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# Values vs. Self-Interest as Determinants of Attitudes: Through a Construal Level Theory Lens, (Sometimes) Self-Interest Wins

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Values vs. Self-Interest as Determinants of Attitudes: Through a Construal  
Level Theory Lens, (Sometimes) Self-Interest Wins

A thesis submitted in partial fulfillment  
of the requirements for the degree of  
Master of Arts in Psychology

by

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University of Arkansas  
Bachelor of Arts in Psychology, 2016

December 2018  
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This thesis is approved for recommendation to the Graduate Council.

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## Abstract

The present study ( $n = 335$ ) attempted to conceptually replicate Hunt, Kim, Borgida, and Chaiken (2010) with a high-powered design to investigate whether values and self-interest differentially impact attitudes depending on psychological distance. Participants were assigned to complete a task that made self- or other-focused values more accessible, then indicated their attitudes about a student fee increase at a university to fund scholarships the participants would not be eligible to receive (thus going against their own financial self-interest for the well being of someone else). The memo describing the fee increase was manipulated such that the increase would be occurring at either the socially proximal University of Arkansas (where the study was conducted), or socially distal University of Maine. Measures of financial strain we used as measures of self-interest, and an additional measure of values was collected prior to the values manipulation. Results showed that values (regardless of being measured or manipulated) had no significant effect on attitudes, but self-interest (when operationalized as objective financial strain) and construal did. As participants' financial strain (i.e., self-interest) went up, support for the fee increase went down; and support for the fee increase was greater in the socially distal condition. Hunt and colleagues' model did not replicate with the present data, as no interactions between these three variables were found.

Keywords: Construal Level Theory, values, self-interest, replication

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Above all, I must thank my boys, Judah and Drew. At only 8 and 7 years old, these two budding young scientists are my everything. Perhaps one day they will be looking through an archive and stumble on "Dad's" master's thesis; if such is the case, I have a message for them: Boys, your innate curiosities and childlike wonder about the world around you, your desire to understand it, and the resulting million questions per day you ask are absolutely inspiring to me; I would not trade it for anything. You have never been satisfied to simply know what is, but seek to know *why* it is and are driven by a need to learn everything about everything. Whether it is pilot testing a paradigm I have programmed, or wanting to watch what I am doing in and learn about R (*be still, my heart*), it has brought me immeasurable joy to have you be involved in the scientific process with me. I am terribly proud of you, and have no doubt you will both achieve great things. I am nothing without you two. This —everything I do— is, has been, and always will be for you. I love you more than can be expressed with words.

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## Introduction

In 1960, the authors of *The American Voter* held that “people presented with certain policy alternatives can do a reasonable job of selecting responses that appear to further their self-interest” (Campbell, Converse, Miller, & Stokes, 1960, p. 208). However, by the time *The American Voter Revisited* was published, nearly 50 years later, there had been a distinct shift such that the authors instead concluded, “The current scholarly consensus holds that self-interest *is not* [emphasis added] a major determinant of issue attitudes” (Lewis-Beck et al., 2008, p. 197). Over these intermediate years, scholars, political strategists, and pundits alike have continued ask the questions of whether people vote against their material self-interest; and if so, why, and to what extent (e.g., Carville, 2016; Feldman, 1984; Frank, 2004; Haidt; 2012; Lee, 2016; Sears & Funk, 1990, 1991)?

Some scholars have argued that self-interest, as compared to symbolic attitudes and beliefs (e.g., liberal or conservative ideology, values, party identification, racial prejudice, Protestant work ethic), has very little deterministic effect on policy attitudes or voting behavior (the “symbolic attitudes perspective;” e.g., Sears & Funk, 1991; Sears, Lau, Tyler and Allen, 1979). Other scholars have argued that perhaps the diminishing role of self-interest in the literature could be due to inadequate indicators of self-interest (e.g., Sears & Funk, 1990), or overly narrow definitions of “self-interest” (e.g., typically only considering the short-term, immediate, self-interest) and unnecessarily distinguishing between self- and group-interest, “defining out the possibility of self-interest being a major determinant of political views” (Weeden & Kurzban, 2017). Indeed, Weeden and Kurzban concluded self-interest variables typically have more secure claims to being causal determinants of individuals’ attitudes than the

individuals' ideology, party, and values. But the values (symbolic attitudes) vs. self-interest debate is far from settled.

Hunt, Kim, Borgida, and Chaiken (2010) argued that both values and self-interest play a role in social and political attitudes, but it is contextual, specifically depending on *psychological distance*. These authors considered the self-interest vs. values debate through the lens of Construal Level Theory (CLT; Liberman, Trope, & Stephan, 2007) and found that *self-interest* carried more predictive power of attitudes towards a proposed policy change (which would increase financial strain on participants) when it was in the (“psychologically proximal”) near future; but, when the same policy change was in the (“psychologically distal”) distant future, abstract *values* were more predictive of attitudes towards the policy change. The present study conceptually replicated this study by Hunt et al. (2010), with a high-powered design towards generalizing the conceptual connections between values, self-interest, and psychological distance (i.e., CLT).

## **Values**

It has now been a century since social attitudes were first proposed as the central-most construct in social psychology (Thomas & Znaniecki, 1918). For the many decades that followed, “attitudes” was indeed the modal focus term within the theoretical and experiential social psychology literature (Allport, 1935, p. 789). Some 50 years later, however, Rokeach (1968) began making his arguments for why values, not attitudes, are deserving of occupying this central role in research. Among his arguments were: due to having strong motivational, cognitive, affective, and behavioral components, values are more dynamic concepts than attitudes; that values are a more economical tool for explaining similarities and differences among individuals and groups given the parsimony offered by individuals possessing far fewer values than

attitudes; and given that attitudes was primarily a concern of psychology and sociology, whereas values were a multi-disciplinary concern (e.g., philosophy, education, political science, economics, theology), values are relatively ubiquitous and the study thereof may facilitate greater interdisciplinary research and integration. One additional argument, most related to the present research, was that Rokeach claimed values and attitudes are each widely assumed to be determinants of behavior, but values are also a determinant of attitudes.

**Values defined.** At this point, a reader may be wondering, “but *what is a ‘value’ vs. an ‘attitude’?*” This same question has been on the minds of social psychologists for many years. Indeed, for some time there has been a “semantic-conceptual quagmire” in the literature vis-à-vis the conceptual and definitional boundaries between *beliefs*, *attitudes*, and *values*; often these terms are used interchangeably, occasionally even within the same article (Levie, 1970). Rokeach (1968) offered his definitions for distinguishing amongst these interrelated constructs. According to Rokeach, an *attitude* is, “a relatively enduring organization of beliefs around an object or situation predisposing one to respond in some preferential manner” (p. 112), and a *belief* is, “any simple proposition, conscious or unconscious, inferred from what a person says or does, capable of being preceded by the phrase ‘I believe that...’” (p. 113). A *value*, on the other hand, he defined as a special type of belief; specifically one that is “centrally located within one’s total belief system about how one ought or ought not to behave, or about some end-state of existence worth or not worth attaining” (p. 124). He later more clearly defined values as “enduring beliefs that a specific mode of conduct or end state of existence is personally or socially preferable to an opposite or converse mode of conduct end state of existence” (Rokeach, 1973, p. 5). This definition of values was compatible with those preceding Rokeach’s (1968;



1973) work (e.g., Kluckhohn, 1951; Smith, 1963), and has remained largely consistent with those that followed (e.g., Schwartz & Bilsky, 1987).

**Values structure.** Over the years since Rokeach (1968), values research has considered not only the relationships between values and behaviors or attitudes, but also the relationships between the values themselves, or, the structure of *values systems*. Rokeach (1973) posited that rather than every person having different values, there are common or comprehensive “sets” of values for all humans, and people merely differ in the order in which they rank the importance of each value within the set. He proposed a list of 18 *terminal* values that are desirable end states (e.g., equality, freedom, a world of beauty) and 18 *instrumental* values that are means to accomplish terminal values (e.g., being honest, helpful, obedient). Given this distinction, Rokeach’s concept of “values systems” entailed two functionally and cognitively connected, yet distinct rank-ordered structures of terminal and instrumental values.

Schwartz & Bilsky (1987) agreed that values are (1) beliefs (2) that pertain to desirable end states or modes of conduct, (3) transcend specific situations, (4) guide selection or evaluation of behavior, people, and events, and (5) vary by importance relative to other values to form a system of values priorities (i.e., a “values system”). However, a key distinction between the conceptualization of values posited by these authors and that of Rokeach (1973), was that Rokeach conceptualized a hierarchical, rank-ordered structure of values (rather, two sets of rank-ordered values), but Schwartz and Bilsky (1987; refined by Schwartz, 1992; Schwartz et al., 2012) posited a more parsimonious single set of values (“motivational domains”), and a fundamentally different structure of the values. Specifically, these authors’ values structure was defined as a circular motivational continuum (see Figure 1), wherein adjacent values are compatible with each other (e.g., tradition and conformity) while values opposite one another

conflict with each other (at least to some extent; e.g., self-direction and conformity), and values dimensionally orthogonal to one-another are more or less unrelated (e.g., achievement and self-direction of thought or action). This congruence and conflict among values defines the “structure” of values in the Schwartz framework.

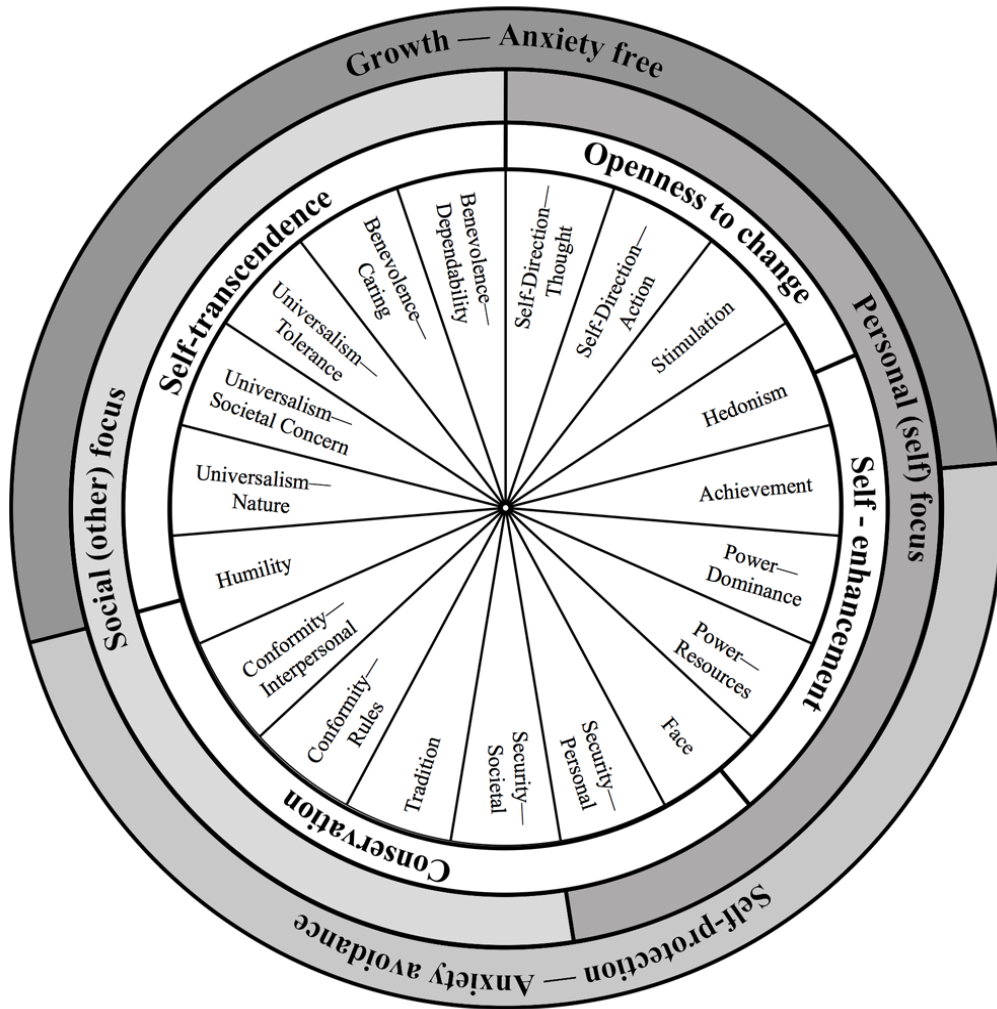


Figure 1. Schwartz’s circular motivational continuum of 19 values. Adapted from “Refining the Theory of Basic Individual Values,” by S. H. Schwartz, 2012, *Journal of Personality and Social Psychology*, 103(4), 669. Copyright 2012 by the American Psychological Association. Adapted with permission.

Though Schwartz’s theory of values originally had 10 motivationally distinct values (Schwartz, 1992), this was refined to 19 distinct values some years later (Schwartz et al., 2012; for overview, see Schwartz, 2012). As shown in Figure 1 (see the outer two circles), the order of

the values (i.e., the theoretical relationships of compatibility and conflict between values) is determined by two dimensions: (1) values that focus on personal (e.g., achievement) or social (e.g., tradition) outcomes; and (2) whether pursuit of the value serves self-protection or anxiety avoidance (e.g., societal security, power over resources) or serves growth or being anxiety free (e.g., hedonism, self-direction of thoughts). The inwardly third (white, four-part) circle represents the “higher order” values. Here, “conservation” (values that emphasize self-restriction, order, and avoiding change) opposes “openness to change” (values that emphasize readiness for new ideas, actions, and experiences), and “self-enhancement” (values that emphasize pursuing one’s own interests) opposes “self-transcendence” (values that emphasize transcending one’s own interests for the sake of others; Schwartz et al., 2012).

**Values, attitudes, and behavior.** Because value relations are motivational (e.g., Pakizeh, Gebauer, & Maio, 2007; Schwartz, 2017; Rokeach, 1973), values are widely regarded as playing a determining role in attitudes and behavior (e.g., Ball-Rokeach & Lodges, 1996; Kluckhohn, 1951; Smith, 1963; Schwartz et al. 2017; Williams, 1968; cf. Kristiansen & Hotte, 1996; McClelland, 1985). This idea has garnered widespread empirical support over the years. For instance, values have been linked with attitudes towards equality (e.g., Schwartz, Caprara, & Vecchione, 2010; Blankenship, Wegener, & Murray, 2010) social welfare programs (Feldman & Steenbergen, 2001), racial questions (Kinder & Sanders, 1996), gay rights and abortion (e.g., Brewer, 2003; Weisberg, 2005).

**Values accessibility.** Though values have been shown to influence behavior and attitudes, not all values are equal to every individual at all times. Social cognition research as often shown that individuals’ judgments, attitudes, and behaviors are more likely to be influenced by knowledge structures that are highly accessible in memory, as opposed to those that are not (for

review, see Higgins, 1996). It follows then, that when values (which are knowledge structures; Schwartz & Bilsky, 1987) are made accessible, these values should exert more influence on individuals. Thus, a manipulation that temporarily increases the accessibility of specific values would be expected to also increase attitudes, behaviors, and/or judgments that are congruent with those specific values. Indeed, this effect of values accessibility manipulations (using diverse methodology has been established in the research literature (e.g., Sagiv, Sverdlik, & Schwartz, 2011; Maio, Olson, Allen, & Bernard, 2001; Verplanken & Holland, 2002, Assor, 1999; Biernat, Vescio, Theno, & Crandall, 1996; Hertel & Kerr, 2001).

For example, Gerbasi and Prentice (2013) manipulated the accessibility of self- vs. other-focused values by having participants respond to 17 items from Schwartz's (1992) Short Value Survey (SVS). Specifically, participants in the "self-focused condition" responded to 17 SVS items that fall under Schwartz's self (personal) focused values (e.g., achievement), and participants in the "other-focused condition" responded to 17 SVS items under Schwartz's other (social) focused values (e.g., tradition). Results showed significant increases in measures of self-interest or other-interest in the self- and other-focused conditions, respectively (for similar values manipulation see Katz & Hass, 1988).

In short, values have been shown to influence behaviors and attitudes, at least to the extent the values are accessible; and experimental manipulations have been shown to increase the accessibility of values.

### **Construal Level Theory**

Individuals understand the world around them by forming mental representations of the objects and events they encounter (Bruner, 1957). CLT is a theory which offers insight into how these mental representations are formed (Trope & Liberman, 2003, 2010; Trope, 2012; Trope,

Liberman, & Stephan, 2007; Trope, Liberman, & Wakslak, 2007). Specifically, CLT relates to the extent with which we process information about objects or events abstractly or concretely, depending on the “psychological distance” associated with those objects or events. This distance comes in many dimensions such as temporal distance, spatial distance, social distance (high vs. low familiarity with social objects), or factual/reality distance (e.g., hypotheticality, probability; Trope & Liberman, 2003; 2010). Broadly stated, information about an object or event that is construed distally will be processed in a more abstract, simple, global, and de-contextualized manner, whereas information about an event or object that is proximally construed (i.e., closer) will be processed in a concrete, complex, and situated, often context-specific manner (e.g., Fiedler, Jung, Wänke, & Alexopoulos, 2012; Wong & Wyer Jr., 2016; Trope & Liberman, 2003).

**CLT, attitudes, and behavior.** This relationship between psychological distance and abstract (vs. concrete) processing has implications in many aspects of cognitive, motivational, social, and behavioral tendencies. For instance, individuals’ evaluations of an action are not only a function of the (abstract) desirability of that action, but also the (concrete) feasibility of engaging in it (Kim, Park, Wyer Jr., 2009). Kim and colleagues (2009) found that whether participants placed more weight in desirable features of an apartment (e.g., furnishings and internet access provided), or feasibility features of an apartment (e.g., low moving costs, flexible move-in date) depended on whether the participant was considering the apartment in the context of moving in the next day (temporally proximal), or six months later (temporally distal). In this case, the participants who were considering a proximal move made their decisions based on the concrete feasibility features, whereas the participants considering a distal move made their decisions based on the abstract desirability features of the apartment.

Similarly, other researchers have found participants' attraction to an upcoming guest lecture—which was also manipulated along dimensions of desirability (interesting vs. uninteresting) and feasibility (convenient vs. inconvenient)—depended on whether the lecture was in the near or distant future (Liberman & Trope, 1998). Here, the attractiveness of the interesting but inconvenient lecture increased with temporal distance, while the attractiveness of the uninteresting but convenient lecture increased with temporal proximity (see also Liviatan, Trope, & Liberman, 2008; Todorov, Goren, & Trope, 2007). Moreover, when primed with a distant-future construal, participants categorized a set of items into a few broad categories, whereas those primed with a near-future construal categorized the same set of items into a large number of small groups (Liberman, Sagristano, & Trope, 2002). Construal has even been found to have a relationship with preferring a gamble that has high-payoff but low probability for success (for high-level construal, and vice versa for low-level construal; Sagristano, Trope, & Liberman, 2002).

**Many dimensions as one construct.** It seems clear then, from an empirical standpoint, that individuals' attitudes, judgments, and anticipated behaviors vary as a function of construal level. But importantly, many years of empirical research have shown a consistently strong relationship between these seemingly different dimensions of distance (e.g., temporal, social), both within and between individuals, such that many scholars accept the assertion that the different dimensions combine onto one unitary distance construct, and are conceptually interchangeable (e.g., Maglio, Trope, & Liberman, 2013; Fiedler, Jung, Wänke, & Alexopoulos, 2012; cf. Žeželj & Jokić, 2014). Priming high- or low-level construal on one dimension can prime high- or low-level construal on a different dimension (e.g., Bar-Anan, Liberman, Trope, & Algom, 2007; Stephan, Liberman, & Trope, 2011).

**CLT and values.** Values, because of their abstract and decontextualized nature (e.g., providing continuity and meaning under changing environmental circumstances, Feather, 1995; serving as stable, meaning-producing superordinate cognitive structures, Rohan, 2000; acting as trans-situational guides, Schwartz & Bilsky, 1987) should be more readily applied to and guide attitudes and behavior in psychologically distant situations (Trope & Liberman, 2010). For instance, Eyal, Sagristano, Trope, Liberman, and Chaiken (2009) had participants assess the importance of values (e.g., self-direction) and then rated the likelihood of performing behaviors congruent with these values (e.g., “examine the ideas behind rules and regulations before obeying them”) both in the near future and distant future. The authors found that the correlation between importance of the value and likelihood of performing behaviors associated with that value are much stronger in the distant future as opposed to the near future. In short, a growing body of evidence suggests that values are more likely to guide people’s judgments in distal rather than proximal contexts.

### **Self-interest**

A non-negligible body of literature suggests that self-interest plays a little (negligible, even) role in forming attitudes about social and political issues (e.g., Batson & Shaw, 1991; Caplan, 2007; Chong, Citrin, & Conley, 2001; Huddy, 2013; Sears & Funk, 1990). Indeed, Miller and Ratner (1998) consistently found across five studies that people often overestimate the extent to which self-interest plays a role in attitudes and behavior, when in reality, there seems to be little evidence that it does, in fact, play a large role. Haidt (2012) even went as far as to argue that not only is self-interest *not* a major factor in political attitudes, but rather political attitudes are often *self-sacrificing*.

The lack of effects of self-interest on attitudes and behavior is certainly not a unanimous consensus among scholars, however. Weeden and Kurzban (2017) claim self-interest is, in fact, a major determinant of attitudes. Among other arguments, these authors claim that one problem with self-interest as it often appears in the literature is that it is often a very narrowly defined. For instance, studies often only include immediate, short-term interests, and exclude long-term interests, social status, and group interest as being related to “self-interest” (e.g., Kinder, 1998; Lau & Redlawsk, 2006; Sears & Funk, 1990; Sears et al., 1980). Weeden and Kurzban (2017) held that there is sufficient overlap between the self-interest of individuals within a group and the groups’ interests (which have been found to be important in attitudes; e.g., Haidt, 2012; Huddy, 2013; Kinder, 1998) such that these two constructs should not be treated as fundamentally different constructs. Rather “group-interest” is simply “self-interest based on group memberships” (Weeden & Kurzban, 2017, cf. Huddy, 2013). In short, Weeden and Kurzban (2017), claim that as a practical matter, what has typically been defined as “self-interest” and “group-interest” collapse onto one construct that could reasonably be called “self-interest.”

Nonetheless, even among the scholars who minimize the role of self-interest, it is known there are many “exceptions.” The symbolic attitude perspective holds that self-interest may be a major determinant of attitudes when the consequences to material self-interest are very clear, large, or imminent, and offer unambiguous benefits or impose tangible costs (e.g., Huddy, 2013; Kinder, 1998; Sears & Funk, 1991; Taber, 2003). For instance, whether it is homeowners supporting property tax cuts more than non-homeowners (Sears & Citrin, 1985); smokers opposing tobacco tax increases more than non-smokers (Green & Gerken, 1989); individuals who are most concerned about medical expenses being least likely to oppose universal healthcare coverage (Henderson & Hillygus, 2011); how individuals economic status predict preferences on



welfare spending and economic policies (Margalit, 2013; Owens & Pedulla, 2014); or public employees opposing tax cuts (i.e., where their income comes from; Sears & Funk, 1990), there is no shortage of evidence that self-interest does play *some* role in attitudes. Weeden and Kurzban (2017) go so far as to claim that perhaps the exceptions outnumber the non-exceptions.

In short, the evidence of self-interest having an impact of attitudes and behaviors is mixed, at best. Perhaps the operationalizations have obfuscated the real effect; perhaps there is no real effect; or perhaps the real effect is just context specific and the context sometimes goes unnoticed (or unspoken) among researchers. In any case, this question warrants further exploration to clarify relationships and boundaries between these constructs.

### **Replicated study**

Hunt and colleagues (2010) sought evidence that values and financial self-interest each affect social and political attitudes, but in different temporal contexts (i.e., the near future vs. distant future). By conceptually replicating the paradigm used by these authors, I sought to expand their findings and broaden the understanding of and links between CLT, values, and self-interest (see Table 1 for changes between Hunt et al. and the present study). Hunt et al. had participants endorse the extent to which they support a 10% tuition increase in order to fund minority scholarships in light of state-budget cutbacks; half were told the increase would take place in “a few weeks” and half were told the increase would take place “next year.” In doing so, greater agreement indicated greater willingness to put the interest of others above one’s own (financial) self-interest. Because the tuition increase was for minority scholarships, it was argued that Social Dominance Orientation (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994) is a “value” that would be related to support of the tuition increase, such that individuals high in SDO would be less likely to support the increase than those who are low in SDO. “Objective”

material self-interest was operationalized by financial strain, measured by assessing the number of financial assistance sources participants have (e.g., parental income, financial aid, scholarships) as well as whether they worked full time or part time, or have no work-based income.

Hunt et al. (2010) hypothesized that financial strain (e.g., working full time while having limited additional sources of income) and SDO would each be negatively related to willingness to pay more tuition, but which of these two predictors would be strongest would depend on the temporal framing. Specifically, because values (e.g., SDO) are abstract concepts that guide people's thoughts and behaviors (Schwartz, 2012), values are a "high-level" construal and should be a stronger predictor in the "high-level" temporal construal of the distant future. By contrast, the immediate concreteness of one's own financial strain, a "low-level" construal, would be a stronger predictor in the "low-level" temporal construal of the near future.

These authors found their hypothesized relationship ( $n = 71$ ). Specifically, a model that considered only the main effects of temporal construal, self-interest (i.e., financial strain), and SDO (i.e., values) found only a significant effect for SDO ( $b = -.48, se = .20, p < .05$ ). By contrast, after adding the construal  $\times$  financial strain and construal  $\times$  SDO interactions to the model, financial strain became a significant main effect ( $b = -.49, se = .21, p < .05$ ), and each interaction was significant (construal  $\times$  strain:  $b = .64, se = .26, p < .05$ ; construal  $\times$  SDO:  $b = -1.06, se = .37, p < .01$ ). The authors interpreted these results as demonstrating that in the near future, people were less likely to support a tuition increase (at their own expense) to benefit someone else (i.e., more driven by self-interest than values). However, in the distant future condition, financial strain (positively) and SDO (negatively) predicted increased support for the same (i.e., more driven by egalitarian values than self-interest).

## Present study

In the present study participants were primed with either self- or other-focused values to increase the accessibility of said values (see Method). Then participants read a memo, ostensibly from the Director of Student Support Services at a university, about a \$150 per semester student fee increase, which would be used to fund additional scholarships for incoming freshman. Half of the participants were given a memo from the (socially proximal) University of Arkansas; half were given a memo from the (socially distal) University of Maine. Participants were then asked about their support for and attitudes towards the fee increase.

This design has several notable departures from the paradigm used by Hunt et al. (2010). First, rather than only measure values as Hunt et al. did, the present study manipulated the accessibility of self-focused vs. other-focused values. I used this same manipulation as Gerbasi and Prentice (2013) only substituting items from Schwartz's Personal Values Questionnaire (PVQ; Schwartz et al., 2009) for the SVS items (see Method). In doing so, participants in the other-focused condition should be more likely to be influenced to exhibit other-focused attitudes or behaviors, and participants in the self-focused condition should be more likely to exhibit self-focused attitudes or behavior. Additionally, for a second values operationalization more in line with Hunt et al. (2010), a study pre-screen used a modified 19-item Schwartz Short Values Survey (SSVS; Lindeman & Verkasalo, 2010; see Method) to capture *measured* values (see below).

Furthermore, to generalize the findings across dimensions of psychological distance (which should be conceptually interchangeable, e.g., Maglio, Trope, & Liberman, 2013), rather than manipulate temporal distance as did Hunt et al. (2010), I chose to instead manipulate social distance as described above. Also, to circumvent the need to exclude non-white participants (as

did Hunt et al.) and avoid potential race-attitude influence (e.g., racial prejudice influencing attitudes), I made the purpose of ostensible fee increase funding for scholarships for “incoming freshman” rather than minorities (as Hunt et al.). Finally, to test for boundary conditions of financial self-interest, I included two *subjective* socio-economic status/financial strain measures in addition to the *objective* financial strain measure used by Hunt et al.

I predicted main effects of each of these three variables, such that, 1) decreased self-interest (i.e., financial strain), 2) having other-focused values be made more readily accessible, and 3) considering a scenario that has a (socially) distal construal, would each increase support for the fee increase. However, I also predicted several interactions. Because abstract values have been found to be better predictors of behavior than concrete attitudes in distal (as opposed to proximal) scenarios (e.g., in the distant future, rather than near future), I predicted that values accessibility would have a greater impact in the socially distal University of Maine condition, whereas self-interest would have greater impact in the socially close University of Arkansas condition. Additionally, I predicted that self-focused (other-focused) value accessibility would exacerbate (attenuate) the effect of self-interest. I did not hold any specific a priori predictions about whether these differences in two-way interactions would be great enough to show a significant a three-way interaction.

A second set of analyses operationalized values as a measured, rather than manipulated, variable. I substituted a values measure from a prescreen survey in place of the dichotomous values accessibility condition variable. A composite score of the prescreen items was computed that created a measure of the relative importance participants held for self-focused values over other-focused values. Predictions in these analyses paralleled the primary analyses predictions (e.g., having a disposition to place more importance on self-focused values is analogous to being

in the self-focused values accessibility condition). I only predicted that the strength of the relationship may increase due to the more nuanced measure.<sup>1</sup>

Finally, a third analysis utilized the same conceptual models as Hunt et al. (2010), to provide the most direct test of replicating their findings. In this third analysis, only one of the self-interest measures (i.e., the same objective financial strain self-interest measure used by Hunt et al.) and the measured values (i.e., that which is closest to the values measure used by Hunt et al.) was used. This model also differed by not including the values  $\times$  self-interest interaction (see Replicated study above for predictions)

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<sup>1</sup> For instance, not everyone in the other-focused condition would necessarily be other-focused, even post-manipulation; but, by capturing the general extent to which someone is self- or other-oriented, I predicted stronger effects for measured values than manipulated values.

Table 1  
Changes from Hunt et al. (2010) to the present study

| Change        | Original >> Present study                           | Reason   |
|---------------|---|--|
| Sample size   | $n = 71 \gg n = 335$                                | A priori power analysis showed $n = 319$ was the sample size needed for 80% power.   |
| Restrictions  | White participants only >> none                     | I had no need to restrict my sample to only White participants because the DV was not specifically about minority participants (see below).  |
| DV            | Single-item >> Five-item composite                  | Hunt et. al used a single 7-point Likert-type scale (strongly disagree to strongly agree), however I wanted to capture a broader measure of support for the policy.  |
|               | 10% tuition increase >> \$150 per semester increase | A previous (unpublished) pilot study assessed undergraduate's estimates of what a 10% tuition increase equates to in dollars and found highly variable and inaccurate responses. Thus, I used a dollar amount to ensure all participants knew exactly how much they were being asked to pay. |
|               | Minority scholarships >> freshman scholarships      | 1) To eliminate the need to remove minorities from analysis. 2) To ensure racial prejudice is not unduly influencing attitudes towards the fee increase.   |
| Construal     | Temporal >> Social                                  | 1) To generalize previous findings across construal dimensions. 2) In prior (unrelated, unpublished) studies, I have tried manipulating temporal construal, and have not been convinced it is effective despite its use in the literature.   |
| Values        | SDO >> SSVS   | SDO was not less relevant in the present study as the DV was no longer about supporting racial minorities. Schwartz's (2012) values theory is well established in the literature, and these are the values measured by SSVS.   |
|               | Measured >> manipulated                             | The addition of a values accessibility manipulation  |
| Self-interest | OFS >> OFS, SFS, Ladder                             | SFS was added to explore if any differences exist as a function of subjective, rather than objective, financial strain. The ladder item was added to explore the possibility of using this as a single-item measure in future studies.   |

*Note.* SDO = Social Dominance Orientation (Pratto et al. 1994). SSVS = Schwartz Short Value Survey (Lindeman & Verkasalo, 2010). SFS = "subjective financial strain." OFS = "objective financial strain." "Ladder" is the subjective economic status item from Adler et al., 2000.

## Method

### A priori power analysis

My planned analysis included seven parameters (all three main effects (construal, values, and self-interest), each two-way interaction, the three way interaction, and the intercept). Given these seven parameters, an effect size of  $f^2 = .0461$  (the average effect size for published social-psychological studies; Richard, Bond Jr., & Stokes-Zoota, 2003)<sup>2</sup>, 80% power, and  $\alpha = .05$ , the a priori sample size for analysis needed to be at least 319 participants from the University of Arkansas general psychology undergraduate subject pool.

However, previous research conducted from this subject pool has consistently found roughly 30% of participants produce data that should not be used. For instance: meta-data has shown that participants did not open a link that contained the manipulation vignette (i.e., they did not receive the manipulation); page timing has shown participants were only on a manipulation vignette page for a few seconds (i.e., they did not have time to fully read the manipulation); multiple straight-forward attention checks have been missed (i.e., not paying attention and taking the study seriously); outlier answers have been so extreme they were face-valid to exclude (e.g., claiming they believed fair pay for doing a 1.5 minute word-search task is over \$1M). As such, to facilitate a minimum of 319 participants in my analysis, I adjusted my a priori stopping point to 425 participants, with the expectation of liberally excluding participants (see *exclusion criteria* below).

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<sup>2</sup> I chose to not base my expected effect size on Hunt et al. (2010) due to the design differences in the studies, as well as my sense that some limitations (e.g., only white participants, potentially racially charged responses, small sample size) could have artificially inflated the effect beyond those of true effects.

## Participants

Participants who completed all seven items of a subjective financial strain measure on a department prescreen<sup>3</sup> (see below) were recruited to participate in an online study ostensibly pertaining to “memory and opinions.” Four hundred twenty five students from the University of Arkansas subject pool completed the study (see Table 2 for all method section descriptive statistics including demographics and condition cell counts). A total of 85 participants were removed categorically for data exclusion “red flags.” An additional 48 participants were flagged with “secondary” exclusion criteria (see *exclusion criteria 2*, below); all analyses reported for the present study were conducted with and without these 48 participants, but the patterns of results did not meaningfully differ, thus none of the “secondary sample” (i.e., excluding these 48 participants) analyses are reported herein.

## Procedure and design

Participants who signed up for the study were provided with a Qualtrics link to take the survey. Participants navigated through the survey at their own pace (completion time:  $M = 10.5$  min,  $SD = 4.1$  min), and earned 1/4 credit towards their general psychology research requirement in exchange for participation. To ensure continuity of formatting and the visual layout of the study, participants were told they must complete the study on a computer, and attempts to open the study on a mobile device (e.g., phone, tablet) were blocked. Given that participants were able to access the online-study from anywhere at any time, they were also instructed to not begin the study unless they had at least 20 minutes to finish it, so that they would finish it all in one sitting.

After providing informed consent in accordance with approved university IRB protocol, participants were randomly assigned to one of two conditions for two factors. First a *values*

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<sup>3</sup>  $n_{total\_pool} = 1147$ ;  $n_{presecreen} = 873$ ;  $n_{all\_SFS\_items} = 823$ ;  $n_{all\_values\_items} = 859$



*accessibility* manipulation was used to make self-focused or other-focused values more accessible to participants. Later, a *construal* manipulation manipulated whether the social distance (i.e., *construal*) of the memo (and as such, the fee increase) was proximal or distal.

During the survey, participants first completed a values accessibility manipulation task. Participants then read (one of two versions of) a memo from a university about an upcoming student fee increase in order to fund scholarships for incoming freshman. After answering a few questions to make sure participants understood the message of the memo they read, participants indicated their support for the fee increase, answered items about their self-interest (i.e., two additional socio-economic status operationalizations), and provided other demographic information. Finally participants were debriefed, thanked, and redirected back to the subject pool credit management platform, where they received credit for participating. Full materials (with temporal ordering) for this study are available in the Appendix.

**Materials.** This study included three primary independent variables. *Construal* and *values accessibility* were both manipulated, categorical IVs. Three different operationalizations of *self-interest* (i.e., economic strain/status) were measured as quasi-IVs. In addition to values accessibility, *values* were also measured as an additional operationalization (see below) that is more in line with the values operationalization of Hunt et al. (2010) for secondary analyses.

**Values accessibility manipulation.** At the beginning of the study, similar to Gerbasi and Prentice (2013), participants were randomly assigned to complete a task intended to manipulate the accessibility of either self-focused values or other-focused values. Participants read 18 items from Schwartz's Personal Values Questionnaire (Cieciuch & Schwartz, 2012), which told participants about a person, and asked the extent to which that person is like himself or herself on a 6-point Likert-type scale (*not at all like me; not like me; a little like me; somewhat like me; like*

*me; very much like me*). Participants in the other-focused values condition were shown only other-focused, “social” values (e.g., conformity: “*It is important to them to be polite to other people all the time. They try to never to disturb or irritate others.*”). Participants in the self-focused values condition were shown only self-focused, “individual” values (e.g., achievement: “*Being very successful is important to them. They like to impress other people.*”). To try and facilitate participants engaging with the materials and reading the values closely, they were told their memory of the items they read will be tested later on, so they needed to pay close attention and read the items carefully. All 18 items were presented in random order.

**Construal manipulation.** To manipulate the construal level of the DV, participants read a memo ostensibly from the Director of Student Support Services of a university about an increase in student fees to fund future scholarships at the university (see Appendix for example). Participants were randomly assigned to read either a memo from the University of Arkansas (socially proximal), or the University of Maine (socially distal). These two memos were identical with the exception of the official university letterhead shown on each version. Participants were told:

Many universities ask departments that collect data from students to help gather student input on a number of issues important to students and the university. For part of today’s study, we would like to show you a memo from the University of [Arkansas/Maine] about some changes that will be implemented next year. We will then ask you some questions about what you read. Your responses will remain anonymous, so please carefully read the following pages and give your honest feedback.

After reading these instructions, participants were directed to a PDF memo, which explained that due to tax cuts, the university will no longer have the money to offer the number of scholarships that it has historically offered. As a result, the university will be implementing a

new \$150 per semester student fee, beginning the “next semester” (Spring 2019), to continue offering scholarships to incoming freshman the following year (Fall 2019).

*Self-interest (financial strain).* Because the DV asked participants how they felt about having to pay extra money to benefit someone else, it is against one’s financial self-interest to support it. Furthermore, the more financial strain one is experiencing, the more supporting such a fee increase goes against their self-interest. Thus, self-interest was operationalized with three variables: financial strain (subjective and objective) and a one-item self-report socio-economic status (SES) variable.<sup>4</sup>

*Subjective financial strain.* Though Hunt et al. (2010) only measured *objective* financial strain, I chose to assess if the pattern of relationships holds for *subjective* financial strain as well, or if this might be a boundary condition for the effect of self-interest. Subjective financial strain (SFS) was measured on the department prescreen<sup>5</sup> using seven items adapted from Conger et al. (2002). Four items asked participants the extent to which they feel they are able to afford adequate housing, clothing, food, and medical care on 5-point Likert-type scales anchored with 1 (*strongly agree*) and 5 (*strongly disagree*). Participants then used 5-point Likert-type scales to indicate the extent to which they feel they have had difficulty paying bills in the last 12 months (*no difficulty at all; a great deal of difficulty*), how much money they feel they have left over at the end of each month (*more than enough money left over; not enough to make ends meet*), and how they feel about their financial situation compared to other people their age (*far*

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<sup>4</sup> Bivariate correlations between these three variables ranged from .29 to .32;  $ps < .001$ .

<sup>5</sup> SFS was measured prior to the study to avoid order effects of asking participants about subjective feelings of financial strain after reading a memo about the university asking them for more money, or thinking about their subjective financial strain before reading the memo.

*better off financially; far worse off financially*). Cronbach's alpha was sufficient ( $\alpha = .86$ ) to compute the mean across these seven items as the measure of participants' SFS.

*Objective financial strain.* Objective financial strain (OFS) was measured after the DV items and manipulation checks with eight items modeled after Hunt and colleagues' (2010) financial strain measure. This scale is used to estimate how many sources of financial assistance participants benefit from (e.g., parental income, scholarships, student loans, other government assistance) on 3-point scales (*not at all, a little bit, and a lot*) as well as how much they work (*not at all, part time, full time*). With each item scored 0 to 2, the sum of all eight items (range: 0 – 16) serves the participants' measure of OFS where higher numbers indicating greater financial strain.

*Alternative SES (“the ladder”).* An additional one-item measure of SES, first published by Adler, Epel, Castellazzo, and Ickovics (2000), was also included in the study. This measure was included to explore its relationships with subjective and objective financial strain and assess the feasibility of using this simple, single-item measure in lieu of subjective and/or objective financial strain in future research. On this measure, participants were given a drawing of a ladder with 10 rungs numbered 1 to 10 (bottom to top) and had the instructions:

*Think of this ladder as representing where people stand in your country. At the top of the ladder (10) are the people who are the best off (those who have the most money, most education, and best jobs). At the bottom (1) are the people who are the worst off (those who have the least money, least education, and worst jobs or no job). The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are, the closer you are to the people at the very bottom. **Where would you place yourself on this ladder?***

Then participants indicated their answer on a vertical 10 – 1 (top to bottom) Likert-type scale.

**Dependent variable.** The dependent variable of the study was conceptually the extent to which participants are willing to forego their own financial self-interest for the sake of some generalized “other.” This was operationalized as a series a questions with 7-point Likert-type scales that are designed to capture general beliefs about and attitudes towards this proposed new student fee. Participants indicated the extent to which they support and agree with the increase (*Strongly [oppose/disagree] to Strongly [support/agree]*), and reported their attitudes towards the proposed increase on three semantic differential scales (*harmful – beneficial; wise – foolish; bad – good*). The order of these five scales was randomized and one of the three semantic scales was worded to be reverse scored. After reverse scoring the appropriate item, Cronbach's alpha was assessed and sufficient ( $\alpha = .92$ ) for creating a mean composite score of “support for the fee increase” (i.e., the DV).

**Manipulation and attention check(s), exclusion criteria.**

**Values accessibility manipulation check.** I operationalized the construct of “values accessibility” as the extent to which one endorses engaging in self- vs. other-oriented thinking. Specifically, participants responded on a 7-point Likert type scales anchored with (1 = “only think about others” and 7 = “only think about myself,” to statements about the extent to which they think about themselves vs. others (1) “In their day-to-day life” (i.e., “typically”), and (2) “while reading the memo specifically.” These variables allowed for assessing whether participants were differentially thinking about the “other,” depending on which values were made more accessible by the manipulation, controlling for the amount they “typically” think about themselves vs. others.

**Construal manipulation check.** To try and tap into how psychologically close or distant the DV felt to participants (i.e., the construal level of the memo), I attempted to succinctly

explain the idea of psychological distance to participants, and then ask them about the distance they felt when reading the memo. Furthermore, I asked participants the distance they felt from a reference point that would be common across conditions in an attempt to control for individual differences in psychological distance perception. Participants read:

Some things feel "mentally closer" ("hitting close to home" or "in the feels," as some would say), while others feel more "mentally distant" (less "up close and personal"). For instance, finding out a close friend or relative was in a car accident generally "hits closer to home" ("feels closer") than finding out a random student in one of your classes was in a car accident (which feels more "distant").

Then participants were asked, "As you read about the upcoming fee increase, how close or distant did it feel to you personally?" on a 7-point Likert-type scale anchored with "Very close" and "Very distant." To check distance perceptions across conditions with a common reference point, participants then used the same scale to answer how close or distant their upcoming winter break felt.<sup>6</sup>

***Memo checks (exclusion criteria 1).*** After participants read the memo, three questions checked to make sure participants read the memo well enough to recognize the three critical parts of the memo. They were asked: "What was the topic of the memo?" (increased student fees to fund scholarships); "How much are student fees increasing?" (\$150 per semester); and "Who is eligible for the scholarships created by this fee?" (any incoming freshman). It was important that participants knew each of these pieces of information, because the study hinged on their

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<sup>6</sup> Data collection started at the beginning of second week of the fall semester, and was completed at the end of the third week, thus the actual difference in how much time there was before the winter break was negligible.

understanding that they were being asked to give up money for a cause that they could not possibly benefit from (i.e., they cannot be “incoming freshman,” so they would be ineligible for the future scholarships they were being asked to pay for).

At each question, participants were offered a link to see the memo again if needed. If they did not answer the question correctly, they were told their answer was incorrect, and to please re-read the memo and try again until they selected the right answer. Qualtrics was set up to track the amount of time participants spent on the memo page (including subsequent views if participants went back to check the memo again), and whether participants got the answer right on their first attempt.

First, if participants missed two or three of these memo checks, they were flagged for removal from analysis ( $n = 15$ ). Second, if participants were on the memo page (cumulatively) for an extraordinarily short amount of time, they were also flagged for removal. Prior to data analysis, I chose a cutoff time based on a study that looked at reading speed and fluency (Jordan, Dixon, McGowan, Kurtev, & Paterson, 2016). In this study, the “fast” (upper 50%) reading group could read 325-443 words per minute (wpm). To be conservative, I added an additional 25% buffer to the upper end of this range (554 wpm), and calculated the minimum expected time to read the memo at 32.5 seconds. I further cut this amount of time by half, and decided any participants who spent  $< 16.25$  seconds on the memo page would be flagged for removal from analysis ( $n = 65$  met this criteria). Participants who were flagged due to these two checks are not included in any analyses.

**Attention check (exclusion criteria 2).** Embedded in the study between the DV items and manipulation checks was a single attention check item to gauge whether participants were carefully reading questions vs. looking at the answer choices and assuming they knew what

question was being asked without actually reading them (an “instructional manipulation check;” Oppenheimer, Meyvis, & Davidenko, 2009) . This item read, “If you are carefully reading all of these questions, ignore what these answers say, and simply select retired as the answer to this question,” and gave the answer options, *employed full time, employed part time, unemployed and looking for work, unemployed and not looking for work, retired, student, disabled*. Forty-eight participants did not correctly select “retired” on this question.<sup>7</sup> However, removing these 48 would bring my sample size to  $n = 287$ , and thus removing them from the primary analysis would leave an underpowered sample as per the a priori power analysis. Given that these participants did not meet any other “red flag” criteria (e.g., did not miss the memo check items, spent enough time on the memo), they were included in the reported analyses.

***Self-reported study effort and attention (exclusion criteria 3)***. At the end of the survey, three face-valid questions asked participants about whether they paid attention and gave meaningful answers. The first two read, “*I paid close attention to what I was reading throughout this survey,*” and, “*I carefully thought about the answer choices, and gave accurate and meaningful answers.*” These items were answered on 5-point Likert-type scales anchored with “*Strongly disagree*” and “*Strongly agree.*” Finally a true/false question similar to Meade and Craig (2012) was presented which read, “*My data **should be deleted** because I **did not** take this study seriously.*” Three participants selected “true” to this item, and two additional participants answered “1” on the previous two items, and thus these five participants were flagged for removal from the data prior to any analysis.

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<sup>7</sup> Incorrect responses ( $n$ ): student: 32; employed part time: 12; unemployed and (or not) looking for work: 4



### **Additional measures.**

**Personal values.** On the department prescreen, participants completed a modified Schwartz Values Short Survey (SSVS; Lindeman & Verkasalo, 2005, 2010). In this survey, participants were given each of Schwartz's (2012) values, and a brief description (e.g., "**Stimulation:** Excitement, novelty, and change (*or challenge*) in life") and asked the extent to which this value serves as a guiding principle in his or her life on an 9 point Likert-type scale (0 = "opposed to my principles," 1 = "not important," 4 = "important," 8 = "of supreme importance"). The SSVS has been used in a number of fields including psychology (Lönngqvist, Leikas, & Verkasalo, 2018), medicine (Saher and Lindeman, 2005), sociology (Gaunt, 2006), economics (Rajh, Budak, Žokalj, 2016), and more; however the SSVS has only been validated as a 10-item measure that reflects the 10 values in Schwartz's (1992) original model of values (Lindeman & Verkasalo, 2010). I modified the SSVS to reflect the 19 values defined by Schwartz's (2012) refinement of his values structure, and drew the descriptions for each value given to participants from Schwartz et al., (2012).

The SSVS items were divided into those which fell under "personal (self) focused" and "social (other) focused" values, and Cronbach's alpha was acceptable for each ( $\alpha_{self} = .73$ ,  $\alpha_{other} = .76$ ). However, before computing the mean for these value groups, it was important to control for the highly variable differences of values-importance ratings to retain accuracy of values measurements when comparing individuals or groups (e.g., Schwartz & Boehnke, 2004; Sandy, Gosling, Schwartz, & Koelkebeck, 2016). This was accomplished by computing participants value *priorities* (i.e., tradeoffs) via individual-mean-centering each value rating. In doing so, a rating of 7 on "value X" by a participant who rated 6's and 7's for *all* values is seen as "not that much of a priority to this participant [relatively speaking]," whereas that same rating of 7 would

be seen as a “high priority” if the rest of their values-importance ratings were at the low end of the scale.

Thus, once the values scores were individual-mean-centered, the mean was taken for the “personal-focused” items. A resulting positive number indicates a participant places relatively more importance on personally focused values than socially (other) focused values (and vice-versa). Because the study was not limited to only participants who complete all 19 items on the prescreen, four participants were missing > 80% of the values items and were removed from the data; after removing these four, seven participants were missing one SSVS item, and one participant was missing three items. These numbers of missing items were small enough to be considered negligible, and thus the means were calculated without these items.

**Demographics.** Near the end of the survey, participants indicated their demographic information. These questions included age, gender, and race/ethnicity. Participants also self-reported their social, economic, and overall political ideology (separately) using 7-point Likert-type scales anchored with “*Very conservative*” and “*Very liberal.*”

### **Data analytic strategy**

For the primary analysis, I created general linear models with the three primary IVs predicting the DV, and included only main effects in one model, main effects and two-way interactions in a second, and also included the three-way interaction in a third. Models were assessed for each operationalization of self-interest. The secondary analyses was the same as the primary, only the categorical values accessibility factor was replaced the prescreen values measure (SSVS). Finally, in the spirit of replication, I also analyzed these data with the same conceptual models as Hunt et al. (2010). This analysis used nested general linear models,

wherein a compact model with main effects only was nested within an augmented model that also included the construal  $\times$  values and construal  $\times$  financial strain interactions.

Table 2  
*Descriptive statistics of the method section*

| Participant demographics                                |                                     |       |                                       |       |
|---|-------------------------------------|-------|---------------------------------------|-------|
| Variable  | Primary sample<br>( <i>n</i> = 335) |       | Secondary sample<br>( <i>n</i> = 287) |       |
| Age: <i>M</i> ( <i>SD</i> )                             | 19.2 (3.25)                         |       | 19.2 (3.43)                           |       |
| Gender: <i>n</i> (%)                                    |                                     |       |                                       |       |
| <i>Female</i>   | 256 (76.4)                          |       | 223 (77.7)                            |       |
| <i>Male</i>   | 78 (23.3)                           |       | 63 (21.9)                             |       |
| <i>Other</i>  | 1 (0.3)                             |       | 1 (0.3)                               |       |
| Race: <i>n</i> (%)                                      |                                     |       |                                       |       |
| Caucasian   | 272 (81.2)                          |       | 234 (69.9)                            |       |
| Hispanic  | 28 (8.4)                            |       | 23 (6.9)                              |       |
| Asian   | 14 (4.2)                            |       | 11 (3.3)                              |       |
| African-American  | 8 (2.4)                             |       | 7 (2.1)                               |       |
| Native-American   | 3 (< 1)                             |       | 3 (< 1)                               |       |
| Other   | 10 (3.0)                            |       | 9 (2.7)                               |       |
| Ideology: <i>M</i> ( <i>SD</i> )                        |                                     |       |                                       |       |
| <i>Overall</i>  | 4.05 (1.72)                         |       | 4.09 (1.72)                           |       |
| <i>Social</i>   | 3.64 (1.73)                         |       | 3.67 (1.75)                           |       |
| <i>Economic</i>   | 4.50 (1.62)                         |       | 4.57 (1.59)                           |       |
| Variable descriptive statistics: <i>M</i> ( <i>SD</i> ) |                                     |       |                                       |       |
| Pre-screen values                                       | -0.262 (0.49)                       |       | -0.235 (0.49)                         |       |
| SFS   | 2.12 (0.94)                         |       | 2.15 (0.96)                           |       |
| OFS   | 4.79 (2.01)                         |       | 4.84 (1.96)                           |       |
| Ladder  | 4.61 (1.47)                         |       | 4.61 (1.47)                           |       |
| Support for fee (DV)                                    | 3.72 (1.35)                         |       | 3.72 (1.36)                           |       |
| Condition cell counts                                   |                                     |       |                                       |       |
| Construal manipulation                                  | Values accessibility manipulation   |       |                                       |       |
|   | Self                                | Other | Self                                  | Other |
| Close (U of AR)   | 81                                  | 81    | 68                                    | 70    |
| Distant (U of ME)                                       | 87                                  | 86    | 78                                    | 71    |

*Note.* Pre-screen values are individual-mean-centered to indicate each participants' relative preference for personally focused values to other focused values (negative numbers = more importance on other-focused values). *SFS* = "subjective financial strain." *OFS* = "objective financial strain." "Ladder" is the subjective economic status item from Adler et al., 2000.

## Results

**Manipulation checks.** Prior to conducting analyses, I tested my manipulation checks to ensure the manipulations had their intended effect. To assess the effectiveness of the construal manipulation (close (0): University of Arkansas; distant (1): University of Maine) I used a general linear model to test the difference in self-reported closeness of the student fee increase as a function of university condition. This model showed the difference to be significant ( $F(1, 333) = 6.22; b = 0.45, p = .01; 95\% CI_b [0.09, 0.90]$ ), such that the participants in the University of Arkansas condition ( $M = 3.59, SD = 1.61$ ) felt the student fee increase was closer than those in the University of Maine condition ( $M = 4.04, SD = 1.67$ ). This effect and pattern held when controlling for the common reference point of perceived distance to the upcoming winter break ( $F(1, 332) = 5.99; b = 0.44, p = .01; 95\% CI_b [0.09, 0.80]$ ).

Next, to assess the effectiveness of the values accessibility manipulation (other (0): socially-focused values; self (1): personal-focused values), I used a general linear model to test the difference in the extent to which participants were thinking about themselves vs. the “other” while reading the memo, as a function of values condition. This model showed the difference to be non-significant ( $F(1, 333) = 0.358; p = .55; 95\% CI_b [-0.25, 0.47]$ ); Self-focus:  $M = 3.88, SD = 1.58$ ; Other-focus:  $M = 3.77, SD = 1.74$ ). Controlling for participants’ “typical” amount of self- vs. other-oriented thinking found only this “typical” orientation variable to be significant; value condition still showed a non-significant effect ( $F(1, 332) = 0.219; p = .64; 95\% CI_b [-0.27, 0.44]$ ). Though the values accessibility manipulation check results were not as expected, it is possible that the manipulation worked, but the (untested) manipulation check item wasn’t adequate to capture a subtle, yet meaningful shift in values accessibility. Thus, the primary analysis proceeded as planned. Secondary analyses with values operationalized as a measured variable

were also conducted to explore meaning in the data with an assumption that the values accessibility manipulation had no effect,<sup>8</sup> but the effect of values broadly could still be considered using alternative methods.

**Model assumptions and case analyses.** For all models presented herein, model case analyses inspected studentized residuals (Bonferroni-adjusted), leverage, Cook's *D*, *DFBETAs*, and univariate outliers. There were not any significantly outlying cases vis-à-vis studentized residuals in any model. Other diagnostic criteria had one to five participants who were potentially outlying, influential, or otherwise problematic across the various models. However, given the normality of the residuals and lack of converging evidence for any given data point being problematic (i.e., no cases were diagnostically problematic by multiple criteria; and where cases were potentially problematic, it was not particularly overwhelming or concerning manner), I did not remove any cases from the reported analysis.<sup>9</sup> Additionally, for all models presented, assumptions of general linear models were verified to be within acceptable limits.

**Primary analyses.** General linear models were used to assess the effect of construal (social distance), values (manipulated accessibility), and self-interest (operationalized three different ways) on support for the student fee increase. One model assessed main effects only, a second included all two-way interactions, and a third included the three-way interaction. As shown in Table 3, none of the interactions in the six interactive models were significant. Construal had a significant main effect, such that participants supported the fee increase more in

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<sup>8</sup> To rule out the possibility that the effectiveness of the manipulation was moderated by pre-existing values dispositions (e.g., the “other-focus” manipulation differentially effecting participants who already place higher importance on other- vs. self-focus and vice-versa), I also tested for pre-existing values  $\times$  value manipulation moderation. I found no such effects, so I do not report them herein.

<sup>9</sup> These cases were filtered out on a model-by-model basis in a separate analyses, but no meaningful changes were found, thus I did not report them herein.

the socially distal condition than in the socially close condition, but this effect was no longer significant after accounting for any interactions. The main effect of values was non-significant in each of the nine models. For self-interest, the ladder measure did not have any significant effects, subjective financial strain only had a significant main effect when interactions were not included, and objective financial strain had a significant main effect in the main-effects only and two-way interactive model, but not in the three-way interactive model. Across all three self-interest operationalizations, including interactions did not significantly reduce error ( $\Delta R^2 = .01$ ), and across all nine models,  $R^2 \approx 2-5\%$ .

Table 3

Regression table of support for fee increase for each self-interest variable and manipulated values.

| Variable       | Self-interest operationalization |                |               |                |               |               |               |               |               |
|----------------|----------------------------------|----------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|
|                | OFS                              |                |               | SFS            |               |               | Ladder        |               |               |
| CON            | 0.38**                           | 0.21           | 0.22          | 0.36*          | 0.22          | 0.22          | 0.36*         | 0.24          | 0.23          |
|                | [0.09, 0.66]                     | [-0.19, 0.62]  | [-0.19, 0.62] | [0.07, 0.64]   | [-0.18, 0.62] | [-0.19, 0.62] | [0.08, 0.65]  | [-0.17, 0.64] | [-0.17, 0.64] |
| VAL            | -0.14                            | -0.32          | -0.33         | -0.15          | -0.29         | -0.3          | -0.14         | -0.28         | -0.28         |
|                | [-0.43, 0.14]                    | [-0.73, 0.09]  | [-0.74, 0.08] | [-0.43, 0.13]  | [-0.70, 0.12] | [-0.71, 0.11] | [-0.43, 0.14] | [-0.70, 0.13] | [-0.70, 0.13] |
| SI             | -0.09*                           | -0.14*         | -0.11         | -0.16*         | -0.08         | -0.15         | -0.05         | 0.01          | -0.01         |
|                | [-0.16, -0.02]                   | [-0.27, -0.02] | [-0.25, 0.03] | [-0.31, -0.01] | [-0.34, 0.18] | [-0.46, 0.15] | [-0.15, 0.04] | [-0.16, 0.18] | [-0.21, 0.18] |
| CON × VAL      |                                  | 0.32           | 0.33          |                | 0.28          | 0.28          |               | 0.26          | 0.26          |
|                |                                  | [-0.25, 0.89]  | [-0.24, 0.90] |                | [-0.29, 0.85] | [-0.29, 0.85] |               | [-0.32, 0.83] | [-0.32, 0.83] |
| CON × SI       |                                  | 0.08           | 0.01          |                | 0.02          | 0.16          |               | -0.12         | -0.07         |
|                |                                  | [-0.07, 0.22]  | [-0.19, 0.21] |                | [-0.28, 0.33] | [-0.26, 0.59] |               | [-0.31, 0.08] | [-0.35, 0.20] |
| VAL × SI       |                                  | 0.02           | -0.05         |                | -0.19         | -0.05         |               | -0.001        | 0.05          |
|                |                                  | [-0.12, 0.16]  | [-0.26, 0.16] |                | [-0.49, 0.12] | [-0.48, 0.39] |               | [-0.20, 0.19] | [-0.23, 0.33] |
| CON × VAL × SI |                                  |                | 0.13          |                |               | -0.28         |               |               | -0.09         |
|                |                                  |                | [-0.16, 0.42] |                |               | [-0.89, 0.33] |               |               | [-0.49, 0.30] |
| Constant       | 3.60**                           | 3.69**         | 3.69**        | 3.62**         | 3.68**        | 3.69**        | 3.61**        | 3.68**        | 3.68**        |
|                | [3.35, 3.85]                     | [3.40, 3.98]   | [3.40, 3.98]  | [3.37, 3.87]   | [3.39, 3.97]  | [3.40, 3.98]  | [3.36, 3.86]  | [3.39, 3.97]  | [3.39, 3.97]  |
| R2             | 0.04                             | 0.05           | 0.05          | 0.03           | 0.04          | 0.04          | 0.02          | 0.03          | 0.03          |
| Adj. R2        | 0.03                             | 0.03           | 0.03          | 0.02           | 0.02          | 0.02          | 0.02          | 0.01          | 0.01          |
| RSE            | 1.32                             | 1.33           | 1.33          | 1.33           | 1.33          | 1.33          | 1.33          | 1.34          | 1.34          |
| F              | 4.46**                           | 2.64*          | 2.38*         | 3.81*          | 2.31*         | 2.10*         | 2.76*         | 1.74          | 1.52          |
| df             | (3, 331)                         | (6, 328)       | (7, 327)      | (3, 331)       | (6, 328)      | (7, 327)      | (3, 331)      | (6, 328)      | (7, 327)      |

Note:  $n = 335$  for all models. Reported are the slopes and 95% CI of slopes. CON = construal (coded 0 = proximal/UA, 1 = distal/UM). VAL = values condition (coded 0 = "other focus", 1 = "self focus"). SI = self-interests (i.e., the financial strain or socioeconomic status variables). OFS/SFS = Objective/Subjective Financial Strain (mean centered). Ladder = mean centered subjective socioeconomic stats as per the Addler et al. (2000) measure. RSE = Residual std. error.

\* $p < 0.05$ ; \*\* $p < 0.01$

**Secondary analyses.** The same models from the primary analysis were repeated but with the prescreen SSVS *values* measure (scored such that higher importance of self-focused values are positive and higher other-importance is negative) substituted for the values accessibility condition factor. As shown in Table 4, once again, none of the two- or three-way interactions were significant. Also again, the values measure did not have a significant effect across any of the models. In the models with objective financial strain, both construal and self-interest had significant main effects across all three additive and interactive models; support for the fee increase was higher in the socially distal construal condition, and as financial strain (self-interest) increased, support for the fee increase decreased, as predicted. The same pattern of relationships was found for subjective financial strain as well, but only in the main-effects model; including interactions removed these significant effects. For the ladder measure of self-interest, oddly, the main effect of construal was significant in both the main-effects only and three-way interactive model, but was not significant in the two-way interactive model. Across all three self-interest operationalizations, including interactions did not significantly reduce error ( $\Delta R^2 \leq .01$ ), and across all nine models,  $R^2 \approx 2\text{-}4\%$ . Figure 1 depicts the interaction of construal, values, and self-interest (see Discussion).



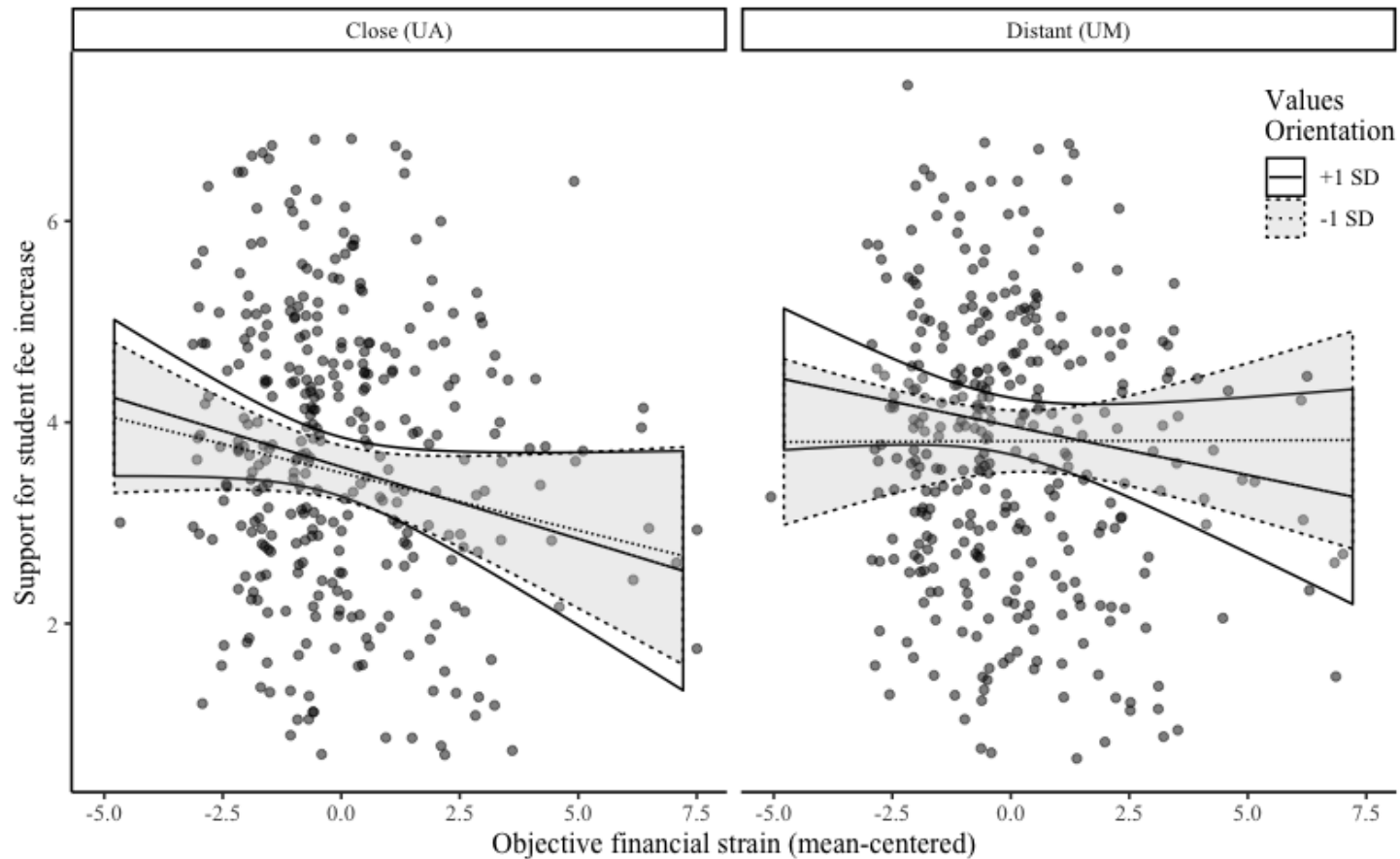
Table 4

*Regression table of support for fee increase for each self-interest variable and measured values.*

| Variable       | Self-interest operationalization |                 |                |                 |               |               |               |               |               |
|----------------|----------------------------------|-----------------|----------------|-----------------|---------------|---------------|---------------|---------------|---------------|
|                | OFS                              |                 |                | SFS             |               |               | Ladder        |               |               |
| CON            | 0.37*                            | 0.34*           | 0.34*          | 0.35*           | 0.32          | 0.31          | 0.35*         | 0.33          | 0.33*         |
|                | [0.08, 0.65]                     | [0.01, 0.67]    | [0.01, 0.66]   | [0.06, 0.63]    | [-0.01, 0.64] | [-0.01, 0.64] | [0.07, 0.64]  | [0.001, 0.66] | [0.002, 0.66] |
| VAL            | -0.1                             | -0.06           | -0.06          | -0.12           | -0.05         | -0.07         | -0.13         | -0.08         | -0.08         |
|                | [-0.39, 0.20]                    | [-0.45, 0.34]   | [-0.46, 0.34]  | [-0.41, 0.18]   | [-0.45, 0.35] | [-0.47, 0.34] | [-0.42, 0.17] | [-0.48, 0.31] | [-0.48, 0.32] |
| SI             | -0.09*                           | -0.11*          | -0.12*         | -0.15*          | -0.15         | -0.17         | -0.05         | 0.01          | 0.02          |
|                | [-0.16, -0.02]                   | [-0.22, -0.003] | [-0.24, -0.01] | [-0.31, -0.003] | [-0.37, 0.07] | [-0.40, 0.06] | [-0.15, 0.04] | [-0.13, 0.16] | [-0.13, 0.16] |
| CON × VAL      |                                  | -0.09           | -0.09          |                 | -0.13         | -0.13         |               | -0.09         | -0.08         |
|                |                                  | [-0.69, 0.50]   | [-0.69, 0.50]  |                 | [-0.73, 0.46] | [-0.72, 0.47] |               | [-0.69, 0.51] | [-0.68, 0.51] |
| CON × SI       |                                  | 0.08            | 0.1            |                 | 0.04          | 0.11          |               | -0.11         | -0.13         |
|                |                                  | [-0.06, 0.22]   | [-0.06, 0.26]  |                 | [-0.27, 0.35] | [-0.25, 0.47] |               | [-0.31, 0.09] | [-0.37, 0.11] |
| VAL × SI       |                                  | 0.07            | 0.03           |                 | 0.09          | -0.03         |               | 0.02          | 0.05          |
|                |                                  | [-0.09, 0.22]   | [-0.19, 0.25]  |                 | [-0.22, 0.40] | [-0.45, 0.39] |               | [-0.18, 0.23] | [-0.20, 0.30] |
| CON × VAL × SI |                                  |                 | 0.07           |                 |               | 0.27          |               |               | -0.07         |
|                |                                  |                 | [-0.24, 0.38]  |                 |               | [-0.36, 0.89] |               |               | [-0.48, 0.35] |
| Constant       | 3.51**                           | 3.51**          | 3.51**         | 3.51**          | 3.53**        | 3.53**        | 3.51**        | 3.52**        | 3.52**        |
|                | [3.29, 3.72]                     | [3.29, 3.73]    | [3.29, 3.74]   | [3.30, 3.73]    | [3.30, 3.75]  | [3.30, 3.75]  | [3.29, 3.72]  | [3.29, 3.74]  | [3.30, 3.75]  |
| R2             | 0.04                             | 0.04            | 0.04           | 0.03            | 0.03          | 0.04          | 0.02          | 0.03          | 0.03          |
| Adj. R2        | 0.03                             | 0.03            | 0.02           | 0.02            | 0.02          | 0.01          | 0.01          | 0.01          | 0.01          |
| RSE            | 1.33                             | 1.33            | 1.33           | 1.33            | 1.33          | 1.34          | 1.34          | 1.34          | 1.34          |
| F              | 4.26**                           | 2.43*           | 2.11*          | 3.65*           | 1.89          | 1.71          | 2.67*         | 1.57          | 1.35          |
| df             | (3, 331)                         | (6, 328)        | (7, 327)       | (3, 331)        | (6, 328)      | (7, 327)      | (3, 331)      | (6, 328)      | (7, 327)      |

Note:  $n = 335$  for all models. Reported are the slopes and 95% CI of slopes. CON = construal (coded 0 = proximal/UA, 1 = distal/UM). VAL = participants' SSVS values measure (mean-centered). SI = self-interests (i.e., the financial strain/socioeconomic status variables). OFS/SFS = Objective/Subjective Financial Strain (mean centered). Ladder = mean centered subjective socioeconomic stats as per the Addler et al. (2000) measure. RSE = Residual std. error.

\* $p < 0.05$ ; \*\* $p < 0.01$



*Figure 1.* This figure depicts the (non-significant) three-way interaction between self-interest (objective financial strain), construal, and values. “Values Orientation” is computed such that positive numbers indicate greater importance of self-focused values and negative numbers indicate greater importance of other-focused values, thus +/- 1 SD indicates participants who are more self- and other-focused, respectively. Predicted values with 95% CIs are shown.

**Replication analysis.** In line with Hunt et al. (2010), I nested a model that included only the main effects of construal, values, and objective financial strain inside an augmented model that also included the interaction between construal and each values and financial strain. As shown in Table 5, the construal manipulation was a significant predictor of support for the student fee increase in the compact model, but not the augmented model. Participants in the “distal” condition supported the increase more than those in the “proximal” condition. The main effect of objective financial strain was significant in each the compact and augmented models, such that as OFS increased, support for the fee increase decreased. The values main effect and both interactions were non-significant. A model comparison of the present study’s model showed the augmented model did not significantly improve the model (i.e., reduce error),  $p = .3$ ,  $\Delta R^2 = .007$ .

Table 5  
Replicating the model from Hunt et al. (2010)

| Variable                   | OFS                      |                          | Hunt et al. (2010) <sup>10</sup> |                            |
|----------------------------|--------------------------|--------------------------|----------------------------------|----------------------------|
|                            | Compact                  | Augmented                | Compact                          | Augmented                  |
| CON                        | 0.38**<br>[0.09, 0.66]   | 0.22<br>[-0.19, 0.62]    | 0.44<br><i>SE</i> = .365         | 0.45<br><i>SE</i> = .33    |
| VAL                        | -0.14<br>[-0.43, 0.14]   | -0.32<br>[-0.73, 0.09]   | -0.48*<br><i>SE</i> = .131       | 0.01<br><i>SE</i> = .25    |
| OFS                        | -0.09*<br>[-0.16, -0.02] | -0.13*<br>[-0.24, -0.03] | -0.05<br><i>SE</i> = .202        | -0.49*<br><i>SE</i> = .21  |
| CON × VAL                  |                          | 0.33<br>[-0.24, 0.89]    |                                  | -1.06**<br><i>SE</i> = .37 |
| CON × OFS                  |                          | 0.08<br>[-0.06, 0.22]    |                                  | .64*<br><i>SE</i> = .26    |
| Constant                   | 3.60**<br>[3.35, 3.85]   | 3.69**<br>[3.40, 3.98]   | 2.14**<br><i>SE</i> = .26        | 2.14***<br><i>SE</i> = .23 |
| <i>R</i> <sup>2</sup>      | 0.04                     | 0.05                     |                                  |                            |
| Adj. <i>R</i> <sup>2</sup> | 0.03                     | 0.03                     | 0.059                            | .214                       |
| <i>RSE</i>                 | 1.32                     | 1.32                     |                                  |                            |
| <i>F</i>                   | 4.46***                  | 3.17**                   | 2.34                             | 4.49**                     |
| <i>df</i>                  | (3, 331)                 | (5, 329)                 | (3, 61)                          | (5, 64)                    |

Note: *n* = 335. OFS model reports the slopes and 95% *CI* of slopes; Hunt et al. (2010) reports unstandardized OLS regression coefficients and HC3 robust standard errors. CON = social distance (Present study model), temporal distance (Hunt et al. model). OFS = Objective Financial Strain (mean centered). VAL = SSVS values measure (Present study model); Social Dominance Orientation (Hunt et al. model).

\**p* < 0.5; \*\**p* < 0.01; \*\*\**p* < 0.001

## Discussion

The present research sought to test the hypothesis that self-interest and values differentially influence attitudes depending on the context of psychological distance using a high-powered design. To test this hypothesis, I manipulated self- vs. other-oriented values accessibility and construal level (social distance), measured self-interest (a few ways) and the

<sup>10</sup> The Hunt et al. (2010) column reprinted with permission from “Revisiting the self-interest versus values debate: The role of temporal perspective,” by C. V. Hunt, A. Kim, E. Borgida, and S. Chaiken, 2010, *Journal of Experimental Social Psychology*, 46(6), 1155-1158. Copyright 2010 by Elsevier Inc. All results-related statistics reported in Hunt et al. are reported herein.

importance of self- vs. other-oriented values, and I assessed the extent to which participants were supportive of foregoing their personal financial self-interest to an end of helping some generalized “other.” In short, these results indicate that values had no significant effect on attitudes towards the fee increase; construal and self-interest only had significant effects consistently when self-interest was operationalized as objective, but not subjective financial strain/socio-economic status; none of these variables seem to interact with one another; and the results of Hunt et al. (2010) failed to replicate. Below I discuss each of these variables in greater depth.

### **Construal**

Construal had the most consistent (main) effect in this study, but not the predicted interaction. Participants were more supportive of the policy change when it was psychologically distal as opposed to when it was proximal. Some may argue that the construal manipulation did not actually manipulate social distance, but rather e.g., personal relevance. However, I hold that even in such case, personal relevance *is* a component of social distance if social distance is defined as social familiarity (Stephan, Liberman, & Trope, 2011). Something that is very relevant to the self is something that is intimately close; it is inherently closer than something that is irrelevant to the self. One could just as easily claim that participants in the socially distal condition were essentially thinking of the policy increase as being hypothetical because it is not something that will directly effect them, while those in the socially close condition are under the impression that the increase is real. However, accessing psychological distance is automatic, even when it is not related to a specific current goal (Bar-Anan et al., 2007), and it is common across the different domains of construal (Fiedler, Jung, Wänke, & Alexopoulos, 2012), such that it should make no difference if participants were construing it as socially distant, personally

irrelevant, or hypothetical; the expected effect of each would be one and the same (e.g, Stephan, Liberman, & Trope, 2011).

Furthermore, though I am limited with the inferences I can draw given my data, along the lines of the aforementioned “personal relevance” argument, one potential interpretation of this data is as additional evidence of self-interest influencing attitudes. Because participants in the socially close condition were under the impression they were being asked to give up money for someone else, but those in the socially distal condition were reading about some group of “others” being asked to give up their money for another group of “others,” it could be argued that the socially distant condition had no applicable self-interest in the scenario. Construed this way, the effect of the distal group (i.e., no self-interest) supporting the fee increase more than the proximal group is consistent with the effect of self-interest that I found when self-interest was operationalized as financial strain.

**Future directions.** Future research could address this directly with a slight shift in the paradigm. For instance, future studies could lead participants to believe an ostensible fee increase is real (proximal construal), or tell them it is hypothetical (distal construal) while holding social distance constant. However, this would not rule out the construal – self-interest overlap. A different condition for the proximal social distance could rule out this problem though; instead of using the University of Arkansas (the university where the study is being conducted), social distance could be manipulated by using Northwest Arkansas Community College (NWACC; based in the same county as UA) or University of Arkansas, Fort Smith (UAFS; approximately 55 miles from UA) vs. University of Maine. In doing so, *neither* university/college would be *directly* relevant to the participant (thus ruling out actual self-interest

as a confound), but surely NWACC or UAFS would be construed psychologically closer than University of Maine (whether socially or spatially).

### **Self-interest**

Though many contemporary scholars have argued that self-interest plays little role in attitudes and behavior (e.g., Batson & Shaw, 1991), these data seem to indicate support for the opposite. Especially when considering the models of objective financial strain, there is a consistent pattern of decreasing support for the fee increase as financial strain (self-interest) increases. Though the interactions are not significant, Figure 1 depicts an interesting trend in the data. Here, if anything, the only circumstances that *do not* seem to predict a decrease in support for the new fee as self-interest increases is specifically among the participants whose values measures indicate they are more other-focused and are in the socially distal condition. Said another way, values did not matter when the attitude object was socially proximal (only self-interest), but self-interest did not matter when it was socially distal (among those who place higher importance on other-focused values; i.e., attitudes were consistent with the more important value domain). However, it is worth explicitly reiterating that while this trend is interesting, this effect was non-significant, and rather modest.

**Perceived self-interest: a potential missed opportunity for understanding.** It is also worth noting the present research could have benefited from assessing participants *perceived* self-interest (“vested interest” as some scholars would call it; e.g., Petrow & Vercellotti, 2011). For instance, Sivacek and Crano (1982) found that when faced with a university-wide requirement for comprehensive final exams, participants’ behavior was consistent with their attitudes to the extent that they felt strongly (whether positively or negatively) they would

personally be affected by the change; however, the behavior–attitude relationship was less consistent for participants who did not have strong feelings about the impact of the policy change.

In the present study, there could have been participants who under- or overestimated the impact of a \$150 per semester increase. If a participant was objectively financially strained but unaware of just how strained they were (i.e., underestimated their financial strain), self-interest as operationalized in the present study could have reasonably been expected to under-predict support for the fee increase. Conversely, if someone was relatively well off financially (objectively speaking), yet overestimated the impact of the fee increase, self-interest could have reasonably been expected to over-predict support for the fee increase. For example, perceived self-interest could have been captured with items directly tapping into the extent to which participants believed the fee increase would impact their financial situation, their life, etc. Indeed, this missing variable could have helped explain the inconsistent effects of objective and subjective financial strain measures (e.g., there could have been more consistent effects between objective financial strain and objective self interest, and between subjective financial strain and subjective self-interest). Future research should consider, if for no other reason than to rule out, differences between the researcher’s operational definition of self-interest and the participants’ perceptions of their own vested interest in the outcome.

Given my data, one key take-away is that the role of self-interest in attitudes may be nuanced and complicated, and it seems short-sighted to claim, for instance, that self-interest “is surprisingly unimportant” (Kinder, 1998, p. 801). It is worth noting, however, that often times in the self-interest literature, a specifically political context is used; it is possible that stepping outside a strictly political context could inadvertently alter expected effects (e.g., removing the influence of other variables that effect political cognition such as partisanship).



**Clearing the quagmire.** Given the conflicting findings vis-à-vis self-interest over the years (e.g., Chong, Citrin, & Conley, 2001; Weeden & Kurzban, 2017), perhaps the solution is a call for researchers to cease the debate on the effects of symbolic attitudes vs. self-interest, and instead shift towards a unified approach to considering the effect of symbolic attitudes *and* self-interest on attitudes. What empirical and/or theoretical advantages does it have to hold a rule that *A* matters and *B* doesn't, if that rule is followed by a caveat, "except under the following (long) list of conditions, in which *B* matters at least as much, if not more, than *A*"? Though some scholars have been making the case that the symbolic attitudes and self-interest schools of thought can coexist (Crano, 1995), little progress has been made towards integrating the two in a cohesive manner.

No doubt, the field of psychology (and perhaps others such as economics, politics, etc.) would benefit from a motivated scholar taking on the arduous task of a comprehensive survey of the available self-interest literature via meta-analysis. Given the breadth of self-interest research, the wide variety of definitions used, and the growing list of conditional exceptions to either case (to name but a few primary complicating factors), it would certainly be a complex endeavor. However, such a project could potentially lead to a more cohesive and accepted definition of self-interest; a disentangling of the extent (if any) to which there are meaningful "sub-categories" of self-interest (e.g., self- vs. group-interest, financial vs. social self-interest, short-term vs. long-term self-interest), and differential effects of these sub-categories across different types of attitudes and behaviors; and a better understanding of the other conditions that may play a role in these relationships (e.g., external influences such as the current state of the economy).

## Values

The lack of effects for values in this study is quite surprising. Cumulatively over the last couple decades alone, studies from dozens of countries with tens of thousands of participants have rather consistently found robust effects of values on attitudes and behaviors (e.g., Schwartz, 2017). The values accessibility manipulation may or may not have worked, but given the inclusion of an established values measure, even if one holds the opinion that my values accessibility manipulation was wholly ineffective (discussed below), surely there would still be an expected effect of this measure. However, no matter how I analyzed the data (including testing moderation effects of pre-existing values with the manipulation), there were no effects to be found.

**Manipulation vs. manipulation check problems.** As stated above, the manipulation check for the values accessibility manipulation showed non-significant differences between the self- and other-focused conditions. The argument was that by having participants read either 18 statements pertaining to self- or other-focused values, these respective sets of values should be more accessible, and thus more influential on participants (e.g., being in the other-focused condition would decrease the effect of self-interest). The lack of significance for the manipulation check could be either due to a failed manipulation or a faulty manipulation check item. Given the data available, I cannot say with any confidence which of these two possibilities is more likely. However, it is worth foreshadowing the forthcoming discussion with a note that there is precedence in the literature for using this type of values accessibility manipulation (e.g., Gerbasi & Prentice, 2013; Katz & Hass, 1988).

***On a failed manipulation.*** Accepting the premise that the manipulation itself failed raises the question, “*why?*” It could be that participants failed to really engage with the materials and

effortfully process each statement. According to the dual-process elaboration likelihood model of persuasion (Petty & Cacioppo, 1986), cognitive processing may take a central route that leads to enduring attitude change, or a peripheral route which leads to temporary shifts in attitude at best, or no attitude change at worst. Though the purpose of the manipulation was not persuasion, a dual-process model of cognitive processing could still apply. Which route is taken depends on the nature of what is being processed (e.g., initial attitudes), but also the motivation and ability to process the information (Petty & Cacioppo, 1986).

If participants are unmotivated or unable to process the statements in the manipulation, these statements could take a peripheral route, and may be less influential. Because this study was done online and not in the lab, there is no way to control (or even know) what sort of environmental distractions participants may have been facing while completing the study. If participants were distracted, it is possible they were unable to process the information. However, recent evidence from a large-scale replication attempt involving 125 samples and 15,305 total participants from 36 countries and territories found that the effect of online vs. lab-based studies was non-significant on the heterogeneity of effect sizes (Klein et al., 2018), so I do not believe this to be the case. Nonetheless, if one is willing and able to sacrifice expediency of data collection for tighter environmental control, this limitation is simple to address with a lab-based study instead.

As for motivation, I attempted to motivate participants to carefully read the items by telling them their memory of the items would be later tested. However, these instructions could have also inadvertently influenced the way participants process the information. The self-reference effect is a robust effect that refers to a tendency to better commit to memory information that has been linked to the self (Rogers, Kuiper, & Kirker, 1977; Symons & Johnson,

1997). Despite the instructions telling participants to respond as to whether the person described in the manipulation statements is like themselves (i.e., making the self-reference salient), it is possible that the prior instructions to read carefully because memory would be tested shifted participants' attention away from this self-referent processing, and instead towards considering the statements as a series of discrete bits of information that needed to be memorized. In short, these instructions may have prompted participants to process the statements more semantically rather than autobiographically, and in doing so, these instructions could have reduced the extent to which participants centrally process the information, and in turn, reduced the effectiveness of the manipulation.

Furthermore, responding to 18 Likert-type items could be too simple of a task (i.e., it is very easy for participants to mindlessly click through without really engaging with the materials). Perhaps the manipulation would have been stronger if participants had more engagement with the values statements. Instead of merely responding to Likert-type scales, participants could have given open-ended responses of some sort, which would require greater cognitive engagement. However, one must be careful with prompting open-ended responses as participants could inadvertently manipulate their own construal depending on the abstractness or concreteness of the responses they give. For instance, thinking about the concrete/procedural "how" of some concept vs. thinking about the abstract "why" of it is a commonly used construal manipulation (e.g., Fujita, Trope, & Liberman, 2006). Absent specific instructions on how to respond to open-ended questions, participants could have given abstract answers that lead them to high-level construal processing, or concrete answers that lead them to low-level construal processing. Perhaps one approach would be to ask the participants to give both a high- and low-construal answer, and counterbalance the order across all the statements (e.g., "describe *why* the following

statement is a good thing;” “using a specific example, describe *how* you have recently embodied the following statement”).

***On a failed manipulation check.*** Of course, the other possibility is that the manipulation worked as intended, but the manipulation check was unable to capture the shift in values accessibility. For instance, socially-desirably responding could have influenced participants’ responses and led to misreporting of the extent to which they were *actually* thinking about themselves vs. the other during the study. Alternatively, by the time participants responded to this manipulation check item, they were several minutes past the manipulation itself (they had read the memo and answered all the DV items between the manipulation and the check); as such, it is possible that even if there were short-term changes in value accessibility, this check item could have been unable to capture it.

**Measured values.** Ultimately, whether the manipulation or the manipulation check that failed is somewhat of a moot distinction though. As shown in the results, neither manipulated nor measured values had *any* significant effects (main effects nor interactions). In fact, between the two sets of analyses considering manipulated and measured values, very few parameter estimates changed (significance) across any of the models. Everything that was significant in the manipulated values analyses was also significant in the measured values analyses, and the measured values analyses only had 4 additional significant parameter estimates beyond the manipulated values analyses (main effect of construal in the ladder three-way interactive model, main effects of self-interest and construal in the OFS three-way interactive model, and the main effect of construal in the OFS two-way interactive model).

Again, the present data are not conclusive, but the findings do raise questions about values – attitudes relationships. Along a similar vein, social psychologists have long known there

are sometimes inconsistencies between attitudes and behaviors (e.g., LaPiere, 1934) and have been investigating why this is the case. The theory of planned behavior (e.g., Ajzen, 1985) for instance holds that the specificity of an attitude may affect the strength of the relationship between that attitude and some behavior (e.g., Davidson & Jaccard, 1979). I considered my data through the lens of this related idea, and thought perhaps the way I operationalized values in the present study was *too* broad to show strong relationships with my specific dependent variable. For instance, considering two self-focused values, “Hedonism” (pleasure, sensuous gratification, enjoyment in life) and “Power – Resources: (power through control of material and social resources) or two other-focused values, “Conformity—Rules” (compliance with rules, laws, and formal obligations) and “Benevolence – Caring” (devotion to the welfare of in-group member), surely it seems intuitive that in each case, the former examples of values (hedonism, conformity) are less directly related (specific) to being willing to pay money to help someone out than the latter two examples (power – resources, benevolence – caring). However, beyond the fully reported results herein, I conducted more fine-grained exploratory analyses considering each of the four higher-order values (conservation, openness to change, self-transcendence, and self-enhancement), and even models looking at measures of each of the individual 19 values and found no significant effects or interactions for values.<sup>11</sup> Indeed, it seems that in this context, with this sample, and with values measured with SVSS, values had no measurable impact on individuals attitudes towards the fee increase.

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<sup>11</sup> Of these 23 additional models, only three models found  $p < .1$ , and none found  $p < .05$  for either the main effect or interaction with the value variables, even without any alpha adjustment to control for family-wise error as would be statistically appropriate.

### **Hunt et al. (2010) replication attempt**

Finally, though there is no simple and accepted decision rule for whether a replication is successful (e.g., Camerer et al., 2018; Open Science Collaboration, 2015), it certainly seems the present data failed to replicate the effects of Hunt et al. (2010). Whereas Hunt et al. only found self-interest to be a significant predictor in the proximal (but not distal) conditions, I found self-interest to be the consistent predictor across both conditions. Where Hunt et. al found values to be a significant predictor, but only in the distal condition, I found no effects for values regardless of condition. It is worth noting, however, that many of the patterns are directionally the same between the present study and Hunt et al., just not the significance or magnitude. This could be a function of the (lack of) power in the Hunt et al. study given a sample size of 71 White college-aged participants, which is broken down by one dichotomous factor and two continuous predictors.

### **Conclusion**

Perhaps with some modifications (e.g., done in the lab; construal manipulation shifted to a nearby, but different university/college; more engaging values manipulation; additional measures) the paradigm used in the present study can be improved and future research can find these theoretically predicted relationships between self-interest, construal, and values. This interaction has many important implications in social psychology (e.g., voter behavior, political attitudes); if self-interest overrides values in proximally construed situations by default, we could reasonably expect behaviors to be biased towards self-interest given the logical necessity of actually engaging in a behavior (as opposed to planning to engage in some future behavior) being in the “here and now” which cannot be distally construed. It seems prudent then to investigate what internal or external forces are capable of overriding this potentially automatic

self-interested responding. The evidence that self-interest and values each influence attitudes and behaviors is abundant, but there are clearly boundary conditions to these effects. To understand these nuanced boundary conditions is to understand the real-world effect of self-interest and values on attitudes and behaviors and is a worthy goal of continued research.



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## Appendix

This appendix contains all study materials, presented in the temporal order in which participants received them.

### Prescreen

#### Subjective financial strain

Complete the following statement for each of the items below using the scale provided.

In general, I am able to afford...

- Adequate housing
- Adequate clothing
- Adequate food
- Adequate medical care

1 (*strongly agree*) to 5 (*strongly disagree*)

- During the past 12 months, how much difficulty have you had paying bills?

1 (*no difficulty at all*) and 5 (*a great deal of difficulty*)

- How much money do you have left over at the end of each month?

1 (*more than enough money left over*) and 5 (*not enough to make ends meet*)

- Compared to other people your own age, how do you feel about your financial situation?"

1 (*far better off financially*) and 5 (*far worse off financially*)

**SSVS values measure** (adapted from Schwartz et al., 2012; Lindeman & Verkasalo, 2010)

|                                |                  |   |   |           |   |   |   |                          |
|--------------------------------|------------------|---|---|-----------|---|---|---|--------------------------|
| Opposed<br>to my<br>principles | Not<br>important |   |   | Important |   |   |   | Of supreme<br>importance |
| 0                              | 1                | 2 | 3 | 4         | 5 | 6 | 7 | 8                        |

Achievement: Success according to social standards

Benevolence—Caring: Devotion to the welfare of in-group members

Benevolence—Dependability: Being a reliable and trustworthy member of the in-group

Conformity—Interpersonal: Avoidance of upsetting or harming other people (“politeness”)

Conformity—Rules: Compliance with rules, laws, and formal obligations (i.e., “follow the rules”)

Face: Maintaining one’s public image and avoiding humiliation

Hedonism: Pleasure, sensuous gratification, enjoyment in life

Humility: Recognizing one’s insignificance in the larger scheme of things (accepting what one has without expecting more; being self-effacing rather than boastful)

Power—Dominance: Power through exercising control over people

Power—Resources: Power through control of material and social resources

Security—Societal: Safety and stability of society as a whole

Security—Personal: Safety in one’s immediate environment

Self-Direction—Action: Freedom to determine one’s own actions (choosing own goals, independence, self-reliance)  
 Self-Direction—Thought: Freedom to cultivate one’s own ideas and abilities (creativity, curiosity, interest)  
 Stimulation: Excitement, novelty, and change (or challenge) in life  
 Tradition: Maintaining and preserving cultural, family or religious traditions  
 Universalism—Nature: Preservation of the natural environment  
 Universalism—Societal Concern: Commitment to equality, justice and protection for all people (e.g., social justice)  
 Universalism—Tolerance: Acceptance and understanding of those who are different from oneself (broadmindedness)

### During-study materials

**PVQ Values manipulation:** Adapted from Schwarz et al., 2012;

|                          |                 |                          |                                   |                       |              |                       |
|--------------------------|-----------------|--------------------------|-----------------------------------|-----------------------|--------------|-----------------------|
| <i>Strongly disagree</i> | <i>Disagree</i> | <i>Somewhat disagree</i> | <i>Neither agree nor disagree</i> | <i>Somewhat agree</i> | <i>Agree</i> | <i>Strongly agree</i> |
|--------------------------|-----------------|--------------------------|-----------------------------------|-----------------------|--------------|-----------------------|

### *It is important to me...*

#### Self-focus

- to form my views independently.
- to develop my own opinions.
- to figure things out myself.
- to make my own decisions about my life.
- to plan my activities independently.
- to be free to choose what I do by myself.
- always to look for different things to do.
- to take risks that make life exciting.
- to have all sorts of new experiences.
- to have ambitions in life.
- to be very successful.
- that people recognize what I achieve.
- that people do what I say they should.

#### Other-focus

- that the weak and vulnerable in society be protected.
- that every person in the world have equal opportunities in life.
- that everyone be treated justly, even people I don’t know.
- to be tolerant toward all kinds of people and groups.
- to listen to and understand people who are different from me.
- to accept people even when I disagree with them.
- to take care of people I am close to.
- to be a dependable and trustworthy friend.
- to follow rules even when no-one is watching.
- to avoid upsetting other people.
- never to annoy anyone.
- never to make other people angry.
- to be personally safe and secure.

to have the power to make people do what I want.

to be the one who tells others what to do.

to have the power that money can bring.

to be wealthy.

to own expensive things that show my wealth.

to avoid anything dangerous.

that my country is secure and stable.

to maintain traditional values and ways of thinking.

to follow my family's customs or the customs of a religion.

to honor the traditional practices of my culture.

## Construal manipulation



UNIVERSITY OF  
ARKANSAS

Division of Student Affairs  
Office of Student Support Services

### MEMORANDUM

DATE: August 17, 2018  
TO: University of Arkansas students  
FROM: Toj Cobbs  
Director, Student Support Services (SSS)  
SUBJECT: Feedback on tuition increase for sustained scholarship opportunities

Students,

On behalf of Student Support Services and the University of Arkansas, I'd like to thank you for giving us a few minutes of your time for your invaluable feedback! The mission of SSS is to provide comprehensive academic support services that increase the retention and graduation rates of eligible participants and foster a supportive institutional environment. Part of this mission is assisting qualified students financially through scholarships.

On December 22, 2017, President Donald Trump signed Public Law no. 115-97, the "Tax Cuts and Jobs Act of 2017." As a result of these tax cuts, the University of Arkansas will receive less government funding, and must adjust the University budget accordingly. The University has every intention of maintaining the commitments it has already made to current students, and as such, no scholarships that have already been offered will be reduced. Instead, the number of scholarships to incoming freshman was to be reduced beginning in the fall of 2019.

However, decreasing enrollment and retention of qualified students does not line up with the mission and vision of SSS, and the University of Arkansas more broadly. As such, beginning next spring (January 2019), the University will be implementing an additional student fee of \$150 per semester, and use this additional revenue to sustain the current number of scholarships offered to incoming freshman.

We have partnered with many departments around campus and asked that each collect student feedback so that we can get a representative sample of our student population as a whole. Your respective department will be asking you some questions, and we would greatly appreciate your thoughtful responses. Your opinions matter!

Again, thank you for your time!

008 Gregson Hall · Fayetteville, AR 72701 · 479-575-3546 · Fax: 479-575-3990 · <https://sss.uark.edu>  
*The University of Arkansas is an equal opportunity/affirmative action institution.*

**Memo checks:**

1) What was the topic of the memo?

- Increasing student fees to fund scholarships because of tax cuts.
- Increasing parking fees to fund building a new centrally located parking garage.
- Increasing student fees to expand services offered through the University library.
- Increasing meal costs at the student union to facilitate bringing in more variety.

2) How much are student fees increasing next year?

- \$150 per semester
- \$50 per semester
- \$100 per semester
- \$200 per semester

3) Who will be eligible for the scholarships created by student fee increase?

- Any incoming freshman
- Any University of Arkansas students
- Any racial/ethnic minorities
- Any females applying for a STEM field (i.e., science, technology, engineering, and mathematics)

**DV Items:**

1) To what extent do you support or oppose the student fee increase?

- 1 (strongly oppose) – 7 (strongly support)

2) To what extent do you agree or disagree the student fee increase?

- 1 (strongly disagree) – 7 (strongly agree)

3-5) *I believe the fee increase is...*

|         |   |   |   |   |   |   |   |            |
|---------|---|---|---|---|---|---|---|------------|
| Harmful | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Beneficial |
| Wise    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Foolish    |
| Bad     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Good       |

**Filler questions:**

1) What is your class standing? (freshman, sophomore, junior, senior)

2) Do you have any comments for university administrators?

**Attention check:**

If you are carefully reading all of these questions, ignore what these answers say, and simply select retired as the answer to this question.

- Employed full time
- Employed part time
- Unemployed looking for work
- Unemployed not looking for work
- Retired
- Student
- Disabled

### **Construal manipulation check:**

*We'd like to ask you a couple additional questions to get an overall sense of how students think and feel about this fee increase...*

*Some things feel "mentally closer" ("hitting close to home" or "in the feels," as some would say), while others feel more "mentally distant" (less "up close and personal").*

*For instance, finding out a close friend or relative was in a car accident generally "hits closer to home" ("feels closer") than finding out a random student in one of your classes was in a car accident (which feels more "distant").*

1) As you read about the upcoming fee increase, how close or distant did it feel to you personally? 1 (very close) – 7 (very distant)

2) People often have different perceptions of time... When you think about your upcoming winter break, how mentally close or distant does it feel to you? 1 (very close) – 7 (very distant)

### **Values accessibility manipulation check:**

1) **In your day-to-day life**, to what extent do you typically think about yourself vs. the other people?

- Only think of the others
- Mostly think about the others
- Somewhat think about the others more
- Equally think of myself and the others
- Somewhat think about myself more
- Mostly think about myself
- Only think about myself

2) **When reading and thinking about the fee increase**, to what extent were you thinking about yourself vs. the other people?

- Only thought of the others
- Mostly thought about the others
- Somewhat thought about the others more
- Equally thought of myself and the others
- Somewhat thought about myself more
- Mostly thought about myself
- Only thought about myself

### **Objective financial strain**

We would like to have an idea about your current financial situation.

Below is a list of financial sources typically used by students in college to pay for school as well as cover the cost of living expenses (e.g., housing, food, entertainment).

*To get by as a student, to what extent do you rely on...*

1) Working while in school: I do not work (0); I work part time (1); I work full time (2)

2) Parental income\*

- 3) Need-based scholarships (i.e., scholarships available to low-income students only)\*
- 4) Other scholarships (e.g., academic, athletic)\*
- 5) Student loans\*
- 6) Student grants\*
- 7) Other government programs (e.g., SNAP nutrition assistance, housing assistance)\*
- 8) Other sources (please specify)\*

\* Indicates: Not at all (0); a little bit (1); a lot (2)

### Ladder socio-economic status:

**Think of this ladder to the right as representing where people stand in your country.**

At the top of the ladder (10) are the people who are the best off (those who have the most money, the most education, and the most respected jobs).

At the bottom of the ladder (1) are the people who are the worst off (those who have the least money, the least education, and the least respected jobs, or no job).

The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are, the closer you are to the people at the very bottom.

**Where would you place yourself on this ladder?**

Please choose a response below 1-10 corresponding to the position on the ladder where you think you stand at this time in your life, compared to people in your country.



### Self-reported political ideology:

*When it comes to politics...*

**overall**, I consider myself to be.... 1 (very liberal) – 7 (very conservative)

**socially**, I consider myself to be.... 1 (very liberal) – 7 (very conservative)

**economically**, I consider myself to be.... 1 (very liberal) – 7 (very conservative)

### Demographics:

- 1) Age
- 2) Gender
- 3) Race

**Self-report exclusion criteria:**

*To what extent do you agree with the following statements:*

- 1) I paid close attention to what I was reading throughout this survey.  
1 (strongly disagree) – 5 (strongly agree)
- 2) I carefully thought about the answer choices, and gave accurate and meaningful answers.  
1 (strongly disagree) – 5 (strongly agree)
- 3) My data **should be deleted** because I **did not** take this study seriously.  
True or False



## IRB approval:



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**To:** Patrick S Forscher  
BELL 4188

**From:** Douglas James Adams, Chair  
IRB Committee

**Date:** 03/29/2018

**Action:** **Exemption Granted**

**Action Date:** 03/29/2018

**Protocol #:** 1803111097

**Study Title:** CLT, Values, Interest

The above-referenced protocol has been determined to be exempt.

If you wish to make any modifications in the approved protocol that may affect the level of risk to your participants, you must seek approval prior to implementing those changes. All modifications must provide sufficient detail to assess the impact of the change.

If you have any questions or need any assistance from the IRB, please contact the IRB Coordinator at 109 MLKG Building, 5-2208, or [irb@uark.edu](mailto:irb@uark.edu).

cc: Austin D Eubanks, Investigator