On Sanders, Trump, and Rhinoceroses: Quantifying Subjective Construals Helps Predict Political Attitudes

Vladimir Ponizovskiy
Jacobs University, Bremen, Germany

People with different worldviews may have different interpretations for the same object. Freedom fighters for some are terrorists for others; immigrants can be seen as posing a threat or needing protection. To incorporate such differences in perspective into psychological models, I propose the construct of value-instantiating beliefs, or perceived consequences of actions or events for basic human values. I hypothesize that such beliefs moderate the relationship between personal values and attitudes. In a preregistered mixed-methods study (N = 2038) I assess personal value priorities, attitudes, and perceived consequences of four political behaviors: voting for Donald Trump, voting for Bernie Sanders, supporting an anti-abortion bill, and donating to a pro-immigrant charity. Qualitative data corroborates the differences in perceived consequences based on political affiliation: e.g. liberals saw voting for Trump mostly in light of negative consequences for universalistic values, while conservatives reported positive consequences for self-direction and security. Quantitative data confirms the moderation hypothesis. Including value-instantiating beliefs and moderations in the models significantly improved the predictions of attitudes towards and intentions to perform the four behaviors.

Keywords: basic human values, value-instantiating beliefs, motivation, voting, Donald Trump

It is a truism in psychology that people's emotions, cognitions and behavior arise in response not to the objective reality, but the subjective representation of that reality. People differ in the ways they perceive, interpret, and evaluate their circumstances; to understand the motivations that emerge in response to the *perceived* environment, one has to account for differences in subjective construals. Yet, psychological models rarely incorporate variables that account for inter-individual differences in construals.

To illustrate, imagine two people encountering a rhinoceros in a forest. One person sees a rare endangered animal, the other sees a deadly beast. The thoughts that cross their minds, emotions, and ultimately inclinations to act in response to the situation would differ between the two observers. Perhaps, both of them would want to back away from the rhinoceros initially – the first person to avoid disturbing it, and the second in fear of their life. After that, the admiring observer may decide to watch the animal from a distance, while the fearful observer may want to continue their retreat.

If we wanted to develop a theory that would explain people's behavior in the vicinity of rhinoceroses, we could hypothesize that people approach rhinoceroses when they can help them to survive and reproduce, and avoid them when their presence can affect the animals adversely (for example, when the rhinoceroses feed or

mate). This model would assume that human behavior towards rhinos is motivated by admiration and concern for their well-being. Such a model would work well to explain the behavior of our first observer, but would fail for the second one – they would never approach a rhinoceros willingly. Alternatively, we could propose that human behavior towards rhinos is motivated by fear, and that humans would avoid rhinoceroses at all times. This model would not explain why the first observer stayed to watch the animal from afar.

The example is meant to illustrate that in situations where people differ in their construals of reality, any accurate model of their behavior would have to account for variance in construals and corresponding qualitative differences in motivation.

In politics, differences in subjective construals are pervasive. Freedom fighters for some are terrorists for others; affirmative action can be seen as promoting or detrimental to social justice; some see immigrants as a threat, while others believe that the immigrants themselves require protection. As in the rhinoceros example, we can expect different interpretations of reality to inform and ground the motivations of actors.

In the United States, the first term of Donald Trump's presidency saw the two political parties making competing claims to the 'truthful' interpretation of reality. The Democratic House speaker Nancy Pelosi accused the Republican president of "shredding the truth", the Democratic presidential candidate Bernie Sanders called him "delusional" and a "pathological liar", while Trump and his supporters prolifically use the term "Trump Derangement Syndrome", implying that Trump's opponents are irrational.

Correspondence should be addressed to Vladimir Ponizovskiy, 309 South Hall, Campus Ring 1, Bremen, Germany, 28759. Email: vladimir.ponizovskiy@gmail.com

How do we develop a model that makes accurate predictions for the behavior of political actors within the context of their respective subjective realities? In this paper, I propose a methodology for capturing differences in construal and apply it to examine construals of political behaviors among liberals and conservatives in the USA. I further examine whether the differences in construals account for differences in motivations for political attitudes and behavior. For that purpose, I propose the construct of value-instantiating beliefs (VIBs) to capture the consequences of objects, behaviors, and events for basic human values.

Theoretical Background

Values

If I see a rhinoceros as a dangerous animal, what do I want to do when I encounter it? What if I see it as beautiful and fragile? How does my subjective construal of a political candidate affect my motivations towards voting for them?

To frame this motivational question, I draw on Schwartz's theory of basic human values (Schwartz, 1992). Like many other motivational theories, it posits that human motivation is rooted in evolutionarily grounded needs: the biological needs of organisms, the need for survival and well-being of social groups, and the need for coordinated social interactions (Schwartz & Bilsky, 1990). For Schwartz, values are "concepts or beliefs that pertain to desirable end states or behaviors, transcend specific situations, guide selection or evaluation of behavior, and are ordered by relative importance" (Schwartz & Bilsky, 1990). The ordering of values by relative importance is a crucial part of the theory: while most people find values—such as security, freedom, or kindness—important, individuals differ in the priorities they assign to individual values.

In a series of studies, Schwartz showed that the relative importance of all possible values for self is organized by a relatively simple motivational structure (Schwartz, 1992, 1994; Schwartz & Bilsky, 1990). The organization of values can be summarized with two dimensions. The first dimension, "openness to change versus conservation" contrasts the pursuit of novelty, exploration, and freedom and the need for predictability and preservation of the status quo. The second, "self-enhancement versus self-transcendence" dimension juxtaposes concern with outcomes for self with concern with outcomes for others. Along these two dimensions the original theory placed 10 values (Figure ??). Values that are situated next to each other in the two-dimensional space express compatible motivations, and values that are placed on opposite sides of the circle – incompatible motivations. For example, actions taken to pursue the value of hedonism are likely to also express the value of stimulation, but conflict with the values of conformity and tradition. Hundreds of studies based on self- and other-ratings of values

reproduced this theoretical structure, with values situated next to each other in the circle correlating most positively, and values located on the opposite sides of the circle – least positively (see Steinmetz et al., 2012, for a meta-analysis)(see Steinmetz et al., 2012 for a meta-analysis).

Values and Political Behavior

Basic human values were proposed as a structuring principle for political attitudes and behavior (Caprara et al., 2006; Feldman, 2003; Schwartz, 1994; Schwartz et al., 2014). A rapidly growing body of literature links the comprehensive system of motivations specified in Schwartz's theory to left-right political orientation (Barni et al., 2016; Caprara et al., 2006; Caprara et al., 2017; Piurko et al., 2011; Thorisdottir et al., 2007), political values such as equality or civil liberties (Schwartz et al., 2010; Schwartz et al., 2014; Vecchione et al., 2013), and specific political attitudes and behavior (Davidov & Meuleman, 2012; Rathbun et al., 2016; Vecchione et al., 2015). Values are thought to serve as evaluative criteria, with people weighing political choices based on the implications they may have for the attainment of values (Caprara et al., 2006).

In broad strokes, the findings suggest that self-transcendence values are linked to left-wing political orientation, voting for left-wing parties, and support for such political values as civil liberties and equality, while conservation and self-enhancement values relate to right-wing political orientation, voting for right-wing parties, and support for such political values as traditionalism and militarism (Caprara et al., 2017; Piurko et al., 2011; Schwartz et al., 2010; Vecchione et al., 2013).

However, this pattern is not universal. A persistent finding from this body of research is that the link of self-transcendence values to left-wing political orientation and conservation values to right-wing political orientation is strong in Western democracies, but is weak or even reversed in post-communist countries (Barni et al., 2016; Caprara et al., 2017; Piurko et al., 2011; Schwartz et al., 2014; Thorisdottir et al., 2007). Researchers explain this inconsistency with differences in the meaning of the left-right distinction – whereas the political left represents liberal democratic socialism in the West, in post-communist countries it is often linked to the communist autocratic mode of government that is more compatible with motivations behind conservation values (Piurko et al., 2011). Other authors linked the variation in value-political attitudes links to ideologies (Barni et al., 2016) and connotations of political terms (Schwartz et al., 2014).

Value-Behavior Relations and Differences in Meaning

Differences in subjective, culturally situated meaning of behaviors were called a "particularly elusive"

Figure 1*The two-dimensional structure of values.*

moderator of the value-behavior relations (Roccas & Sagiv, 2010). As it was mentioned earlier, values are linked to political behavior because people evaluate the consequences of political choices for the attainment of values (Caprara et al., 2006). In Western democracies, a person that supports redistribution of wealth and votes for left-wing parties expects these actions to promote social justice and benefit the vulnerable members of the society—goals that are consistent with self-transcendence values. In countries with communist past, left-wing parties and redistribution of wealth are associated with cultural traditionalism and increased governmental control, making support for them more consistent with motivations behind conservation values. What makes behaviors desirable or undesirable for people with certain value priorities is then not their formal, definitional properties, but the way the behaviors are construed in context.

Gregory Maio (2010) proposed looking at as hierarchical mental representations. Maio proposed a three-level system that puts the interrelated abstract values at the most abstract level, specific values at the intermediate level, and states, behaviors, and attitudes that concretely express the values at the bottom. A value of security, then, can have sub-categories “social security” and “personal security”. Personal security can be further divided into “personal physical security”, “per-

sonal relational security”, and “personal financial security”. Instances of these categories would be specific states, behaviors, and attitudes: a healthy body, a trustworthy partner, a positive attitude towards state bonds. Instantiations of values, similarly to instantiations of other cognitive categories, may differ in their typicality: while “fastening a seatbelt” is a typical instantiation of personal security (people often say that when asked “how does a person keep themselves safe?”), “building a bunker in case of a zombie apocalypse” is an atypical instantiation (some people do say that, but not too many). An experimental study showed that invoking typical as opposed to atypical instantiations of values produced stronger effects on behavior (Maio et al., 2009).

Continuing this line of research, Paul Hanel studied the differences in typicality of value instantiations across social groups (P. H. P. Hanel et al., 2017). In two studies (P. H. P. Hanel et al., 2017; P. H. Hanel et al., 2018), Hanel and colleagues asked people in Brazil, India, and the UK to list situations in which specific values are relevant. The studies identified differences in frequency of recall for specific behaviors: for example, the value of preserving the environment was more often expressed via saving water and planting trees in Brazil, while in the UK people mentioned car-sharing more often (P. H. P. Hanel et al., 2017). Hanel pro-

posed typicality of value instantiations as a moderator of the value-behavior relationship (P. H. P. Hanel et al., 2017): value-behavior relationship should be stronger when the behavior is a typical instantiation of the value in a specific context.

The moderating role of value instantiation was tested by the authors. To capture differences in value instantiations, the authors used VIBs, or beliefs about consequences of behaviors, events, or objects for values. Examples of VIBs are “car sharing is good for the environment”, “rhinoceroses are dangerous”, or “Trump protects traditional values”. VIBs are thought to enable the value-behavior relationship: the value of personal security, for example, can only motivate retreating from rhinoceroses if the person believes the rhinoceroses to be dangerous. In three experiments, the authors showed that manipulating VIBs produced expected differences in the association between values and behavior: when a behavior was framed as having negative consequences for a value, people for whom that value is important liked it less and showed weaker intentions to perform it, and when a behavior was framed as having positive consequences for the same value, they liked it more and had stronger intentions to perform it.

For example, one of the experiments used a scenario in which participants were asked to consider hiring an immigrant. In one condition, the immigrant was presented as a victim of social injustice. In the other condition, the immigrant was presented as a possible perpetrator of social injustice. The value of universalism predicted the intention to hire the participant in both condition, but the direction of the relationship differed: whereas in the first condition people high on universalism were more willing to hire the immigrant, in the second condition they were less willing to make the hire. This result contrasts with the well-established finding that universalism predicts positive attitude towards immigrants (Davidov & Meuleman, 2012; Davidov et al., 2008; Vecchione et al., 2013).

To summarize, people are driven by the same, universally shared set of values. Values affect behavior because behavior has consequences for values. Until recently, the models of the value-behavior and value-attitude effects focused on differences in value priorities, ignoring individual differences in perceived consequences of behavior. Recent findings, however, highlight the role of individual differences in perceived consequences of behavior: while the motivational system is shared, what exactly is seen as opportunities and threats for value attainment depends on how values are instantiated. Perceived consequences of behavior for values, then, should moderate the motivational relationship between values and behavior.

This conceptualization can be particularly useful for building a model of political behavior in a situation of “polarization of reality” in the US (Alesina et al., 2020), where Americans disagree not only on the eval-

uations, but also perceptions of the same factual reality. Studying VIBs in the political domain enables us 1) to examine potential differences between conservatives and liberals in the US in construals of the value implications of political behaviors, 2) to examine the content of such differences, and 3) to see if such differences correspond to differences in value-based motivation to perform these behaviors.

Present Study

In this mixed-methods study, I test two hypotheses: “VIBs positively moderate relations between values and political attitudes” (H1) and “VIBs positively moderate relations between values and intentions to perform political behaviors” (H2), and two exploratory questions: “how do VIBs differ between conservatives and liberals in the US?”, and “how much variance in attitudes and behavioral intentions can be explained by accounting for VIBs in our models?”

To answer these questions, I conducted a web-based survey ($n = 2038$) of conservatives and liberals in the United States, measuring the values, VIBs, and attitudes towards four behaviors: voting for Donald Trump in the 2020 election, voting for Bernie Sanders in 2020 election, voting for a bill that restricts access to abortions, and donating to a charity that supports undocumented immigrants. In addition, I collected qualitative data, asking participants to explain the reasons for holding a specific VIB (e.g. believing that voting for Trump has positive or negative consequences for their personal security).

The hypotheses for this study were preregistered on the Open Science Framework (https://osf.io/d6beu/?view_only=4700672fb20b405f843e7f7e40044d04). The data, questionnaires, other materials, and analysis code are available on the OSF repository (https://osf.io/79q5f/?view_only=b9cb23b97e364b55998cf33300355fae).

Method

Participants and Procedure

The sample size was determined using a simulation study that accounted for the circular structure of relations among the values and the theorized interactions. The criterion used was 80% power to detect an interaction of size $f^2 = .05$ across the ten values. According to the results of the simulation, the needed sample size to achieve 80% power was $N=1941$.

Members of Amazon Mechanical Turk platform who resided in the US and identified as either conservatives or liberals were invited to participate in the study. Conservative and liberal samples were recruited separately. The data collection took place in the third week of September 2019, and was concluded on September 23.

Two attention check questions (e.g., “For this question, please select the answer ‘Very much like me’”)

were embedded in the survey. 22 participants who failed both of the attention checks were dropped out of the study. Additionally 543 participants began the questionnaire, but did not complete it. In total, out of 2603 people who took interest in the study, 2038 completed the questionnaire (1022 conservatives and 1016 liberals), resulting in a completion rate of 78.3%. The materials were presented in the following order: first participants were asked about their gender, then their personal values, VIBs, and attitudes and behavioral intentions. The survey concluded with demographic questions: year of birth, education, and religiosity, and then thanked for their participation and debriefed.

Six weeks after the study was concluded, 265 people were invited for a follow-up survey, of which 237 completed that survey (89.4% completion rate). The purpose of the follow-up survey was to examine test-retest reliability of the VIB questionnaire and consisted of the VIB questions and the satisfaction with life scale. Life satisfaction is not analyzed in the present study.

Materials

The measures are presented in the order they were administered.

Values

Value priorities of the participants were assessed with the Portrait Values Questionnaire—Revised (PVQ-RR Schwartz et al., 2017). PVQ-RR is a 57-item inventory that assesses 19 values specified in the refined theory of basic human values, but it can be also used to assess 10 value types with higher overall reliability than earlier values questionnaires (Schwartz, 2012). Each of the 19 value types is represented with three items. Each item describes a fictitious person with their goals, wishes, or aspirations, for example: “It is important to him to form his views independently”. The gender of the fictitious person was matched to that of the participant (“him”, “her” or “their” for non-binary). Participants were then asked to indicate on a six point scale how similar they are to the person described in the item (1 = *not like me at all* to 6 = *very much like me*). Scores for ten value types were calculated by averaging all the responses to items that correspond to each value and then centering them within individuals to compensate for individual response tendencies (Schwartz, 2007).

VIBs (Quantitative)

To assess differences in perceived consequences of behaviors for values (VIBs), we chose four behaviors: 1) voting for Donald Trump in 2020 presidential election, 2) voting for Bernie Sanders in 2020 presidential election, 3) voting for a state bill that would restrict access to abortion, and 4) donating to a charity that supports undocumented immigrants. Voting for

Trump and Sanders was selected because these candidates represent relatively extreme right-wing and left-wing stances, and immigration and abortion were selected because of differences in attitudes between liberals and conservatives.

VIBs were assessed with a 21-item scale that measured perceived consequences of aforementioned behaviors for ten personal values. Each item was a 7-point semantic differential scale that asked about consequences of one behavior for one value, with anchors describing negative and positive consequences. For example, an item for Donald Trump read: “If I voted for Donald Trump in the 2020 presidential election that would...” with anchors “Make the country less stable and secure” and “Make the country more stable and secure” and response options 1 = *Very much*, 2 = *Somewhat*, 3 = *A little*, 4 = *Neither*, 5 = *A little*, 6 = *Somewhat*, and 7 = *Very much*. Scores for each value-behavior pair were calculated by averaging responses to items corresponding to that value. The subscales of the questionnaire had an average internal consistency of .78 (.62-.91) and average six-week test-retest reliability of .67.

VIBs (Qualitative)

For behaviors 1 and 2 (voting for Donald Trump and Bernie Sanders), participants were asked to explain the reasoning behind their answers in an open-ended format. For these behaviors, a random VIB item was chosen, and the participants were asked to explain the reasoning behind their answers. An example of a procedurally generated question read: “Earlier in the survey, you indicated that if you voted for Donald Trump, that would make the country more stable and secure. Please use one or two sentences to explain why you feel this way.” VIB items to which a participant gave a neutral response (“Neither”) were excluded from the pool of items for qualitative questions for that participant.

Attitudes and behavioral intentions

Attitudes were assessed with a measure based on the theory of planned behavior (Ajzen, 1985), with four 7-point semantic differential items with anchors “harmful” — “beneficial”, “good” — “bad”, “unpleasant” — “pleasant”, and “worthless” — “useful”. Average Cronbach’s alpha for the measure was .97. Behavioral intention was assessed with one item, for example, “I intend to vote for Donald Trump in 2020 presidential election”, scored on a 7-point scale (1 = *Unlikely* to 7 = *Likely*).

Sociodemographics

Demographic characteristics (gender, age, education, and religiosity) were measured with single-item measures. Education was assessed by asking participants what highest level of education they completed

(1 = *no high school*, 2 = *high school*, 3 = *some college, no degree*, 4 = *associate degree*, 5 = *bachelor's degree*, 6 = *master's degree*, 7 = *professional degree*, 8 = *doctorate*). Religiosity was assessed on a 10-point scale (1 = *Not at all religious* to 10 = *Very religious*).

Analysis

Interaction Between Values and VIBs

As described in the preregistration, the primary hypothesis was tested with simple regression models where attitude towards the behavior was predicted from one value, the corresponding VIB, and the interaction term. Since there were 4 behaviors and 10 values, a total of 40 models were estimated. Each of the regression models took the form:

$$Y_i = \beta_1 \text{Value} + \beta_2 \text{VIB} + \beta_3 \text{Value} * \text{VIB} + \epsilon_i$$

To account for multiple comparisons, the False Discovery Rate (FDR) adjustment was made to p -values of the interaction terms of the models. Since the hypothesis was directional (more positive VIBs will be related to more positive effects of value on the attitude), one-sided p -values were used.

Summarizing the 40 models

To summarize the models, random effects meta-analysis of the interaction effects was performed in *metafor* package for R (Viechtbauer, 2010). Interdependence of observations at the level of value and behavior was accounted for by specifying the variance structure of the data. Heterogeneity of the studies was assessed with Cochran's Q statistic. The meta-analysis was based on inverse-variance-weighted effect sizes (standardized regression coefficients for models described above). Given the exact same specification of all models, we deemed it acceptable to use standardized beta coefficients as measures of the effect size.

Qualitative data analysis

Responses to open-ended questions were divided into 80 corpora: liberal and conservative subsamples were analyzed separately, and each of the VIBs was represented by two corpora: one describing negative consequences of the behavior for the value, and one describing positive consequences for the value.

For example, a single corpus would include all responses to the question: "*Earlier in the survey, you indicated that if you voted for Donald Trump, that would make the country more stable and secure. Please use one or two sentences to explain why you feel this way*" given by conservative participants. One response represented one observation, and the data were submitted for analysis unredacted. The corpora were analyzed using thematic analysis (Braun & Clarke, 2019). First, each corpus was coded using semantic coding,

closely following the phrasings used by participants. Then, themes were developed from the codes using inductive approach. Finally, observations in each corpus were rated with respect to the related themes by a minimum of two coders, with the first theme within an observation being used when there were several themes present in one observation. To validate the coding, inter-rater reliability coefficients were computed as Krippendorff's alpha coefficient (Hayes & Krippendorff, 2007).

Results and Discussion

Descriptive Statistics

Means and standard deviations for all variables can be found in the online supplement. Further, I will describe the differences between conservative and liberal subsamples on core parameters.

First, the correlations between values and attitudes towards political behaviors were examined in the two subsamples (Table 1). The pattern of correlations differed in conservative and liberal subsamples. In multiple cases, correlations took opposing directions: that was the case, for example, for the values of benevolence, self-direction, and power.

Correlations between values and attitudes are theorized to reflect motivational relationships: people for whom a particular value is important have more positive attitudes towards objects, behaviors, and events that promote that value (Bardi & Schwartz, 2003). Differences in the direction of the correlations are particularly interesting, because they can signify differences in the meaning of behaviors (Roccas & Sagiv, 2010).

Differences in VIBs

To see if conservatives and liberals perceive consequences of the behaviors differently, I examined the mean VIB scores (Figure ??). For all behaviors, mean VIBs for the four behaviors significantly differed between the conservatives and the liberals. On average, conservatives said that voting for Trump would have positive consequences for all 10 values, and liberals said that would have negative consequences. For voting for Sanders, the situation was reversed, and for the last two behaviors we observed a similar pattern. The mean VIB scores were closely related to the attitude towards the behavior (Pearson's $r = .756$, $p < .001$): when people liked a behavior, they reported that it would have positive consequences for virtually all of the values. This finding is curious in itself, suggesting that, taken together, perceived consequences of a behavior for values closely align with the attitude. However, since we were interested in the variation of perceived consequences across values, and not the average positivity of perceived consequences, the VIB scores were centered within individuals for all further analyses.

Figure 2*Mean VIB scores for the four political behaviors, by political affiliation*

The hierarchies of VIBs—i.e. for which values a behavior would have the most positive consequences, and for which the most negative, —also showed marked differences. In the descriptions below I complement the quantitative findings illustrated in Figure ?? with qualitative findings.

Conservatives reported that voting for Trump has most positive consequences for values of self-direction and security. In open-ended responses about self-direction, conservatives referred to the self-expressive, reflective nature of voting (22% of responses, “*Because voting is a most personal thing and I don’t let anybody decide for me*”) and to defying the pressure from the media and the society to not support him (24% of responses, “*What makes us think more than taking a stance and choosing the unpopular opinion against the masses?*”). Answering about security, con-

servatives brought up immigration control (21% of responses, “*He is securing the border*”) and economic security (11%, “*With Donald Trump as president, our country is more secure and business and job opportunities abound.*”). The most negative perceived consequences were reported for the value of conformity, with people citing relational disapproval (48%, “*My loved ones would be very upset if I voted for Mr. Trump. They do not like him at all.*”) and societal disapproval (32%, “*I think a lot of people think Trump is a joke, or evil, and that no sensible person could support him*”).

Liberals reported that voting for Trump would have the most positive consequences for the value of stimulation. The reasons included Trump espousing change (44% “*you would never know what to expect day to day*”) and going against expectations of self (28%, “*I*

have never voted for a Republican before so that would definitely be new"). The most negative consequences were for the values of universalism, benevolence, and security. For universalism, liberals referred to divisive and intolerant policies (31%, "*He hates everyone who isn't himself, especially minority groups like disabled people and LGBTQ*") and lack of concern for people who are not like him (27%, "*does not care for anyone but himself*"). In contrast to conservatives, who saw voting for Trump as a safe behavior, liberals reported negative consequences for security, citing unpredictability (24% "*reckless and thoughtless*") and social divisiveness (21%, "*tearing this country, individuals, and families apart, rather than building consensus*").

Voting for Bernie Sanders was seen by conservatives as having the most positive consequences for stimulation. Similarly to liberals who responded about voting for Trump, conservatives cited novelty (50%, "*it would be exciting as it would be a 180 degree change as to what we have now*") and going against the expectations of self (25%, "*I've never voted for a Marxist/socialist before. This would certainly be an off-the-wall decision for me*"). Most negative consequences were reported for the values of tradition and security. For tradition, the themes that emerged were socialism being un-American (44%, "*Sanders wants to turn America into a Socialist country. This is not what our country is founded on or what we stand for*") and the tradition of economic self-reliance (32%, "*The customs handed down to me were a strong work ethic and owning one's own property*"). For security, conservatives brought up the threat of socialism (25%, "*He is a Socialist and wants to bring his dangerous ideology into mainstream American politics*") and economic insecurity (23% "*His political stances would see people in breadlines*").

Liberals, on the other hand, saw voting for Sanders as having most positive consequences for universalism and security. For universalism, liberals mentioned personal commitment to people's well-being (25%, "*I feel like Bernie legitimately believes what he's preaching, in that he does really care about the '99%*") and social security policies (22%, "*Policies enacted by Sanders would be more likely to help the weak in vulnerable in society, rather than benefiting those that do well and are already successful in society. This could include, healthcare, housing, something to help income inequality, etc*"). For security, liberals cited Sanders being safer than Trump (33% "*I believe Bernie Sanders would reverse many of the damaging trends begun by, and put in place by Donald Trump*") and welfare policies (25% "*Bernie Sanders would help everyone be more secure financially with medicare for all*"). Liberals agreed with conservatives on Sanders vote having relatively negative consequences for the value of tradition, citing Sanders' radical positions (35%, "*Bernie Sanders has radical beliefs*") and the American tradi-

tion of capitalism (23%, "*Americans are uncomfortable with higher taxes and have traditionally eschewed even the slightest hint of socialism*").

The summary of the qualitative analysis can be found in the Online Supplement. Qualitative data was not collected for behaviors 3 and 4. Average interrater agreement for the 80 corpora was 82.7%, and average Krippendorff's alpha was .73, indicating adequate reliability for exploratory analyses (Krippendorff, 2004). Altogether, qualitative results suggest that participants understood the questions and supported their responses with relevant arguments for positive or negative consequences of their behaviors for values. When conservatives and liberals agreed, for example in case of voting for Bernie Sanders as being contrary to the goal of preserving tradition, they gave similar justifications for these beliefs. In most cases, however, liberals and conservatives perceived the consequences of political behaviors differently.

Moderating Effect of the VIBs

People who hold a particular value important are motivated to perform behaviors that promote that value, and avoid behaviors that thwart it. We have seen that participants disagreed about the consequences of behaviors for values – conservatives, for example, see voting for Trump as enhancing their security, while liberals see it as threatening. Do these beliefs affect the relationship between values and attitudes? Would people high on security value like Trump more if they held the former belief, and less – if they held the latter?

To test the core hypothesis of the study, I estimated a series of OLS models that predicted attitude towards the behavior from a value, the relevant VIB, and their interaction. 40 such models were estimated: one for each value-behavior pair, for 10 values and 4 behaviors. Of the 40 estimates of the interaction terms, 39 were positive, and 30 of those were significant after applying the FDR correction. The coefficients of all models are presented in the supplementary material.

To summarize the findings, a random effects meta-analysis of 40 interaction terms was performed (Figure ??). The meta-analysis found a significant interaction with the standardized beta of .068 [.043, .092]. For each of the values, there were models where the interaction term was significant, suggesting that the VIB questionnaire successfully captured perceived consequences of behaviors for all ten values.

The size of the interaction effect varied across models: Cochran's Q for the meta-analysis equaled 192.77, and the I^2 statistic suggested 79.8% of variance in effect sizes was due to study heterogeneity. A variance components calculation indicated that 69.6% of variance in effect sizes could be attributed to differences between values: for some values, such as tradition and power, the interaction effect was larger than for others, such as universalism and stimulation. Further 11.6% of variance in effect sizes was accounted for by differ-

Figure 3*Forest plot of VIB-value interaction effects in predicting behavioral intention*

ences between behaviors, and the remaining 18.8% – by sampling variance.

The analysis was repeated with the 1-item behavioral intention measure as the dependent variable, to find the same (albeit weaker) pattern of results: 28 models displayed a significant interaction effects after the FDR adjustment (as opposed to 30 for attitudes), and the meta-analytic estimate of the effect was .067 [.052, .081]. These analyses are available in the online supplement. Taken together, these findings provide support for Hypothesis 1.

These findings suggest that the effects of values on specific attitudes are conditional on the subjective construals of attitudinal objects, and more specifically – on their perceived consequences for values. In situations where subjective construals diverge – whether because of the situationing of attitudinal objects within different political ideologies, or religions, or cultural narratives – accounting for such differences could help us better understand the contextually specific motivations for behavior.

How useful are VIBs for predicting attitudes?

The models described above are simple: they use VIBs to explain differences in value-attitude and value-behavior relations. While the moderating effect of the VIBs is theoretically significant (as it illustrates the conditionality of value-behavior effects on construal),

is it substantial enough to warrant inclusion in predictive models? Additionally, could the differences in value-behavior relations be better explained by other variables, such as political affiliation? To compare the predictive validity of the VIBs with that of other variables, I estimated a series of hierarchical linear regressions of attitudes and intentions to perform political behaviors. In the first step, I entered sociodemographic predictors: age, gender, education, and religion. In the second step, I added value scores for each of the ten values. In the third step, I added the VIBs, and in the final step, I added the interactions between the values and the VIBs. This procedure was applied to all four behaviors, and using the attitude and the behavioral intention as the outcome variable. All the steps produced significant improvements of the model, with the exception of addition of value-VIB interactions for the third behavior (support for anti-abortion bill). Models predicting attitudes towards political behaviors from sociodemographic variables and values alone explained, on average, 37.9% of variance in attitudes, models that included VIBs explained 49.8% of variance, and models that included VIBs and their interaction with values explained 52.9% of variance in attitudes.

We have established that the VIBs help explain differences in value-behavior and value-attitude relations. As evident from Table 1, these effects also differ by political affiliation. To test whether VIBs provide more information about differences in value-

attitude relations than mere political affiliation, I compared models that predicted attitudes from sociodemographics, political affiliation, values, VIBs, and value-VIB interactions with models that predicted attitudes from sociodemographics, political affiliation, values, and interactions between values and political affiliation. The models that included value-VIB interactions explained, on average, 62.4% of variance in attitudes, compared to 55.0% of variance for models that included value-political affiliation interactions; the difference in performance was significant for all four cases.

General Discussion

The results of this study support the role of values as a structuring principle organizing multiple political attitudes (Schwartz et al., 2014): values substantially predicted all four behaviors included in the study. The present study surpasses existing literature by clarifying the role of individual perceptions of behavior in the translation of values into specific attitudes: for all four studied behaviors, the value-behavior relation was moderated by perceived consequences of behaviors for values (VIBs). Similarly to the rhinoceros from the introduction, Trump, Sanders, or any other political actor or topic can be colored by their perceived implications for multiple values: they can be a threat to security or an opportunity to exercise humanistic compassion; a contributor to own personal success or a limitation imposed upon personal freedom. This study presents a methodology that allows incorporating individual differences in perceptions of behavior into predictive models.

Conservatives and liberals differed in their construals of political behaviors. Conservatives saw voting for Trump as beneficial for attaining the values of self-direction (exercising freedom and counteracting societal pressure) and security (through economic and immigration policies), but detrimental to the value of conformity (eliciting disapproval from close others or society at large). In contrast, liberals saw voting for Trump mostly in light of its negative consequences for universalistic values. Conservatives described voting for Sanders as promoting the value of stimulation (acting contrary to their prediction of self, and also voting for a radical candidate with new ideas), but they saw negative consequences for the values of tradition and security. Liberals also described voting for Sanders as posing a threat for the value of tradition, but perceived this action as having positive consequences for security and universalism.

The study goes beyond merely describing such divergences in beliefs by providing a quantitative estimate as to why and to what extent they matter in predicting behavior. As the quantitative findings suggest, the differences in VIBs condition the psychological process through which values translate into attitudes: which values will guide the evaluation of a behavior

depends on how the behavior is perceived. For all four studied behaviors, and for all ten values, VIBs positively moderated the value-attitude and value-behavior relations. Accounting for VIBs and their moderating effects improved the accuracy of predictions of attitudes from values. In addition, prior experimental evidence corroborates the motivational significance of VIBs (Ponizovskiy et al., 2019).

The study illustrates the importance of incorporating individual differences in perceptions of behavior into behavioral models. Multiple value-behavior effects differed in strength and direction between conservative and liberal subsamples of the study (see Figure ??). If we were to analyze the sample without accounting for differences in perceptions of behavior, these effects would cancel each other out, making the models lose predictive power. If we were to use such an approach to test a theory, finding a net positive (or negative) effect in this pooled sample could lead us to believe that the effect holds for the entire studied population, while there could exist subsets of the population for which the effect would be, in fact, opposite.

To achieve its goals, the study employs a novel methodology that allows quantifying differences in subjective interpretations of behavior. While perceived consequences of behavior were part of theories of behavior for a long time (Fishbein & Azjen, 1975), they are rarely assessed in practice, arguably because possible consequences of behavior are numerous and difficult to systematize. By limiting the consequences to consequences *for values*, it is possible to assess such consequences with a standardized questionnaire that is short and has good psychometric properties. As evident from the qualitative results, responses to the VIB items were informed by considerations about consequences of behavior for a variety of outcomes, ranging from personal relations to global climate. As evidenced by observing theoretically predicted interactions for all ten values, the subscales of the VIB questionnaires are suitable for capturing consequences for all values specified in the theory of basic human values.

Furthermore, the combination of qualitative and quantitative analysis in the presented method provides additional benefit over conventional methodologies, such as surveys and focus groups. It allows to not only identify themes and narratives that support varying interpretations of behaviors, but also evaluate the strength of the effect of such interpretations on attitudes, and to examine the prevalence of specific interpretations in various demographics.

Quantifying differences in perceptions of behavior could help clarify one of the reasons why particular values relate differently to behavior across contexts. For example, differences in the relationship between values and political orientation in countries with and without communist past were previously explained post-hoc with such loosely operationalized constructs as “meaning” or “cultural context” (Piurko et al., 2011;

Schwartz et al., 2014). The VIBs, on the other hand, could identify specific differences between the consequences that people associate with voting for political left and political right in these two sets of countries.

As discussed in the introduction, the differences in perceptions of behavior are likely to play a role in situations where several competing interpretations of reality coexist. Such circumstances are certain to arise when studying political attitudes and behavior in samples where several political ideologies are represented. However, the presented conceptualization is also likely to be useful in other domains where people differ in their interpretations of behavior, such as religion, protection of the environment, or health.

Limitations and Future Directions

The conclusions of the present study are limited to the appraisal mechanism and values as a predictor of political behavior. Individual differences in perceived consequences of behavior, however, are likely to condition the effects of other variables as well, such as personality traits, emotions, or worries. For example, the degree to which voting for Trump is perceived as novel and stimulating (VIB stimulation) could affect the association between the personality trait of openness and intention to vote for Trump. The degree to which voting for Trump is seen as unsafe (VIB security) could determine how worried are people about him getting elected and how much negative emotion they experience in connection to him.

In the models presented in the study, VIBs were analyzed independently from each other. Although it was not the topic of the study, some VIBs are compatible with each other, while others are not. For example, conservative participants saw Donald Trump as beneficial for societal security and cited his immigration policies as the justification for this belief. These participants were less likely to perceive support for a pro-immigration charity as a prosocial behavior. Examination of the patterns of relations among VIBs provides an interesting opportunity for quantitative approaches to studying ideologies, worldviews, and belief systems.

The sample used in this study is not representative of the US population, and the findings illustrate the differences in perceptions of political behavior that exist between liberals and conservatives in the US, but can't be generalized to the whole country. The sampling strategy was chosen to give maximum representation of people with different construals of political behavior: only people who identified their political affiliation were included, and an approximately equal number of conservatives and liberals were recruited for the study.

Another noteworthy limitation of the presented research is the unexplained variation in the strength of the interaction across values: 69.6% of variance in effect sizes of the interaction were attributed to differences between values. This variance may be specific

to this study (i.e. Tradition and Power VIBs are particularly important for political behaviors in the US), or it can reflect differences in reliability among the subscales of the VIB questionnaire. It is impossible to tell from the current study, and more research will be needed to answer this question.

In this survey study, values, VIBs, and attitudes were addressed within the same survey, raising concern about the demand characteristics of the design. Participants could have given 'balanced' responses to the questions to avoid appearing inconsistent. The design of the study, however, included 4 behaviors, 10 values, and 40 VIBs, making strategic responding cognitively demanding (Van't Veer et al., 2014). The VIBs were assessed last, making them most vulnerable to bias. To evaluate the degree to which participant adjusted their VIB responses to match the previously reported attitude, we compared the correlation between the attitude and the average VIB score in the main study to the average VIB reported during the post-test, six weeks later. VIBs for two behaviors (voting for Trump and Sanders) were included in both surveys. The correlation was $r = .85$ for the concurrent assessment and $r = .82$ for assessments six weeks apart. This suggests that if demand characteristics had an effect on the VIB responding, the effect was small.

Conclusion

Taken together, the findings of this study suggest that perceived consequences of behavior for values (VIBs) is a useful construct for studying the role of individual differences in perceptions of social objects in attitude formation. The conceptualization of the VIB provided a framework to quantify and describe differences in construals of political behavior between populations with different perceptions of political reality. The VIBs emerged as a significant moderator of the relationship between motivational constructs (values) and attitudes and intentions to perform political behavior. Including the VIBs and their moderating effects in the models allowed considerably improving the accuracy of predicting attitudes and behavioral intentions from values.

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Table 1*Correlations between values and attitudes towards political behaviors.*

Attitude	SE	CO	TR	BE	UN	SD	ST	HE	AC	PO
Voting for Trump										
Conservatives	.24** [.18, .30]	.04 [-.03, .10]	.24** [.18, .30]	.09** [.03, .15]	-.24** [-.29, -.18]	.03 [-.04, .09]	-.10** [-.16, -.03]	-.01 [-.07, .05]	.01 [-.06, .07]	-.07* [-.14, -.01]
Liberals	-.05 [-.11, .02]	.09** [.03, .15]	.37** [.32, .42]	-.27** [-.33, -.21]	-.30** [-.36, -.25]	-.26** [-.31, -.20]	.07* [.01, .13]	.05 [-.01, .11]	.12** [.06, .18]	.28** [.22, .34]
Voting for Sanders										
Conservatives	-.36** [-.41, -.30]	-.01 [-.07, .06]	-.17** [-.23, -.10]	-.26** [-.31, -.20]	.22** [.15, .27]	-.20** [-.26, -.13]	.14** [.08, .20]	.07* [.01, .13]	.06 [-.00, .12]	.22** [.16, .28]
Liberals	-.07* [-.14, -.01]	-.08** [-.15, -.02]	-.25** [-.31, -.19]	.16** [.10, .22]	.24** [.18, .30]	.11** [.05, .17]	.05 [-.01, .11]	-.01 [-.08, .05]	-.05 [-.11, .01]	-.15** [-.21, -.09]
Anti-abortion bill										
Conservatives	.12** [.05, .18]	.19** [.13, .25]	.36** [.30, .41]	.14** [.08, .20]	-.10** [-.16, -.03]	-.09** [-.15, -.03]	-.18** [-.24, -.11]	-.18** [-.24, -.12]	-.15** [-.21, -.09]	-.14** [-.20, -.07]
Liberals	.02 [-.05, .08]	.14** [.08, .20]	.46** [.40, .50]	-.24** [-.30, -.18]	-.28** [-.34, -.23]	-.29** [-.35, -.23]	.02 [-.04, .09]	-.06* [-.13, -.00]	.06 [-.01, .12]	.24** [.18, .30]
Pro-immigrant charity										
Conservatives	-.31** [-.37, -.25]	.01 [-.05, .07]	-.13** [-.19, -.07]	-.15** [-.21, -.08]	.27** [.21, .33]	-.12** [-.18, -.06]	.12** [.06, .18]	-.02 [-.09, .04]	-.02 [-.08, .04]	.13** [.06, .19]
Liberals	-.12** [-.18, -.06]	-.11** [-.17, -.05]	-.25** [-.31, -.19]	.22** [.16, .28]	.37** [.32, .43]	.13** [.07, .19]	.03 [-.03, .09]	-.02 [-.08, .04]	-.11** [-.17, -.05]	-.22** [-.28, -.16]

Note. Two-letter abbreviations of values are as follows: SE = security, CO = conformity, TR = tradition, BE = benevolence, UN = universalism, SD = self-direction, ST = stimulation, HE = hedonism, AC = achievement, PO = power. Values in square brackets indicate the 95% confidence interval for each correlation. The confidence interval is a plausible range of population correlations that could have caused the sample correlation (Cumming, 2014). * indicates $p < .05$. ** indicates $p < .01$.