing employee is a good friend. Do you fire the employee, or deviate from policy and fire someone else? *1 Definitely fire my good friend to 5 Definitely deviate from policy*	2.70	0.97	.37†
11	Same scenario as before, but you are the lowest performing employee. Do you fire yourself, or deviate from policy and fire someone else? *1 Definitely fire myself to 5 Definitely deviate from policy*	2.44	1.20	.41†
12	You are a sales manager and must distribute bonuses to the two sales teams in the department. Both teams worked hard this quarter, but company policy of bonuses is to match the percentage of the bonus to the percentage of sales from each team. This will result in Team A receiving 90% of the bonus and Team B receiving only 10% of the bonus. Do you distribute the bonuses according to policy, or deviate from company policy to give a somewhat higher percentage to Team B? *1 Definitely distribute bonuses according to policy to 5 Definitely give more to Team B*	3.17	1.17	.09
13	Same scenario as before, but a friend of a friend is a member of Team B. Do you distribute the bonuses according to policy, or deviate from company policy to give the teams a more equal bonus? *1 Definitely distribute bonuses according to policy to 5 Definitely give more to Team B*	3.15	1.16	.17*
14	Same scenario as before, but your good friend is a member of Team B. Do you distribute the bonuses according to policy, or deviate from company policy to give the teams a more equal bonus? *1 Definitely distribute bonuses according to policy to 5 Definitely give more to Team B*	2.91	1.21	.19*
15	Same scenario as before, but you are a member of Team B. Do you distribute the bonuses according to policy, or deviate from company policy to give the teams a more equal bonus? *1 Definitely distribute bonuses according to policy to 5 Definitely give more to Team B*	2.91	1.24	.30***
--	Composite score of all 15 judgment scenarios (averaged)	3.28	0.54	.50†

Note. $p < .05$*, $p < .01$**, $p < .001$***, $p < .0001$†

Table 3. Convergent Validity Evidence for Study 1.

	21-item MOSS	10-item MOSS	MOSS Role	MOSS Holistic	NFC	SD	CM	IMS	Comp Judgment
21-item MOSS	1								
10-item MOSS	.94†	1							
MOSS Role	.54†	.56†	1						
MOSS Holistic	.70†	.71†	.57†	1					
NFC	.38†	.34†	.23**	.31***	1				
SD	.06	.09	-.02	-.00	.30***	1			
CM	-.28**	-.23**	-.24**	-.26**	-.45†	-.21*	1		
IMS	.30***	.29***	.26**	.20*	.19*	.16	-.35†	1	
Composite Judgment	.50†	.53†	.26**	.44†	.22**	.05	.09	.11	1

Note. MOSS = Motivation for Objectivity versus Subjectivity Scale, NFC = Need for Cognition, SD = Social Desirability, CM = Close-mindedness subscale of Need for Cognitive Closure Scale, IMS = Internal Motivation to Respond without Prejudice. $p <$ .05*, $p <$ .01 **, $p <$ .001 ***, $p <$ .0001†

Table 4. Descriptive Statistics and Factor Structure for MOSS for Study 2.

Item	Item Text	Mean	StDev	*r* with Total	F1 loading
1	Accuracy is the most important quality of decision-making, even if the decisions challenge my current beliefs.	5.24	1.55	.48	.54
2	When making decisions, accuracy is more important than supporting my current beliefs.	5.09	1.61	.46	.51
4	If confronted by evidence that one of my treasured beliefs is incorrect, my first inclination is to take the evidence seriously and question my belief.	4.74	1.77	.34	.36
6	If confronted by evidence that one of my treasured beliefs is incorrect, my first inclination is to seek out what is wrong with the evidence so I can retain my belief.(R)	4.18	1.85	.30	.30
7	If I were presented with strong evidence that a belief I hold strongly is untrue, I would be pretty sure that there is something wrong with the evidence.(R)	5.17	1.53	.41	.40
11	It is more important to me to get the answer right than to get the answer I want.	5.76	1.41	.43	.46
12	In situations where there is an accurate outcome that has some personal cost, it is important to do the accurate thing.	5.45	1.33	.49	.55
20	I think it's OK to deviate from the truth to achieve an outcome that benefits me.(R)	5.54	1.56	.42	.44
21	Accuracy is the most important quality of decision-making, even if the decisions have negative consequences for my friends or family.	4.45	1.65	.59	.67
22	When making decisions, accuracy is most important, even if another course of action could benefit my friends or family.	4.66	1.53	.58	.65
23	It is important to me to make accurate decisions, and this sometimes means less than optimal outcomes my friends or family.	4.90	1.48	.56	.64
24	If I have to decide between doing what is accurate and something that benefits my community, I choose the accurate thing.	4.73	1.48	.48	.55
25	If I can make an accurate decision based on evidence, it is important to me to do so even if it negatively impacts my community.	5.01	1.53	.52	.58
26	When making decisions, helping out friends or family is more important than making correct decisions.(R)	4.61	1.61	.52	.56
27	I am unwilling to hurt people I love in order to make an accurate decision.(R)	3.87	1.76	.35	.38
29	If the accurate decision has negative consequences for my friends, I would be inclined to choose something else.(R)	4.07	1.62	.53	.56
30	If the natural outcome of a fair process will result in a negative outcome for my friends or family, I would intervene to change the outcome.(R)	4.25	1.71	.47	.50
34	If the natural course of events is leading to an outcome that is not my preferred outcome, then I am inclined to intervene so that my preferred outcome occurs.(R)	3.79	1.76	.26	.25

35	I think it is okay to deviate from a prescribed policy if I can get closer to the decision I want.(R)	4.60	1.67	.33	.33
38	Sometimes people are faced with a choice between making an accurate decision that is counter to their currently held beliefs versus an inaccurate decision that reinforces their currently held beliefs. How do you choose when faced with these scenarios?	4.74	1.51		
39	Sometimes people are faced with a choice between making an accurate decision that is counter to their self-interests versus an inaccurate decision that benefits themselves in some way. How do you choose when faced with these scenarios?	4.74	1.36		
40	Sometimes people are faced with a choice between making an accurate decision that is counter to the interests of their friends or family versus an inaccurate decision that is in the interest of their friends or family. How do you choose when faced with these scenarios?	4.49	1.48		
44	If I witnessed a violent crime and knew that testifying in court against the offender would potentially endanger my life, I would still testify.	5.38	1.57	.34	.37
46	If I knew my family member committed a serious crime and I was asked to testify against him/her in court, I would do it.	4.65	1.92	.39	.42
49	A judge is supposed to consider the facts and come to an accurate solution. A lawyer is supposed to advocate for his or her side as strongly as possible. In general, is your decision-making more like a judge or a lawyer?	4.87	1.55		
50	In sports, the job of a fan is to support and cheer for his/her team. The job of the referee is to call the game fairly, regardless of what team he/she wants to win. In your everyday decisions, do you see yourself as more of a fan or a referee?	4.69	1.56		

Note. All items use a 7-point scale (1 *Strongly disagree* to 7 *Strongly agree*).

Table 5. Predictive Validity of MOSS for Political Judgment for Studies 2 & 3.

	Study 2 Explicit Plan Preference	Study 2 Implicit Plan Preference	Study 3 Explicit Plan preference	Study 3 Implicit Plan Preference
Model Terms	*SD* = 2.13 *n* = 312	*SD* = 0.49 *n* = 312	*SD* = 1.99 *n* = 606	*SD* = 0.42 *n* = 606
Proposing Party	-0.06 (-0.48,0.36)	0.00 (-0.10,0.10)	-0.34* (-0.10,0.23)	0.01 (-0.06 0.08)
Participant Party Affiliation	2.14† (1.72,2.45)	0.35† (0.25,0.45)	0.21 (-0.13,0.54)	0.03 (-0.04,0.10)
MOSS	-0.13 (-0.39,0.13)	0.00 (-0.06,0.06)	0.05 (-0.15,0.25)	0.04* (0.00,0.08)
Proposing Party *Participant Party Affiliation	1.47*** (0.63,2.31)	0.49† (0.28,0.69)	1.93*** (1.26,2.60)	0.49*** (0.35,0.62)
Proposing Party *MOSS	0.13 (-0.39,0.65)	0.04 (-0.08,0.17)	-0.06 (-0.46,0.33)	-0.04 (-0.12,0.04)
Participant Party Affiliation *MOSS	0.35 (-0.17,0.87)	-0.10 (-0.23,0.03)	0.07 (-0.33,0.46)	0.01 (-0.07,0.09)
Proposing Party *Participant Party Affiliation *MOSS	-0.45 (-1.49,0.59)	-0.28* (-0.53,-0.02)	0.09 (-0.70,0.88)	0.04 (-0.12,0.20)
R^2 for full model	28.7%	21.3%	5.8%	9.9%

Note. The MOSS was centered on its mean, proposing party and participant party affiliation are coded as Republican (-.5) and Democrat (.5) and higher explicit and implicit plan preference scores represent preferring the generous welfare plan to the stringent welfare plan and mainstreaming education plan to the separate classrooms education plan. Unstandardized coefficients should be interpreted in the context of the distributions of the dependent variables. $p < .05$*, $p < .01$**, $p < .001$***, $p < .0001$†

Table 6. Descriptive Statistics for MOSS for Studies 3-7.

Item	Item Text	Study 3 (PI)	Study 4 (PI)	Study 5 (Lab)	Study 6 (Lab)	Study 7 (MTurk)
1	Accuracy is the most important quality of decision-making, even if the decisions challenge my current beliefs.	5.28 (1.58)	4.79 (1.68)	4.63 (1.50)	4.30 (1.44)	5.07 (1.70)
2	When making decisions, accuracy is more important than supporting my current beliefs.	5.23 (1.62)	4.68 (1.77)	4.57 (1.34)	4.25 (1.34)	5.02 (1.64)
4	If confronted by evidence that one of my treasured beliefs is incorrect, my first inclination is to take the evidence seriously and question my belief.	4.90 (1.76)	4.38 (1.78)	4.35 (1.56)	4.32 (1.49)	4.78 (1.58)
6	If confronted by evidence that one of my treasured beliefs is incorrect, my first inclination is to seek out what is wrong with the evidence so I can retain my belief.(R)	4.40 (1.85)	4.09 (1.86)	3.72 (1.67)	3.90 (1.48)	4.09 (1.75)
7	If I were presented with strong evidence that a belief I hold strongly is untrue, I would be pretty sure that there is something wrong with the evidence.(R)	5.28 (1.65)	5.14 (1.55)	4.63 (1.75)	4.58 (1.45)	4.95 (1.55)
11	It is more important to me to get the answer right than to get the answer I want.	5.87 (1.36)	5.59 (1.35)	5.25 (1.45)	5.08 (1.29)	5.57 (1.46)
12	In situations where there is an accurate outcome that has some personal cost, it is important to do the accurate thing.	5.51 (1.28)	5.31 (1.37)	4.89 (1.25)	4.94 (1.08)	5.14 (1.37)
20	I think it's OK to deviate from the truth to achieve an outcome that benefits me.(R)	5.63 (1.51)	5.12 (1.74)	4.67 (1.60)	4.94 (1.42)	5.09 (1.61)
21	Accuracy is the most important quality of decision-making, even if the decisions have negative consequences for my friends or family.	4.46 (1.64)	4.18 (1.69)	3.78 (1.34)	3.60 (1.33)	4.33 (1.60)
22	When making decisions, accuracy is most important, even if another course of action could benefit my friends or family.	4.78 (1.58)	4.34 (1.66)	4.10 (1.28)	3.98 (1.26)	4.58 (1.58)
23	It is important to me to make accurate decisions, and this sometimes means less than optimal outcomes my friends or family.	4.98 (1.46)	4.64 (1.52)	4.16 (1.17)	4.19 (1.21)	4.76 (1.48)

24	If I have to decide between doing what is accurate and something that benefits my community, I choose the accurate thing.	4.64 (1.48)	4.31 (1.58)	3.93 (1.20)	4.01 (1.15)	4.64 (1.47)
25	If I can make an accurate decision based on evidence, it is important to me to do so even if it negatively impacts my community.	4.99 (1.51)	4.83 (1.60)	4.27 (1.29)	4.23 (1.21)	4.86 (1.41)
26	When making decisions, helping out friends or family is more important than making correct decisions.(R)	4.65 (1.59)	4.21 (1.67)	3.70 (1.31)	3.77 (1.24)	4.18 (1.61)
27	I am unwilling to hurt people I love in order to make an accurate decision.(R)	3.99 (1.74)	3.92 (1.69)	3.41 (1.48)	3.40 (1.46)	3.50 (1.71)
29	If the accurate decision has negative consequences for my friends, I would be inclined to choose something else.(R)	4.05 (1.64)	3.92 (1.64)	3.20 (1.19)	3.24 (1.13)	3.73 (1.53)
30	If the natural outcome of a fair process will result in a negative outcome for my friends or family, I would intervene to change the outcome.(R)	4.32 (1.79)	4.19 (1.65)	3.47 (1.34)	3.68 (1.34)	3.87 (1.58)
34	If the natural course of events is leading to an outcome that is not my preferred outcome, then I am inclined to intervene so that my preferred outcome occurs.(R)	3.67 (1.78)	3.51 (1.72)	3.11 (1.20)	3.58 (1.39)	3.76 (1.68)
35	I think it is okay to deviate from a prescribed policy if I can get closer to the decision I want.(R)	4.61 (1.65)	4.38 (1.68)	4.30 (1.58	4.39 (1.27)	4.13 (1.60)
44	If I witnessed a violent crime and knew that testifying in court against the offender would potentially endanger my life, I would still testify.	5.50 (1.53)	5.35 (1.47)	4.85 (1.59)	4.87 (1.43)	4.87 (1.66)
46	If I knew my family member committed a serious crime and I was asked to testify against him/her in court, I would do it.	4.93 (1.79)	4.58 (1.80)	3.79 (1.86)	3.90 (1.54)	4.55 (1.80)
--	MOSS composite	4.84 (0.82)	4.54 (0.79)	4.10 (0.71)	4.15 (0.63)	4.55 (0.86)

Note. All items use a 7-point scale (1 *Strongly disagree* to 7 *Strongly agree*). PI = Project Implicit, Lab = University of Virginia Students in the lab, MTurk = Mechanical Turk participants online. In Study 4, social desirability instructions were manipulated, so the data listed here is from the control condition with standard instructions.

Table 7. Descriptive Statistics for Manipulation of MOSS Instructions in Study 4.

Item	Item Text	Control	Real Feelings	Should Feelings
1	Accuracy is the most important quality of decision-making, even if the decisions challenge my current beliefs.	4.79 (1.67)	5.16 (1.52)	5.04 (1.71)
2	When making decisions, accuracy is more important than supporting my current beliefs.	4.68 (1.77)	4.98 (1.75)	5.03 (1.78)
4	If confronted by evidence that one of my treasured beliefs is incorrect, my first inclination is to take the evidence seriously and question my belief.	4.38 (1.78)	4.76 (1.74)	5.16 (1.69)
6	If confronted by evidence that one of my treasured beliefs is incorrect, my first inclination is to seek out what is wrong with the evidence so I can retain my belief.(R)	4.09 (1.86)	4.38 (1.92)	4.71 (1.93)
7	If I were presented with strong evidence that a belief I hold strongly is untrue, I would be pretty sure that there is something wrong with the evidence.(R)	5.14 (1.55)	5.12 (1.67)	5.37 (1.61)
11	It is more important to me to get the answer right than to get the answer I want.	5.59 (1.35)	5.67 (1.38)	5.87 (1.25)
12	In situations where there is an accurate outcome that has some personal cost, it is important to do the accurate thing.	5.31 (1.37)	5.27 (1.47)	5.35 (1.45)
20	I think it's OK to deviate from the truth to achieve an outcome that benefits me.(R)	5.12 (1.74)	5.18 (1.66)	5.71 (1.40)
21	Accuracy is the most important quality of decision-making, even if the decisions have negative consequences for my friends or family.	4.18 (1.69)	4.14 (1.63)	4.35 (1.82)
22	When making decisions, accuracy is most important, even if another course of action could benefit my friends or family.	4.34 (1.66)	4.39 (1.59)	4.65 (1.71)
23	It is important to me to make accurate decisions, and this sometimes means less than optimal outcomes my friends or family.	4.64 (1.52)	4.73 (1.53)	4.85 (1.61)
24	If I have to decide between doing what is accurate and something that benefits my community, I choose the accurate thing.	4.31 (1.58)	4.38 (1.54)	4.25 (1.77)
25	If I can make an accurate decision based on evidence, it is important to me to do so even if it negatively impacts my community.	4.83 (1.60)	4.72 (1.62)	4.69 (1.77)
26	When making decisions, helping out friends or family is more important than making correct decisions.(R)	4.21 (1.67)	4.27 (1.68)	4.58 (1.71)
27	I am unwilling to hurt people I love in order to make an accurate decision.(R)	3.92 (1.69)	3.61 (1.82)	3.81 (2.04)

29	If the accurate decision has negative consequences for my friends, I would be inclined to choose something else.(R)	3.92 (1.64)	3.91 (1.66)	3.92 (1.85)
30	If the natural outcome of a fair process will result in a negative outcome for my friends or family, I would intervene to change the outcome.(R)	4.19 (1.65)	3.87 (1.72)	4.20 (1.80)
34	If the natural course of events is leading to an outcome that is not my preferred outcome, then I am inclined to intervene so that my preferred outcome occurs.(R)	3.51 (1.72)	3.61 (1.87)	3.91 (1.87)
35	I think it is okay to deviate from a prescribed policy if I can get closer to the decision I want.(R)	4.38 (1.68)	4.04 (1.67)	4.80 (1.60)
44	If I witnessed a violent crime and knew that testifying in court against the offender would potentially endanger my life, I would still testify.	5.35 (1.47)	5.13 (1.69)	5.73 (1.38)
46	If I knew my family member committed a serious crime and I was asked to testify against him/her in court, I would do it.	4.58 (1.80)	4.25 (2.01)	4.73 (2.06)

Note. All items use a 7-point scale (1 *Strongly disagree* to 7 *Strongly agree*). Control condition is normal MOSS instructions, Real Feelings reflects the condition where participants were encouraged to report how they really feel, regardless of how they should feel, and Should Feelings reflects the condition where participants were encouraged to report how they should feel, regardless of how they really feel.

Table 8. Correlations between All Measured Variables in Study 5.

	21-item MOSS	10-item MOSS	NFC	NFCC	Above-average effect	Self-Serving Bias	False-Consensus Effect	Objective Allocation Behavior
21-item MOSS	1							
10-item MOSS	.91†	1						
NFC	.02	.04	1					
NFCC	-.10	-.06	-.43†	1				
Above-Average Effect	-.24*	-.17	.25*	-.01	1			
Self-Serving Bias	-.19	-.24*	-.08	.07	.24*	1		
False-Consensus effect	-.11	-.14	-.22*	.35**	-.02	-.05	1	
Objective Allocation Behavior	-.18	-.18	.03	.03	.16	.29**	.05	1

Note. NFC = Need for Cognition, NFCC = Need for Cognitive Closure. $p < .05$*, $p < .01$ **, $p < .001$ ***, $p < .0001$†

Table 9. Correlations between Bias and Fact-Checking Scores and MOSS in Study 7.

	21-item MOSS	10-item MOSS	Political Knowledge	Democrat Bias	Republican Bias	Fact-Checking	Explanation-Checking	Revised Response
21-item MOSS	1							
10-item MOSS	.92†	1						
Political Knowledge	.05	.03	1					
Democrat Bias	.13*	.11	-.39†	1				
Republican Bias	-.15**	-.11	-.54†	-.56†	1			
Fact-Checking	.09	.07	.08	.06	-.13*	1		
Explanation-Checking	-.05	-.06	-.01	.05	-.04	.07	1	
Revised Response	-.02	-.04	.08	.15*	-.20**	.22**	.31†	1

Note. $p < .05$*, $p < .01$ **, $p < .001$ ***, $p < .0001$†

Table 10. Demographic Differences on the MOSS for Studies 1-7.

Demographic Variable	Study 1	Study 2	Study 3	Study 4	Study 5	Study 6	Study 7
Age	.07	.33†	.20†	.27†	-.19	.02	.17**
Education	--	.02	.12**	.23†	--	--	.08
Political Ideology	--	.04	.09*	.05	--	--	--
Social Issues	.10	.12**	.12**	--	.02	.08	.05
Economic Issues	.05	.03	.09*	--	-.12	.14*	-.02
Year in School	1.39	--	--	--	3.14*	0.92	--
First-year	*ns*	--	--	--	4.34 (0.59)	*ns*	--
Second-year	*ns*	--	--	--	3.88 (0.70)	*ns*	--
Third-year	*ns*	--	--	--	3.92 (1.04)	*ns*	--
Fourth-year	*ns*	--	--	--	3.82 (0.56)	*ns*	--
Gender	-0.21	-2.79**	-1.02	-1.18	-1.57	-0.24	-0.82
Women	*ns*	4.70 (0.83)	*ns*	*ns*	*ns*	*ns*	*ns*
Men	*ns*	4.87 (0.80)	*ns*	*ns*	*ns*	*ns*	*ns*
Party Membership	--	0.82	3.10**	--	0.98	--	0.80
Democrat	--	*ns*	4.90 (0.78)	--	*ns*	--	*ns*
Independent	--	*ns*	--	--	*ns*	--	*ns*
Republican	--	*ns*	4.69 (0.84)	--	*ns*	--	*ns*

Note. Correlations are reported for the continuous variables: age, social and economic political ideology (higher scores are more liberal), and education (*1* represents elementary school education and *9* represents PhD). *F*-stats are reported for one-way ANOVAs for the categorical variables: year in school and party membership. Two-sample *t*-tests are reported for the dichotomous gender variable. Means and standard deviations are reported for political party and gender when that test was significant. Missing data means that demographic variable was not included and/or not relevant for that study/sample. In Study 4, social desirability instructions were manipulated, but MOSS order did not interact with instructional condition for any demographic test, so the instruction condition is ignored in this table. $p < .05$*, $p < .01$ **, $p < .001$ ***, $p < .0001$†

Table 11. Correlation between Each Item and the MOSS Total Score for Studies 1-7.

#	Item Text	S1	S2	S3	S4	S5	S6	S7
1	**Accuracy is the most important quality of decision-making, even if the decisions challenge my current beliefs.**	.40	.48*	.57*	.56*	.44*	.52*	.50*
2	**When making decisions, accuracy is more important than supporting my current beliefs**.	.51*	.46	.53*	.44*	.40*	.48*	.52*
4	If confronted by evidence that one of my treasured beliefs is incorrect, my first inclination is to take the evidence seriously and question my belief.	.38	.34	.35	.35	.35	.34	.38
6	If confronted by evidence that one of my treasured beliefs is incorrect, my first inclination is to seek out what is wrong with the evidence so I can retain my belief.(R)	.31	.30	.33	.30	.10	.23	.28
7	If I were presented with strong evidence that a belief I hold strongly is untrue, I would be pretty sure that there is something wrong with the evidence.(R)	.45	.41	.34	.29	.18	.39	.37
11	It is more important to me to get the answer right than to get the answer I want.	.30	.43	.41	.21	.38	.41*	.48
12	**In situations where there is an accurate outcome that has some personal cost, it is important to do the accurate thing.**	.58*	.49*	.43	.42*	.53*	.45*	.52*
20	I think it's OK to deviate from the truth to achieve an outcome that benefits me.(R)	.51*	.42	.33	.35	.34	.33	.42
21	**Accuracy is the most important quality of decision-making, even if the decisions have negative consequences for my friends or family.**	.62*	.59*	.66*	.57*	.58*	.45*	.67*
22	**When making decisions, accuracy is most important, even if another course of action could benefit my friends or family**.	.60*	.58*	.59*	.55*	.68*	.53*	.69*
23	**It is important to me to make accurate decisions, and this sometimes means less than optimal outcomes my friends or family.**	.51*	.56*	.63*	.55*	.62*	.52*	.66*
24	**If I have to decide between doing what is accurate and something that benefits my community, I choose the accurate thing.**	.45	.48*	.49*	.43*	.54*	.37	.61*
25	**If I can make an accurate decision**	.40	.52*	.53*	.48*	.51*	.39	.58*

	based on evidence, it is important to me to do so even if it negatively impacts my community.							
26	**When making decisions, helping out friends or family is more important than making correct decisions.(R)**	.58*	.52*	.55*	.58*	.37	.44*	.54*
27	I am unwilling to hurt people I love in order to make an accurate decision.(R)	.31	.35	.35	.40	.26	.30	.33
29	**If the accurate decision has negative consequences for my friends, I would be inclined to choose something else.(R)**	.46*	.53*	.51*	.53*	.46*	.45*	.54*
30	If the natural outcome of a fair process will result in a negative outcome for my friends or family, I would intervene to change the outcome.(R)	.50*	.47*	.51*	.31	.38	.44*	.48
34	If the natural course of events is leading to an outcome that is not my preferred outcome, then I am inclined to intervene so that my preferred outcome occurs.(R)	.39	.26	.22	.15	.19	.23	.37
35	I think it is okay to deviate from a prescribed policy if I can get closer to the decision I want.(R)	.52*	.33	.30	.30	.43*	.26	.36
44	If I witnessed a violent crime and knew that testifying in court against the offender would potentially endanger my life, I would still testify.	.35	.34	.23	.21	.30	.30	.37
46	If I knew my family member committed a serious crime and I was asked to testify against him/her in court, I would do it.	.44	.39	.37	.39	.15	.35	.40
--	Chronbach's alpha for MOSS-TEN	.83	.80	.86	.85	.84	.75	.88
--	Correlation between 21-item MOSS and MOSS-TEN	.94†	.93†	.92†	.89†	.91†	.90†	.92†
--	Descriptives for 21-item MOSS	.00 (.52)	4.77 (.82)	4.84 (.82)	4.54 (.79)	4.10 (.71)	4.15 (.63)	4.55 (.86)
--	Descriptives for MOSS-TEN	.00 (.63)	4.81 (.94)	4.74 (1.06)	4.52 (1.04)	4.15 (.88)	4.13 (.69)	4.63 (1.06)

Note. Items that were included in the MOSS-TEN for that study are marked with an asterisk and items recommended for an official MOSS-TEN are bolded. In Studies 2-7, all items use a 7-point scale (1 *Strongly disagree* to 7 *Strongly agree*). Study 1 statistics are computed with standardized scores since the original scale used many different response scales. In Study 4, social desirability instructions were manipulated, so the data is from the control condition with standard instructions. $p < .05$*, $p < .01$ **, $p < .001$ ***, $p < .0001$.

Table 12. Study Order Comparisons for the MOSS and MOSS-TEN for Studies 1-7.

	21-item MOSS	MOSS-TEN
Study 1 – Judgment Tasks	-0.12	-0.23
Study 2 – Political Information (Welfare Policies), Explicit and Implicit Preference	-0.02	-0.01
Study 3 – Political Information (Education Policies), Explicit and Implicit Preference	0.05	0.10
Study 4 – Political Knowledge Test, Reporting Standardized Test Scores	-0.11	-0.06
Study 5 – Social Judgment Tasks	-0.51	-0.02
Study 6 – Accountability Manipulation	-0.27*	-0.23
Control Condition	4.24(0.64)	4.06(0.70)
Accountability Condition	4.07(0.61)	1.22(0.68)
Study 7 – Political Knowledge Test, Fact-checking Procedure	-0.10	-0.06

Note. Cohen's *d* is reported for differences on the MOSS and MOSS-TEN between two study orders. Positive values mean MOSS scores were higher (more objective) when MOSS was completed first. In Study 4, social desirability instructions were manipulated, but MOSS order did not interact with instructional condition for any demographic test, so the instruction condition is ignored in this table. Means are reported for the significant effect of accountability manipulation in Study 6. $p < .05$*, $p < .01$**, $p < .001$***, $p < .0001$†

Figure 1. Moderation of party influence on political judgment by MOSS from Study 2 for both explicit and implicit political judgment. The 3-way interaction only produces a significant effect for implicit plan preference, but the pattern is consistent in both models.

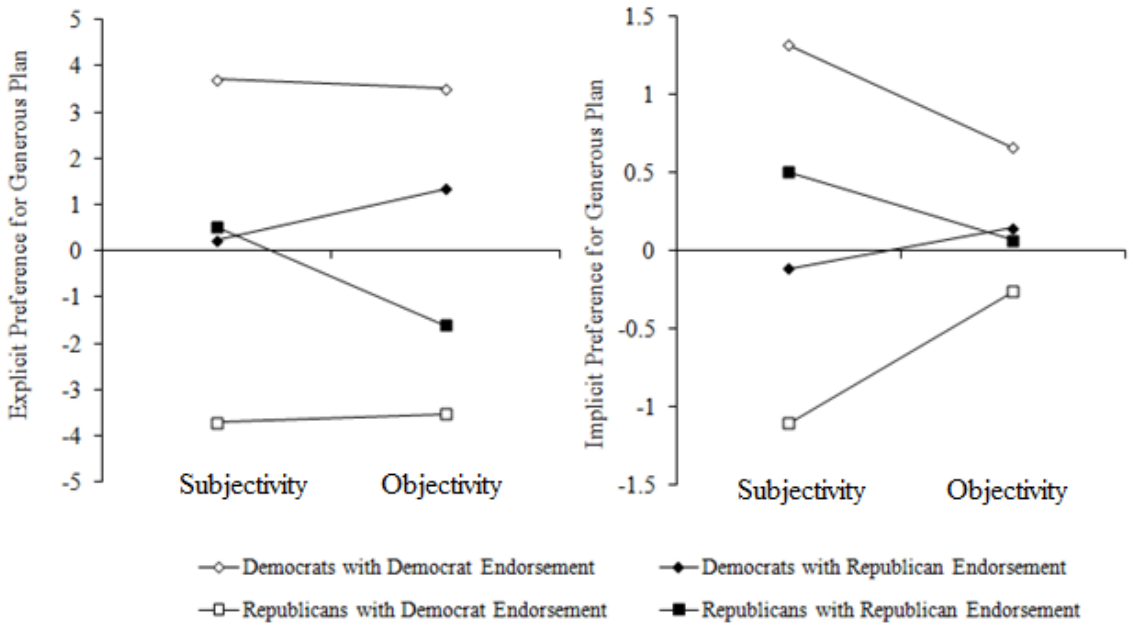

Figure 2. Three-way interaction between party proposer, participant party affiliation, and MOSS on political judgment from Study 3 for both explicit and implicit political judgment. The 2-way interaction between participant party affiliation and party proposer is significant in both models, but neither 3-way interaction is significant.