# EXPANDING FRAMING EFFECTS

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## ABSTRACT

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Framing effects explain a psychological mechanism of people influenced by communication sources that define and construct social or political issues and, in turn, affect public opinion at the aggregate level (Nelson et al., 1997). This study aimed to expand framing effects in the context of welfare policies while focusing on endogenous factors which affect cognitive evaluation, triggering the shaping of one's attitudes. While taking account of anger and predisposition as the significant predictors for the framing effect, the current study focused on testing stingy frames: the *freeloader frame* and the *budget deficit frame*. The results indicated some significant interaction effects, with anger, predisposition, and frames explaining one's decision to vote on welfare programs. In general, this study found that frames did not affect voter intentions on welfare policies; however, predisposition and anger respectively interacted with the frames. Specifically, as people maintained their pre-stances, anger, in particular, provoked strong opponents to intensify their stance against welfare policies, whereas other groups simply maintained their pre-stance. Moreover, in receiving the budget deficit frame, anger led participants to push their attitudes to the extreme end. In terms of three-way interaction, when anger was induced, the weakly opposed group tended to disapprove of welfare policies when receiving the freeloader frame. Additionally, when anger was induced in receiving the budget deficit frame, the strongly opposed group was less likely to support welfare policies. Despite minimal framing effects, these findings suggest a possibility that frames influence attitudes when interacting with anger and predisposition.

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#### **INTRODUCTION**

Over the past decades, researchers have examined how public opinion is formed (e.g., Chong & Druckman, 2007c; Jacoby, 2000; Iyengar & Simon, 1993). One tool for studying the formation of public opinion is framing theory, which explains how populations shape their attitudes influenced by frames. Even though individuals can make their own frames, generally frames are associations the media, elites, or authorities organizations create when engaging with an issue, event, or group. While framing theory focuses on the impact of frames on one's cognitive evaluation, an increasing number of studies substantiate the fact that emotions (i.e., underlying psychological mechanisms of individuals) affect the evaluation of objects or information in frames (e.g., Aarøe, 2011; Gross, 2008; Marcus et al., 2011; Miller, 2011).

The theory of affective intelligence, for example, suggests that discrete emotion impacts how an individual processes information (Marcus, 2013), which has the potential to either strengthen or weaken framing effects. Follow-up studies that focused on the relationship between frames and discrete emotions, revealed a distinct effect of each emotion on decision making. Among various emotions, many studies reported that anger predominantly limits cognitive capacity for deliberation (Druckman & McDermott, 2008; Small & Lerner; 2008; Tieden & Linton; 2001). This limited capacity for deliberation influences one's decisions and may offset framing effects.

Because this study focuses on testing anger's potential interference with traditional framing effects, it will closely examine recent shifts in views concerning welfare reforms among elites (Mead, 2011). Another purpose for this study is to understand how people's responses to the shifts the implementation of stingy frames (e.g., freeloaders and budget deficits frames). Moreover, in aiming to discover additional moderators, the study examines levels of

predisposition toward welfare policies, which can not only intervene framing effects but also amplify the emotion contingent to a three-way interaction between predisposition, anger, and frames.

In attempting to verify framing effects moderated by anger, this study has five aims. First, the study provides an overview of framing theory and the theory of affective intelligence (Marcus, 2013), illustrating the role of emotions including anger, which influence cognitive processes in responding to frames. Second, the potential role of predisposition is discussed, and it is anticipated that predisposition will correlate or influence framing effects while interacting with evoked anger. Third, while providing an overview of poverty frames surrounding welfare policies, this study provides the rationale for selecting stingy frames—the freeloader and budget the deficit frames. Fourth, this study poses hypotheses based on the discussion in the previous literature and provides plans for the survey experiments. Lastly, after reporting the results, hypotheses are revisited to discuss further implications.

#### **Framing Effects**

In previous studies, various frames were tested to configure the impact of frames on cognition. Framing effects indicate that when a frame is perceived by an individual, one goes through cognitive processing activated by the frame. Specifically, salient attributes in frames are conveyed to individuals, who then stimulate ideas and affect, thus shaping one's attitude (Chong & Druckman 2007b; Nelson et al., 1997; Price et al.,1997; Scheufele & Tewksbury, 2007). To explain framing effects, scholars adopted the expectancy-value model, according to which attitudes are a function of values and weights applied to them (Attitude = $\sum V_i * W_i$ ) (Chong & Druckman 2007b; Nelson et al., 1997). This model explains how a given frame influences one's attitude, specifically how frames interact with one's beliefs and formulate attitudes. To

understand the formula, there are two fundamental psychological effects that should be explained that makeup framing effects. First, when individuals have been exposed to a topic in advance, it increases the likelihood of retrieving relevant information stored in their previous experiences and thoughts on an issue— meaning accessibility is activated (Price et al., 1997; Scheufele & Tewksbury, 2007). For example, when exposed to hate groups such as the Ku Klux Klan (KKK), it is easier for a particular individual to retrieve the subject from their memory if one has been directly impacted by the topic in advance compared to one who does not have any experiences. Secondly, as frames render a certain attribute of an issue, people tend to apply this combined concept when evaluating— applicability is increased (Price et al., 1997; Scheufele & Tewksbury, 2007). By receiving a frame that interprets the KKK as either a matter of free speech or a threat to public safety, one's evaluation of the hate group will be underscored followed by a given aspect of the topic. Most of the time, enhanced accessibility improves applicability as frames are given (Scheufele & Tewksbury, 2007).

With the concepts of accessibility and applicability, the degree to which framed messages affect one's attitude can be assessed. Typically, when evaluating issues or objects, an individual recaps their thoughts on different dimensions, *i* (Chong & Druckman; 2007b). Varied by considerations, values, or beliefs, one would appraise various perspectives concerning them ( $V_i$ ). But by receiving frames with highlighted attributes of objects, recipients will put weight on a certain dimension in combination with accessibility and applicability ( $W_i$ ; Chong & Druckman, 2007b). Then, individuals re-evaluate their attitude, processing various factors through psychological procedures. This implies that frames operate within individuals' cognition, cooperating with their pre-existing conditions, which are often stirred if issues are primed or motivationally relevant (Bargh et al., 1992; Krosnick & Kinder, 1990, Marcus, 2000; Price et al.,

1997; Tversky & Kahneman, 1981). Here, while gauging framing effects, not only does cognition matter, but affective components related to topics also would influence how people assemble their assessment.

#### The Theory of Affective Intelligence: Discrete Emotion Affecting Cognition

To comprehend emotions as stimuli for provoking the cognitive process, the theory of affective intelligence presents how affective dimensions influence cognitive processing. The theory of affective intelligence suggests two affective dimensions—positive (i.e., enthusiasm) and negative (i.e., anxiety)—which broadly explain the key role emotion plays in leading people to take a distinct cognitive route (Marcus et al., 2011; Marcus, 2013). Marcus (2013) explained that a certain valence is evoked as the result of preconscious appraisal, led by either the dispositional or the surveillance system and, in turn, distinct cognitive processing follows.

In receiving stimuli, the disposition system immediately incorporates somatosensory memories wherein innate reflexes are adapted and learned through interaction with environments. An instantaneous reaction is produced—in charge of the initial, spontaneous process. In this stage, if the system finds any deviations from expectations, positive emotions are elicited and one's cognition is likely to yield predictable results in persisting preemptive ideas (Marcus et al., 2011; Marcus, 2013). On the other hand, the surveillance system—the secondary preconscious system—takes over the lead when the sensory stream does not follow the existing view of an individual. Then, as novelties interrupt, negative emotions are aroused and the surveillance system motivates people to ponder in-depth to figure out the discrepancy (Marcus et al., 2011; Marcus, 2013). The theory of affective intelligence upholds the idea that the type of emotion aroused in a person impacts the way an individual approaches frames.

## **Framing Effects Moderated by Emotions**

Elucidated by the theory of affective intelligence, aroused emotions motivate people to cognitively process an issue either heuristically or systematically. Precisely, the theory of affective intelligence explains that when positive emotions, such as enthusiasm are provoked, frames reinforce pre-existing views and heuristically process information. On the other hand, negative emotions such as anxiety encourage recipients to deliberate and engage in the process systematically (Marcus, 2013). The theory suggests that positive emotions which lead people to process information heuristically may attenuate framing effects. In contrast, negative emotions induce people to deliberate and scrutinize information, which can strengthen framing effects.

Furthermore, a follow-up study examined how specific emotions suggest the possibility of expanding hypotheses with respect to framing effects, expanding upon the role of discrete emotions in one's cognitive mechanism, notably, negative ones (Druckman & McDermott, 2008). Exploring discrete emotions in framing literature, Druckman and McDermott (2008) probed emotions through gain-and-loss frames in terms of risk propensity. They reported that in loss frames, as tendencies to seek risk are increased, negative emotions played an important role in whether viewers receive frames. For example, emotional distress stimulated ambiguity and uncertainty regarding the situation, which led people to study frames with more detail and to accept frames more than positive emotions like enthusiasm. Furthermore, people who felt insecure about issues, tended to seek information to fill a void, whereas people experiencing anger intuitively set a target of blame and took action regardless of frames (Druckman & McDermott, 2008). The study showed that a discrete emotion potentially interacted with one's cognition when receiving the frames further separating the appraisal tendencies among negative emotions.

## Framing Effects Moderated by Anger

As the following study suggests, anger is distinguished from other negative emotions which elicit cautious tendencies (Lerner et al., 2015). Particularly categorized as high certainty emotions, anger prompts people to specify a target of blame, activating action tendencies (Bodenhausen et al., 1994; Small & Lerner; 2008; Tiedens & Linton, 2001). Angry individuals are motivated to fight for the situation and remove obstacles against them (Frijda et al., 1989), whereas anxious or fearful individuals attempt to get out of the way (Lerner et al., 2015). Some studies also revealed that anger leaves no space for compromise, and potential conflicts are destined for gridlock (MacKuen et al., 2010; Tiedens & Linton, 2001). Due to the dangers incurred by anger, it is important to understand how anger affects one's cognition in response to frames whether or how frames lead people to either consider other dimensions of issues or to linger on their position prior to impending actions. Moreover, an increasing number of studies fixated a strong influence of frames on cognition, by investigating anger, framing literature can further expand its realm in cognitive processing.

Despite limited study of framing effects and emotions, researchers in the persuasion literature confirmed the effect of anger, that affects an individual's cognition in various ways (e.g., anger influencing attitudes, behavioral intentions, information processing) (Moon & Mackie, 2007; Turner et al., 2019; Walter et al., 2019). Framing effects are distinct from persuasion (Cacciatore et al., 2016; Chong & Druckman, 2007b; Leeper & Slothuus, 2018; Scheufele & Iyengar, 2014). Focusing on changing or influencing one's cognition however, activates applicability of a certain aspect of an issue. That is, persuasion studies on emotion and cognitive processing provide guidance in analyzing the relationship with anger and framing effects.

Narrowing down to discrete emotion, scholars discovered how anger affects the degree to which people engage a message (e.g., Moon & Mackie, 2007; Nabi; 2002; Turner et al., 2019). Broadly, anger is studied as either integral or incidental emotion depending on relevancy of emotions regarding subjects: Integral emotions indicate emotions related to topics whereas incidental emotions are residual emotions elicited by unrelated issues and affect one's cognition In this study, anger is studied as integral emotions primarily aroused by a targeted issue. In the literature, there are controversies over whether anger induces either systematic or heuristic processing among individuals (Lerner et al., 2015). Some research concluded that anger increases motivated attention, vigilance, and systematic processing (Moons & Mackie, 2007; Nabi 2002; Turner et al., 2019). Specifically, anger induces systematic processing when interacting with self-efficacy (Turner, 2007; Turner et al., 2019). With the capability to process to control the emotion, anger becomes productive, regulating impulsiveness (Turner, 2007). In the same vein, subsequent studies revealed that anger also triggers deliberation, encouraging people to access more resources to achieve a goal (Kim, 2016; Miller, 2011; Turner, 2007). At the same time, aligned with the findings indicated by Druckman and McDermott (2008), other studies showed that anger triggers a reliance on cues, inducing heuristic processing (Bodenhausen et al., 1994; Small & Lerner; 2008; Tiedens & Linton, 2001). Moreover, in the study scrutinizing the behavioral tendencies promoted by anger, people experiencing anger showed risk-averse tendencies, constantly sticking with their current position without a willingness to compromise (MacKuen et al., 2010). Such findings left the effects of anger entangled without clarifying its effects.

Providing a clue to the conflicting results, a meta-analysis pointed out that argument strength only moderates attitudes at low to moderate levels of anger intensity, not at high levels

of anger (Walter et al., 2019). This finding connoted that low-moderate levels of anger promoted systematic processing, whereas high levels of anger rather led to heuristic processing. In other words, anger was most likely to limit cognitive effort and attenuate framing effects unless anger remains at low to moderate levels.

#### The Moderating Role of Predisposition Intervening Framing Effects

In regard to social and political issues, people tend to be biased and are unwilling to change their position despite providing disinterested information showing both sides (Stanley et al., 2020; Taber & Lodge, 2006). As explained by motivated reasoning, in responding to socio-political issues, people follow their party's position and reject ideologically incongruent information overruled by ideological beliefs (Leeper & Slothuus, 2014; Slothuus & de Vreese, 2010). Even though frames signal a certain dimension of issues, applicability effects are weakly stimulated and minimally affect one's attitude as they deny ideas against them.

Moreover, in the face of frames around long-standing agendas, such as welfare policies, the retrieval process of individuals is strongly associated with emotions (Bower & Forgas, 2000; Buchanan, 2007). Mood-congruency effects describe that when affective characteristics of the to-be-remembered stimuli and the mood state at retrieval are congruent, people are more likely to bring up the memory (Buchanan, 2007). Typically, individuals respond more as they "remember" or "know" (Buchanan, 2007, p.763). Affect, however, primarily influences the memory retrieval process through familiarity and recollection. As individuals recall the memory robustly in relation to a topic in the mood that they have experienced, their pre-existing beliefs or positions in the state of retrieving may play a significant role. Furthermore, this memory retrieval process is more responsive to negative rather than positive emotions (Teasdale & Fogarty, 1979). Hence, when people are predisposed against issues dealt in frames, they tend to emotionally

appeal their position in response to frames, infused with emotions like anger. In other words, the levels of emotional opposition people express toward the issues described in frames will amplify elicited anger, activating the memory retrieval process and, in turn, lead how people are influenced by frames. Here, this study aims on the welfare policies where citizens have been emotionally and cognitively involved.

#### **Poverty Frames Surrounding Welfare Policies**

Among varying socio-political issues, government assistance provided to people living in poverty is one of a number of "prominent public controversies" (Nelson & Kinder, 1996, p. 1058) and boundless narratives surrounding welfare policies have endured for generations (Mead, 2011; Steensland, 2008). However, despite the various frames, they are broadly categorized as either a generous or stingy frame, either in support of or opposed to welfare policies (Rose & Baumagarter, 2013). Generous and stingy frames have competed for decades, used interchangeably in favor of one's interest and bounded by political ideology (i.e., stingy with conservatives and generous with liberals) (Petrocik, 1996).

There has been a rise in conservative, anti-government narratives around poverty (Mead, 2011). Followed by an increased attention to stingy frames in Congress, Rose and Baunmagarnter (2013) analyzed themes of poverty frames in the media and found that stingy frames are a leading frame frequently discussed in the *New York Times* from 1960 to 2008. They showed the high proportion of each stingy frame in the newspaper which prominently described welfare as detrimental to either society or individuals. For example, folks living in poverty were either depicted as sluggish and undeserving, or economic deficits were highlighted, envisioning oppositional views on welfare policies (Rose & Baumagartner, 2013). Moreover, the Trump administration recently proposed budget cuts to low-income assistance programs (Kogan et al,

2019; Rosenbaum & Neuberger, 2020). In response to the discussion of conservative government spending, the description of low-income individuals or family tends to be negatively portrayed.

Considering the dominance of stingy frames surrounding the welfare policies, this study aims to adopt stingy frames to test how people perceive and process them. Based on clarity and frequency of use defined by previous studies, two stingy frames were selected in this study: freeloader and budget deficit frames (Gamson & Lasch, 1983; Nelson & Kinder, 1996). Gamson and Lasch (1983) analyzed elite discourse of welfare policies in the United States and concluded that welfare policies were integrated into overall freeloader frames. Additionally, as an alternative to freeloader frames, budget deficit frames were prevailed by the governments disclaiming big government, primarily Republican administrations (Nelson & Kinder, 1996). For the following reasons, freeloader frames and budget deficit frames are the most representative of stingy frames in the United States and are adopted in this study accordingly.

Meanwhile, validating framing effects, emphasis frames such as freeloader and budget deficit frames have been critiqued in the literature. Despite these problems, this study suggests rationales to test emphasis frames. In recent years, framing effects, led by emphasis frames, have been contested under the condition that the theoretical and operational concepts of emphasis frames are often confused with other media effects, such as agenda setting, priming, or persuasion (Scheufele & Iyengar, 2012; Cacciatore et al., 2016; Leeper & Slothuus, 2018). That is, by confining supplemental information, this study attempts to minimize these confounding effects. All in all, the present study implements eminent stingy frames, highlighting undeserving individuals (freeloaders) or economic deficits germane to welfare policies (Nelson & Kinder, 1996), limiting additional confounding variables so that framing effects can be precisely tested.

## Hypotheses

As defined previously, people are either directly or indirectly influenced by frames surrounding socio-political issues. In regard to poverty frames, a locus of elite discourse predominantly points to stingy frames, influenced by the public debate on the effectiveness of welfare policies (Mead, 2011). In this study, freeloader and budget deficit frames were selected to test for the variance of stingy frames, corresponding to concerns over the efficiency of welfare programs.

In receiving either of the stingy frames, people primarily pay attention to attributes described in frames that stimulate applicability effects. In other words, they readily access and retrieve elements in relation to either freeloaders or budget deficits as exposed to frames emphasizing either of aspects. Individuals who receive either stingy frame are less likely to support welfare programs compared to those who receive no frame at all. However, when anger is evoked, people tend to follow their predilection and are less likely to accept or take in additional information (MacKuen et al., 2010; Valentino et al., 2010; Walter et., 2019). When encountering frames, angry people are more likely to persist in their pre-stance toward the issue. Therefore, as anger is elicited, individuals tend to follow their pre-stance toward the issue. Based on these considerations, I put forward the following hypotheses:

H1. Participants who receive the freeloader frame will be less likely to support the welfare programs (SNAP, Medicaid, TANF, SSI, EITC) compared to those with no frame condition.

H2. Participants who receive the budget deficit frame will be less likely to support the welfare programs (SNAP, Medicaid, TANF, SSI, EITC) compared to those with no frame condition.

H3a: When anger is induced, both strong and weak advocates of welfare policies will be more likely to support welfare programs.

H3b: When anger is induced, both strong and weak opponents of welfare policies will be less likely to support welfare programs.

Yet, each of the suggested frames are expected to distinctively interact with anger. Studies in appraisal tendencies of emotions summarized that anger motivates certainty and confidence to search for a target to blame (Averill, 1982; Lerner et al., 2015). In understanding anger, attribution of blame is regarded as a critical cognitive component of experienced anger (Averill, 1982). Anger is more likely to hold when the targets of blame are identifiable. For instance, in freeloader frames, as the cause of the problem was explicitly identified–the people living in poverty–frame recipients are most likely to stick with the emotion during appraisals. On the other hand, in terms of budget deficits, it is hard to find an attribution of blame since economic issues stem from complex reasons, not from one simple one reason. In receiving the frame, people are less likely to attach their emotion to the target and weakly respond to anger compared to freeloader frames. Based on these considerations, I put forward the following hypothesis:

H4: When anger is induced, participants who received the freeloader frame are less likely to support welfare programs (SNAP, Medicaid, TANF, SSI, EITC) compared to those who receive the budget deficit frame.

Moreover, one's predisposition potentially affects the degree to which an individual is influenced by frames, especially when the issue is ideologically disputed such as welfare policies. In the study testing partisan acceptance of frames cued by political affiliation, people were more influenced by the frames sponsored by their party compared to the frames from other

parties in dealing with partisan issues compared to consensus ones (Slothuus & de Vreese, 2010). Furthermore, set aside from partisanship, individuals are motivated to rely on their prior attitudes or identities, arousing defensive motivations (Leeper & Slothuus, 2014). That is, when people are either positively or negatively predisposed toward the issue, they are less likely to be influenced by frames. Based on these considerations, I put forward the following hypothesis:

H5: Participants are less likely to be influenced by stingy frames when they either strongly support or strongly oppose welfare programs (SNAP, Medicaid, TANF, SSI, EITC).

Furthermore, the present study analyzed anger and predisposition in addition to framing effects expecting three-way interaction of attitudes regarding welfare policies. According to congruency effects (Buchanan, 2007) when individuals are strongly in favor of welfare policies, anger escalates because negative emotion retrieval is stronger than positive emotion. Then, they recall a memory around the topic that aligns with the evoked emotion. In the way supporters recall the related memory, elicited anger can be amplified in accordance with their level of predisposition in opposition to stingy frames (extent to which they support welfare programs) and moderate framing effects. Particularly, when frames describe the beneficiaries of programs as freeloaders, readers would attach negative emotions to the beneficiaries depicted in the frames, and the evoked emotion is likely to be amplified compared to the budget deficit frame. Based on these considerations, I put forward the following hypothesis:

H6a. Under the freeloader frame where the evoked emotion is likely to be strongly attached, and when anger is induced, strong supporters of welfare programs will show a greater shift in their attitudes (SNAP, Medicaid, TANF, SSI, EITC) than with weak supporters, weak opponents, and strong opponents.

H6b. Under the budget deficit frame, where evoked emotions are likely to be weakly attached, and when anger is induced, there will be no pronounced shifts in one's attitude toward welfare programs (SNAP, Medicaid, TANF, SSI, EITC) observed across the disposition groups.

## **METHOD**

To investigate these hypotheses, this study used 3 x 2 x 4 factorial design, specifically 3 frames (freeloader, budget deficits, and no frame) by 2 anger manipulated (anger and no anger) by 4 predisposition (strongly opposed, weakly opposed, weakly supported, strongly supported) between-subjects. To minimize unexpected outcomes, words in each frame were controlled and only a specific phrase was substituted in accordance with the characteristics of each frame<sup>1</sup>. The levels of participant predisposition toward welfare policies were measured before they were assigned to a frame. Later on, for the main analysis, this study assembled participants into four groups (i.e., weakly opposed and supported, strongly opposed, supported) using K-means clustering. Additionally, due to concerns over confounding variables over arguments in frames, this study measured the perceived persuasiveness to control for the persuasive effects in pilot test (see Appendix B).

To arouse the targeted emotion, emotional manipulation was adapted from Weeks's (2015) method to intentionally induce anger. Each participant received a task in the anger condition to write down their thoughts on current welfare policies that made them angry. For the control group, participants were instructed to write to the extent to which they know about the current welfare policies. From the various studies, thought listing worked well in evoking a discrete emotion from individuals (Lerner & Keltner, 2001; Weeks, 2015). In the pilot test, anger manipulation was successful; people assigned to the anger condition aroused more negative emotions (e.g., anger, mad) than positive emotions (e.g., enthusiastic, proud, and happy) compared to no anger condition (see Appendix B for the details). For the main study, after

<sup>&</sup>lt;sup>1</sup> This study modified the government assistance frames used by Nelson and Kinder (1996).

completing the randomly assigned thought listing task, participants received a specific frame (either freeloader, budget deficit or no frame).

#### **Power Analysis**

Aiming to detect interaction effects for 3 x 2 x 4 experiment (Numerator df= 2), powered analysis was conducted with G\*Power 3.1.9.7 service (Faul et al., 2009). Based on the conventions, the study followed to set effect size at f= 0.25 (moderate) with an error probability of  $\alpha$  = 0.05 and power of 1- $\beta$ = 0.95, for which the required sample size was 341. However, as predisposition groups were clustered after data collection, participants were not evenly distributed to the conditions. This study suggests statistical methods to resolve these issues in the result section.

The sample was recruited through Amazon Mechanical Turk (MTurk), targeting people residing in the United States over age 18. In all, a total of 352 individuals participated. Among the total 352 participants, 170 (48.3%) participants identified as Democrats, 99 (28.1%) as Republican, 79 (22.4%) as Independent, and 4 (1.1%) as others. As for gender, 61% of participants identified as men and 39% as women. 307 (87%) of the participants were Caucasian/White and 26 (7%) were African American/Black. The average age of participants was 40.34 (SD = 12.27).

#### Procedure

The participants recruited from MTurk were forwarded to Qualtrics and received an introduction of the study. Then, participants completed a consent form and started to fill out questions on their demographics and background. Attitudes toward welfare policies were measured in advance to assess the motivational relevance of the participants. Next, the participants were asked to complete a thought listing task. Then, each frame (e.g., freeloader,

budget deficit, no frame) was randomly assigned to the participants. Lastly, the study measured participant's intention to vote for welfare policies.

#### Measures

## *Covariates*

Participants were asked to report their age on a continuous scale. For the analysis, they were grouped by the range of "teenager" from 18-21, "young-adult" from 22-28, "adult" from 29-38, "middle-age" from 39-55, and "elderly" from 56-76 (Kogan, 1979). The highest grade or year of school that each participant completed was recorded by the level of "no high school graduate, diploma or the equivalent," "high school diploma or the equivalent," "trade/technical/vocational training or Associate degree," "Bachelor's degree," "Master's or Professional degree," and "Doctoral degree." Party affiliation was marked on a nominal scale selecting either Republican, Democrats, Independent, or others.

## Attitude Regarding Welfare Policies

Nelson et al. (1997) rated participants' familiarity toward welfare arguments as both positive and negative. Adapting their items to measure attitudes, this study modified and included nine items on a seven-point scale (1= "very strongly disagree" to 7= "very strongly agree"). Items included statements such as, "People who receive government aid for the poor are mostly lazy," "People who receive government aid cuts could probably get along without the help," and "Excessive government aid payments to the poor are seriously threatening the American economy." This scale accounted for how participants evaluate people living in poverty (M= 4.81, SD= 1.80, Cronbach's  $\alpha$ = 0.91),

## Intent to Vote for Welfare Policies

In this study, the main dependent variable was the extent to which one opposes or supports the welfare policies or programs, namely, whether the participant favored or opposed welfare programs such as supplemental nutrition assistance program (SNAP), Medicaid, temporary assistance for needy families (TANF), supplemental security income (SSI), or earned income tax credit (EITC), aiding people living in poverty. The study measured the dependent variable on a 7-point scale, with higher scores indicating increased support (1= "oppose very strongly" to 7= "support very strongly") (M= 4.82, SD= 1.43, Cronbach's  $\alpha$ = 0.83).

#### RESULTS

In order to test framing effects intervened by anger and predisposition, this study ran an analysis of covariance (ANCOVA) with pairwise contrasts while controlling the covariates, party affiliation, and demographic measures including age and education. Amid covariates, education and party affiliation had a significant effect on intent to vote for welfare programs. Highly educated groups tended to show strong support for welfare programs across the educational levels (p<.001,  $\eta$ =.59). Moreover, individuals identified with the Democratic party are more likely to support welfare programs compared to those who identified with the Republican party or as independent (p<.04,  $\eta$ =.01).

At the beginning of the analysis, the data did not satisfy ANCOVA assumptions, including normality of residuals and homogeneity of variance (the Shapiro Wilk and the Levene's test were significant, p < .05); also, a number of samples in the conditions were unbalanced. In an analysis of these problems, when diagnosing the pattern of the dependent variable, the distribution of policy support scores was skewed to the left. Particularly, the "strongly support" group had the highest mean and also had lower variability across the conditions. Moreover, since this study grouped participants based on their predisposition after data collection, each condition was unbalanced by sample size.

To resolve the issues incurred by the violations, the current study used the generalized linear model (GzLM) with a gamma distribution which allows non-normality and heteroscedasticity (Ng & Cribbie, 2017)<sup>2</sup>. Also, by using a general linear model (GLM), this study alleviates potential bias stemming from the unbalanced size of the cell (Mayer &

<sup>&</sup>lt;sup>2</sup> Model's fit statistics including BIC and AIC were increased.

Thoemmes, 2019)<sup>3</sup>. After applying adjustments and further comparing the group differences in

the ANCOVA model, estimated marginal means (least-square means) following a Tukey's

correction were used, which contained in the R package emmeans (Russell, 2018).

# Table 1.

Pairwise Comparisons of Estimates for Vote Intentions Across the Frames

	Estimate	SE	z Ratio	P Adjusted
No frame - Freeloader	0.28	0.15	1.82	0.16
No Frame - Budget deficit	0.02	0.15	0.13	0.99
Freeloader - Budget deficit	-0.26	0.13	-1.98	0.12

*Note.* Results are averaged over the levels of age, education, party, anger, and predisposition. Tukey method was used for comparing a family of 3 estimates.

## Figure 1.

# Comparison of the Frames Affecting People to Support Welfare Programs



<sup>&</sup>lt;sup>3</sup> Since GLMs incorporates stochastic group weights, inflated Type 1 errors are likely to be controlled (Mayer & Thoemmes, 2019).

Validating the framing effects posited in H1 and H2, each type of frame showed a difference in one's vote on welfare policies. The results revealed that the conditions had a significant impact on one's intentions after controlling for three covariates (F(2, 316) = 8.56, p  $< .001, \eta^2 = .04$ ). The estimated marginal mean of no frame was 4.92, the estimated marginal mean of the freeloader frame was 4.65 and the estimated marginal mean of the budget deficit frame was 4.90. As H1 hypothesized, in the freeloader frame condition, participants were less likely to support welfare programs in contrast with the no frame condition; however, these results are not statistically significant (p=.16) (see Figure 1). Moreover, the extent that participants supported welfare programs between no frame and the budget deficit frame was also not significant (*p*=.99). These results did not support H1 and H2 (see Table 1 and Figure 1).

## Table 2.

Programs

Summary of ANCOVA Test	Factors Affecting the	e Extent to Which	People Support	Welfare
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	Sum Sq	df	<i>F</i> -values	<i>P</i> -value	Eta-sq
Age	0.18	4	1.29	0.27	0.29
Education	0.62	5	3.56	0.00***	0.59
Party Affiliation	0.30	3	2.84	0.04*	0.01
Frame	0.60	2	8.56	0.00***	0.03
Anger	0.15	1	4.25	0.04*	0.01
Predisposition	0.91	3	8.70	0.00***	0.04
Frame: Anger	0.45	2	6.46	0.00**	0.02
Frame: Predisposition	0.63	6	2.99	0.01**	0.03
Anger: Predisposition	0.15	3	1.42	0.24	0.01
Frame: Anger: Predisposition	0.57	6	2.73	0.01*	
Residuals	11.07	316			

Note. 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.'

H3 stated that the impact of anger would amplify among supporters and opponents of welfare policies across the conditions. H3a specified the tendency of participants who both strongly and weakly supported welfare programs and posited that they would be more likely to support welfare programs when anger is induced. However, Figure 2 indicated that both weak and strong supporters were not affected by anger and their stance on welfare policies was barely changed (see Figure 2). Similarly, H3b predicted that when anger is induced, strong and weak opponents are less likely to support welfare programs. As shown in Figure 2, both strongly and weakly opposed participants were prone to anger and more likely to oppose the policies, accordingly; however, the predicted pattern was observed to be strongest among strong opponents. This result partly supported H3.

## Figure 2.

Two-way Interaction: Frames and Predisposition and Anger and Predisposition



## Table 3.

Pairwise Comparisons of Estimates for Vote Intentions Between Anger and No Anger Conditions

in Receiving the Freeloader Frame, Budget Deficit Frame, or No Frame, Respectively

	Estimate	SE	z Ratio	P Adjusted
(No Frame)				
No anger-Anger	0.62	0.25	0.50	0.01
(Freeloader)				
No anger- Anger	0.41	0.18	2.32	0.02
(Budget Deficit)				
No anger- Anger	0.79	0.19	4.12	0.00

*Note*. Results are averaged over the levels of age, education, party affiliation, and predisposition. Tukey method for comparing a family of 3 estimates for conf-level adjustment and for p-value adjustment

H4 focused on interaction effects between anger and frame. The results showed the significant interaction effects of anger across the frames (F(2, 316) = 6.46, p < .001,  $\eta^2 = 0.02$ ). In receiving each frame, anger prominently led participants to oppose welfare programs (freeloader frame, p = .02; budget deficit, p < 0.001; no frame, p = .01). Although H4 expected a strong impact of the freeloader frame, participants who received the budget deficit frame opposed welfare programs more than those who received the freeloader frame (see Table 3 and Figure 3). The results partly supported H4.

## Figure 3.

## Two-way Interaction: Anger and Frames



H5 described that individuals who either strongly support or strongly oppose welfare programs are unlikely to be influenced by the stingy frames. This pattern was true for strong supporters as shown in Figure 2, whereas although strong opponents persisted against welfare policies, they distinctively responded to the frames. Figure 2 specifically demonstrated that strong opponents were highly responsive to the freeloader frame followed by the budget frame and no frame. The frames subsequently triggered participants to disapprove of welfare policies. On the other hand, strong supporters were minimally influenced by the stingy frames and maintained their predisposition, discounting the impact of frames. This result partly supported H5.

## Table 4.

## Pairwise Comparisons of Estimates for Vote Intentions Between the Levels of Predisposition and

the Presence of Anger in Receiving the Freeloader Frame or Budget Deficit Frame, Respectively

	Estimate	SE	z Ratio	P Adjusted
Freeloader Frame				
Strongly opposed:	-0.04	0.35	-0.11	0.92
No anger - Anger				
Weakly opposed:	0.92	0.32	2.84	0.005
No anger - Anger				
Weakly Supported:	0.54	0.36	1.49	0.14
No anger - Anger				
Strongly Supported:	0.23	0.39	0.59	0.56
No anger - Anger				
Budget Deficit Frame				
Strongly opposed:	2.15	0.44	4.90	<.0001
No anger - Anger				
Weakly opposed:	0.54	0.32	1.68	0.09
No anger - Anger				
Weakly Supported:	0.25	0.34	0.73	0.46
No anger - Anger				
Strongly Supported:	0.22	0.41	0.54	0.59
No anger - Anger				

*Note.* Results are averaged over the levels of age, education, and party affiliation.

H6 stated the impact of anger interacting with a distinct frame in reinforcing one's predisposition, thus affecting one's intent to vote for welfare policies. Broadly, three-way interaction effects between frame, anger, and predisposition were detected (F(6,324)=2.73, p =.01). However, this study analyzed the specifics to confirm the hypotheses using pairwise comparisons. To test the impact of anger interacting with the freeloader frame among strong supporters in comparison with weak supporters, weak opponents, and strong opponents (H6a), the selected conditions were compared while controlling for the covariates. The result indicated that the extent of anger interacting with the freeloader frames was not significant for the strongly supported group compared to other groups (strongly opposed, *estimate*= -.04, p=.92; weakly opposed, *estimate*= .92, p<.001; weakly supported, *estimate*= .54, p=.14; strongly supported,

estimate= .23, p=.56) (see Table 4 and Figure 4). In terms of the budget deficit frame (H6b), the extent to which anger influenced disposition groups on their votes was not significant, across the conditions except the strongly opposed group (weakly supported, estimate= .25, p=.46; strongly supported, estimate= .22, p=.59; weakly opposed, estimate= .54, p=.09; strongly opposed, estimate= 2.15, p<.001) (see Table 4 and Figure 4). Hence, the results did not support H6; however unexpected groups such as weakly opposed or strongly opposed groups showed significant three-way interaction.

## Figure 4.





#### DISCUSSION

This study aimed to test long-standing framing effects while testing for a potential interaction between anger and predisposition. The results mostly supported a new finding that indicated minimal effects of frames (Leeper & Slothuus, 2015). However, the role of anger and predisposition further explained the phenomenon and contributed to understanding how people assess frames within their predisposition or how emotions interrupt their cognitive evaluations. Nonetheless, despite no strong evidence supporting framing effects from this study in general, the groups opposed toward welfare were susceptible to frames interacting with anger.

Framing effects have been described in the literature as swaying people to the positions described in frames (i.e., emphasis frames). In other words, (emphasis) frames tend to make people either support or oppose issues as described in frames (Chong & Druckman, 2007a, 2007b). In recent years, however, some scholars pointed out the issue that (emphasis) frames are often misused when testing their effects (Cacciatore et al., 2016; Leeper & Slothuus, 2018; Scheufele & Iyengar, 2012). As mentioned earlier, (emphasis) frames were confused with accessibility (recency) or persuasion (message) effects derived from content. Accordingly, those frames were tested apart from other additional factors (e.g., perceived persuasiveness and issue recency) in the current study and found to be mostly in line with Leeper and Slothuus's (2015) findings, that the frames were not effective as claimed. The current study's results found that there was no specific indication that frames influenced one's decision ("No frame" was most influential in this case).

Beyond frames, anger was shown as a key component that swayed decisions to extreme ends while interacting with one's predisposition. Anger triggered strong opponents to further disapprove welfare policies more than anger motivated strong supporters to further approve of

the welfare policies. That being said, anger further galvanized the participants whose predisposition aligned with stingy frames (opposed to welfare policies). The result contradicted the hypothesis that predicted people who approved of welfare policies were most likely to persist in their attitude when interacting with anger. For an explanation, according to the anger activism model (AAM), people who are pro-attitudinal towards a topic are more likely to engage in activist-like behaviors (Turner, 2007). This theory might explain why the effects of anger were more reactive to people aligned with the position described in frames, thus encouraging their behavioral intentions. Meanwhile, it was hard to analyze the pattern of strong supporters since their support levels were so high (on average, 6.8 on the scale of 7) and the result barely indicated whether their intent to vote for welfare policies had changed interacting with frames or anger.

In lieu of minimal framing effects, anger evenly influenced attitudes across the frame conditions. As mentioned, a given frame does not provide enough applicability effects as expected after controlling for other interfering effects. However, anger played a significant role in shaping attitudes, overruling the framing effects. The previous literature described that anger steers people to heuristically process information (Bodenhausen et al., 1994; Small & Lerner; 2008; Tiedens & Linton, 2001). This result supported the characteristics of anger that were found in the last studies, even though anger was not amplified with respect to the frames.

Moreover, predisposition was posited as a significant predictor influencing the degree to which people support welfare policies. Additionally, this tendency was anticipated to show among highly predisposed individuals who were rarely influenced by frames (motivated reasoning). As hypothesized, strong advocates held their position irrespective of the frames, whereas strong opponents selectively reacted to each type of frame. Initially, H5 posited that,

based on the motivated reasoning, a strong bias would lead individuals to follow their predisposition disregarding the information. In line with the hypothesis, strong advocates were motivated to follow their pre-stance without any influences of frames. This pattern, however, was not continued in the case of strong opponents who responded differently with respect to the frames. For the explanation for this phenomenon, each group might not promote monotonous motivated reasoning. Kunda (1990) explained there are two types of motivated reasoning activated by a goal: *accuracy motivation* and *directional motivation*. Both are goal-driven to process further information, but the tendencies diverge; accuracy motivation seeks objective perspectives, whereas directional motivation leads to confirmation bias which less likely to accept a new perspective (Kunda, 1990). In the present study, people who opposed welfare policies might trigger *accuracy motivation* to improve their reasons bolstered by the stingy frames which were in line with their stance. Alternatively, strong advocates stimulated *direction motivation*, reducing people's effort to justify the ideas against them. Yet, given frames were not enough to improve information-seeking tendency, so it will be worth studying in the future.

Even though congruency effects were not observed among strong supporters as anticipated, a distinct predisposition group such as weakly opposed and strongly opposed individuals distinctively responded to either frame, interacted with anger. Particularly, in receiving the freeloader frame, the weakly opposed group under anger manipulation tended to disapprove of welfare policies, compared to the no anger condition. Moreover, strong opponents who received budget frames under anger conditions even more strongly opposed the policies as compared to the no anger condition. It is difficult to find the reason why specific groups interacted with anger in a given frame. But, in general, when interacting with anger, opponents showed a distinct interaction effect with respect to the frames. It remains a possibility that

framing effects work for a particular group of people while amplified by anger, but this requires further study.

## Limitations

There are limitations in this study which need to be addressed through further research. First, group sizes were not evenly distributed. Since this study attempted to reduce the errors using statistical methods, the number of participants needs to be equal across conditions to minimize errors. For statistical power, equal and adequate size of participants across the conditions should be considered (Faul et al., 2009). Second, this study was conducted in the context of welfare policies and focused on testing the impact of stingy frames. However, as people might have different perspectives on welfare policies (Moffitt, 1988), this might have interfered with the current analysis. Due to the variances, anger manipulation might not be as strong to evoke anger across the conditions. Moreover, anger that participants experienced could be reactance to the manipulation they received. By implementing generous (vs. stingy) frames or applying frames from different contexts, the effects could be across validated to ensure the current results. Third, as mentioned above, strong advocates showed ceiling effects, since they were extremely opinionated towards the issue, and it was hard to find significant changes in response to the manipulations. As the average of strong supporters' vote on welfare policies was 6.8 out of 7, their response to anger or frames had little room to increase. In future studies, multiple dependent variables or pre-and post-test design or measures are recommended to regulate ceiling effects despite learning effects. Fourth, this study exclusively focused on testing anger among a wide range of emotions due to research interests in a higher risk embedded in anger. But, as a certain emotion distinctively affects one's cognitive evaluation (Druckman & McDermott, 2008; Marcus, 2011), other emotions may show different effects, which might help

bolster or expand the impact of emotions on decision making. In the future studies, while exploring various emotions, systemic analysis is required to study depth of processing in accordance with each emotion. Lastly, this study used thought-listing tasks to make participants angry. Considering stimulus realism, there were less artificial emotions involved in this study as they were asked to list their own experiences. That is, induced anger was likely to occur in their daily lives. Yet, anger was not induced in a natural setting, which needs to be considered a way to test emotions without manipulations.

## **CONCLUSION**

As discussed, despite minimal framing effects, there is a possibility that frames influence attitudes when interacting with emotions and predisposition. Unlike this study initially hypothesized, strong supporters were not likely to interact with anger or frames or both. As mentioned, there were ceiling effects, and it needs to be further discussed in future studies. However, anger mostly led people to bias their predisposition, particularly opponents. Additionally, those groups in the anger conditions were likely to respond to a distinct frame and further disapproved of welfare policies. Likewise, when people are highly motivated emotionally or psychologically, there is more chance for them to further react to frames. APPENDICES

# Appendix A: Main study supplementary materials

## Frames

## Freeloader Frame

Government spending on such programs for people living in poverty should be decreased, because *they give away money to people who don't really need the help*. If you had a say in making up the federal budget this year, would you like to see spending on programs that assist people living in poverty increase, decrease, or stay the same?

# **Budget Deficit Frame**

Government spending on such programs for people living in poverty should be decreased because *given the huge budget deficit*, we simply can't afford it. If you had a say in making up the federal budget this year, would you like to see spending on programs that assist people living in poverty increase, decrease, or stay the same?

## No Frame

Government spending on such programs for people living in poverty should be decreased. If you had a say in making up the federal budget this year, would you like to see spending on programs that assist people living in poverty increase, decrease, or stay the same?

# **Thought Listing Instructions:**

# Anger Condition

We are interested in what makes people angry about the current welfare policies. (1) Briefly describe three to five things about welfare policies that make you most angry. (2) Describe the one situation about welfare policies that makes you or has made you most angry.

# No Anger Condition

We are interested in the extent to which people understand the current policies. (1) Briefly describe three to five things about welfare policies. (2) Describe specific details you know about welfare policies.

# Measures

# Demographic Questions

What political party do you identify with?

- 1. Democrat
- 2. Republican
- 3. Independent
- 4. Other
  - a. Open ended—what political party do you identify with?

To which gender identity do you mostly identify?

- 1. Man
- 2. Woman
- 3. Transgender woman
- 4. Transgender man
- 5. Non-binary/ Non-conforming
- 6. Not listed
- 7. Prefer not to answer
  - a. Open-ended—what is your gender?

What is your age?

What is your ethnicity?

- 1. Hispanic or Latinx
- 2. Non-Hispanic or Non-Latinx

How would you identify your race? (Select all that apply)

- 1. Caucasian/White
- 2. Black or African American
- 3. Native American or American Indian
- 4. Asian/Pacific Islander
- 5. Middle Eastern or North African

- 6. Prefer not to answer
- 7. Other
  - a. What would you identify your race?

What is the highest-level degree or level of school you have completed? If currently enrolled, please select the highest degree you have received.

- 1. No schooling completed
- 2. Nursery school to 8<sup>th</sup> grade
- 3. Some high school, no diploma
- 4. High school graduate, diploma or the equivalent (for example: GED)
- 5. Some college credit, no degree
- 6. Trade/technical/vocational training
- 7. Associate degree
- 8. Bachelor's degree
- 9. Master's degree
- 10. Professional degree
- 11. Doctoral degree

Last year-that is, in 2019-what was your total income from all sources, before taxes?

- 1. Less than \$20,000
- 2. \$20,000 to less than \$30,000
- 3. \$30,000 to less than \$40,000
- 4. \$40,000 to less than \$50,000
- 5. \$50,000 to less than \$75,000
- 6. \$75,000 to less than \$90,000
- 7. \$90,000 to less than \$100,000
- 8. \$100,000 or more
- 9. Don't know/ Refused

# Attitude Regarding Welfare Policies

People who receive government aid are mostly lazy.

- 1	- 2	- 3	- 4	- 5	- 6	- 7
Very strongly	Strongly disagree	Disagree	Neither agree or	Agree	Strongly agree	Very strongly
disagree			disagree			agree

People who receive government aid could probably get along without the help.

- 1	2	3	_ 4	- 5	- 6	- 7
Very strongly	Strongly disagree	Disagree	Neither agree or	Agree	Strongly agree	Very strongly
disagree			disagree			agree

Excessive government aid payments to people living in poverty are seriously threatening the American economy.

1	- 2	3	_ 4	- 5	- 6	_ 7
Very	Strongly	Disagree	Neither	Agree	Strongly	Very
strongly	disagree		agree or		agree	strongly
disagree			disagree			agree

Government aid to people living in poverty is needed because the bad U.S. economy has put many people out of work.

- 1	- 2	- 3	- 4	- 5	- 6	- 7
Very strongly disagree	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree	Very strongly agree

Most people who receive government aid truly need the help because they can't work, or they can't find decent work.

- 1	2	- 3	_ 4	_ 5	- 6	- 7
Very strongly disagree	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree	Very strongly agree

Government aid for people living in poverty destroys the motivation to work.

	—				_	
1	2	3	4	5	6	7
Very	Strongly	Disagree	Neither	Agree	Strongly	Very
strongly	disagree		agree or		agree	strongly
disagree			disagree			agree

Government aid for the people living in poverty is necessary because we are morally obligated to help those less fortunate than ourselves.

- 1	_ 2	3	_ 4	- 5	- 6	_ 7
Very strongly	Strongly disagree	Disagree	Neither agree or	Agree	Strongly agree	Very strongly
disagree			disagree			agree

The cost of government aid for people living in poverty adds considerably to the nation's budget deficit.

- 1	- 2	3	_ 4	- 5	- 6	- 7
Very strongly disagree	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree	Very strongly agree

Government aid for people living in poverty provides a necessary second chance for many poor people.

- 1	_ 2	3	_ 4	5	- 6	- 7
Very	Strongly	Disagree	Neither	Agree	Strongly	Very
strongly	disagree		agree or		agree	strongly
disagree			disagree			agree

# Intent to Vote for Welfare Policies

Do you op	ppose or supp	port the Supple	mental Nutrit	ion Assistance	Program (SNA	AP)?
1	2	3	4	5	6	7
Oppose			Not Sure			Support
very						very
strongly						strongly
Do you op	ppose or supp	port the Medica	aid?			
1	2	3	4	5	6	7
Oppose			Not Sure			Support
very						very
strongly						strongly
Do you op	pose or supp	port the Supple	mental Securi	ty Income (SS	I)?	
1	2	3	4	5	6	7
Oppose			Not Sure			Support
very						very
strongly						strongly
Do you op	ppose or supp	port the Earned	Income Tax	Credit (EITC)	?	
1	2	3	4	5	6	7
Oppose			Not Sure			Support
very						very
						. 1

# Table A1.

		(Anger)	No anger	Anger
(Frame)	(Predisposition)		M(SD)	M(SD)
No frame	Strongly oppose		4.88(0.88)	3.00(1.41)
	Weakly oppose		4.76(1.06)	4.62(0.79)
	Weakly support		5.53(0.87)	4.88(1.31)
	Strongly support		6.73(0.45)	6.60(0.74)
Freeloader	Strongly oppose		2.83(1.38)	2.63(1.01)
	Weakly oppose		5.03(1.01)	4.30(1.34)
	Weakly support		5.73(0.83)	5.18(0.99)
	Strongly support		6.81(0.44)	6.69(0.60)
Budget deficit	Strongly oppose		4.30(0.89)	2.50(1.34)
	Weakly oppose		5.05(1.19)	4.57(1.14)
	Weakly support		5.65(0.98)	5.37(0.44)
	Strongly support		6.65(0.59)	6.58(0.66)

# Descriptive Statistics of the Main Study

## **Appendix B: Pilot study supplementary materials**

Before conducting the main study, a pilot test was implemented to assess if (a) the budget deficit and freeloader frames insinuate any additional persuasion effects and (b) anger induction (i.e., thought listing tasks) arouse anger compared to the control condition.

For a pilot test, college students who enrolled in an introductory course in midwestern university voluntarily participated for extra credit through the SONA system. A total of 43 students joined the study and responded to the questions, which tested if each frame is equally persuasive and each thought listing task induces more anger compared to the control condition. First, they were randomly assigned to either the budgetdeficit or freeloader frame and evaluated the level of persuasiveness they perceived after reading it (they were required to stay at the frame page at least for 10 seconds). Perceived persuasiveness scale was adapted from Banas et al. (2012) and Zhao et al. (2011) and included items such as "the statement is believable," "the statement is convincing," and "the statement is important to me" ( $\alpha = .86$ ).

Then, participants randomly received a thought listing task which asked them to write either their angry experience or just experience regarding current welfare policies. Subsequently, they were asked to report their felt emotions, such as hopeful, enthusiastic, proud, angry, mad, anxious, afraid, and happy on a 5-point Likert scale (1= "not at all", 5= "extremely", this scale was modified from Watson, 1988). For the analysis, enthusiastic, proud, and happy were grouped together as positive emotions to compare with angry and mad.

## **Frame Persuasiveness**

The mean of perceived persuasiveness of each frame condition was compared. Participants who received either of frames reported a similar level of persuasiveness which was relatively low. The mean of people exposed to the budget deficit frame was 3.14 and of those exposed to the freeloader frame was 2.82. Moreover, they had no significant difference in receiving either one (t(22.77)=1.24, p>0.5).

## **Thought Listing Tasks: Anger Induction**

To assess if the anger condition elicited more anger than the control condition, an independent t-test was conducted. Anger induction was successful as the participants assigned to anger condition reported higher levels of negative emotions, such as anger and mad, compared to those assigned to no anger condition (t(41)=2.21, p < 0.05). Moreover, in the anger condition, people reported lower levels of positive emotions (i.e., the mean of enthusiastic, proud, and happy) than no anger condition (t(41)=2.25, p < 0.05).

Even though there was no critical weakness derived from the manipulations, I made one adjustment for the main study. Because of relatively higher levels of anger reported from the participants assigned to no anger condition (though they were lower than the anger group), I changed the instruction of thought listing tasks for the no anger condition in the main study. The high levels of anger could be not derived from the instruction. Yet, a given frame might have evoked emotions and people continued to maintain the feelings until they conduct the thought listing task (Initially, this pilot study tested frame's pervasiveness prior to the anger induction

test to minimize the emotion that might intervene while participants evaluate their assigned frame). Therefore, considering the inherent emotions that people feel when they recall their personal (emotional) experience, I decided to revise the instruction to ask them to write what they know about the current welfare policy which might reduce the inherent emotion that individuals might have in their personal experience.

# Table B1.

*	v			
	М	SD	Ν	
Budget	3.14	0.52	23	
deficit				
Freeloader	2.82	0.96	27	

Descriptive statistics of Perceived Persuasiveness

# Table B2.

Descriptive Statistics of Pilot Study

	Negative Emotions			Positive I	Positive Emotions		
	М	SD	Ν	М	SD	Ν	
Anger	2.80	1.28	20	1.66	0.70	20	
No Anger	2.02	1.03	23	2.29	0.91	23	

# **Thought listing instructions:**

# Anger condition

We are interested in what makes people angry about the current welfare policies. (1) Briefly describe three to five things about welfare policies that make you most angry. (2) Describe the one situation about welfare policies that makes you or has made you most angry.

# No Anger Condition

We are interested in your experience about the current welfare policies. (1) Briefly describe three to five things about welfare policies. (2) Describe the one situation about welfare policies.

# Frames

# Freeloader Frame

Government spending on such programs for the poor should be decreased, because *they* give away money to people who don't really need the help. If you had a say in making up the Federal budget this year, would you like to see spending on programs that assist the poor increase, decrease, or stay the same?

# **Budget Deficit Frame**

Government spending on such programs for the poor should be decreased because given the huge budget deficit, we simply can't afford it. If you had a say in making up the Federal budget this year, would you like to see spending on programs that assist the poor increase, decrease, or stay the same?

# **Perceived Persuasiveness**

The statement is believable.

- 1	- 2	- 3		- 5
Strongly disagree	Disagree	Neither agree	Agree	Strongly agree
uisugree		nor aisagree		
The statement	is convincing.			
- 1	- 2	- 3	- 4	- 5
Strongly	Disagree	Neither agree	Agree	Strongly agree
disagree	0	nor disagree	0	
The statement	is important to me			
- 1	- 2	- 3	- 4	5
Strongly	Disagree	Neither agree	Agree	Strongly agree
disagree	0	nor disagree	0	0,2,0
The statement	helped me feel con	fident.		
- 1	- 2	- 3	- 4	- 5
Strongly	Disagree	Neither agree	Agree	Strongly agree
disagree		nor disagree		
The statement	would help my frie	ends.		
- 1	- 2	3	_ 4	- 5
Strongly	Disagree	Neither agree	Agree	Strongly agree
disagree		nor disagree		
Overall, how r	nuch do you agree	or disagree with the	statement?	
- 1	- 2	- 3	_ 4	- 5
Strongly	Disagree	Neither agree	Agree	Strongly agree
disagree	Ū.	nor disagree	0	
Is the reason the	ne statement gave a	strong or weak reas	on?	
- 1	- 2	- 3		- 5
Strongly	Disagree	S Neither agree	Agree	Strongly agree
disagree		nor disagree	0	

# Emotion

Please tell us the extent to which you feel after reading the material.

Hopeful

l Not at all	2	3	4	5 Extremely
Enthusiastic				
1 Not at all	2	3	4	5 Extremely
Proud				
1 Not at all	2	3	4	5 Extremely
Angry				
1 Not at all	2	3	4	5 Extremely
Mad				
1 Not at all	2	3	4	5 Extremely
Anxious				
1 Not at all	2	3	4	5 Extremely
Afraid				
1	2	3	4	5

Not at all

Extremely

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