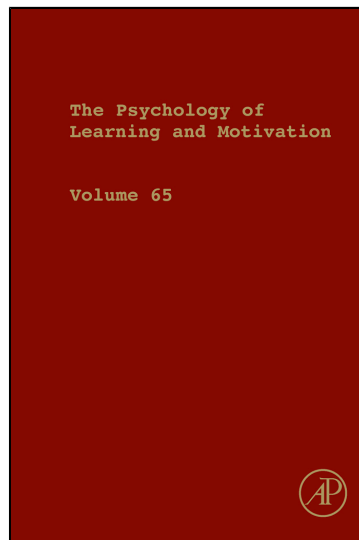


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The Politics of Attention: Differences in Visual Cognition Between Liberals and Conservatives

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Abstract

Decades of research have provided important insight into the factors that drive human behavior. As opposed to just focusing on the separate contributions of nature versus nurture, behavior is now better conceptualized as being complex and multifaceted, meaning that a complete understanding of behavior can only be gleaned from investigating any and all factors that have the potential to be influential (biological, physiological, etc.). One individual differences variable that has received little attention from psychologists is political temperament despite the fact that a growing body of research finds that political orientations vary with an array of broader constructs. In this chapter, we summarize recent research using classic cognitive (and vision science) paradigms (gaze cueing, free viewing, visual search) to elucidate the differences between political conservatives and liberals. Although these correlations are not causal, they provide important insight into the types of factors (eg, biological) that could influence one's political beliefs and subsequent behavior. Moreover, they demonstrate

important individual differences in behavior that can easily go unnoticed if they are not directly investigated.



1. INTRODUCTION

Never talk about politics or religion

This longstanding rule of etiquette has been around since the mid-1800s and recognizes the fact that these topics are often contentious and can lead to heated disagreements between friends and colleagues. Political issues, however, have tremendous personal importance to many individuals and are informative with regard to who they are as a person and how they process information. It is somewhat surprising, therefore, that political temperament has received little attention from psychologists as an individual differences variable, especially given the glut of personality traits that are often investigated, controlled for, and manipulated within the context of empirical study. The purpose of the present chapter is to highlight and review recent research demonstrating both physiological and cognitive differences as a function of political temperament. We will briefly discuss the origin of this program of research before reviewing our recent work relating to how political temperament can moderate numerous aspects of visual cognition.



2. BACKGROUND

Current research on political temperament and cognition can actually be traced back, somewhat indirectly, to the mid-1980s and a study by [Martin et al. \(1986\)](#) which examined similarities between twins (both monozygotic and dizygotic) as it relates to the transmission of social attitudes. The research was conducted in two separate samples of twins—one in Australia, one in England—and was additionally supplemented by pairs of spouses in each location. Participants in the Australian sample were asked to complete the Wilson–Patterson conservatism scale, which asks respondents to indicate whether they agree or disagree with a number of “hot-button” social issues (eg, the death penalty, abortion). On the basis of responses to the 50 items on the scale, participants receive a score indicating the extent to which they hold conservative positions, with higher scores indicating greater levels of conservatism. Participants in England completed a Public Opinion Inventory which similarly required them to rate their agreement

with 40 social issues on a 5-point scale. With preliminary evidence that conservatism was more highly correlated in monozygotic twins than in dizygotic twins, a path model was developed using questionnaire responses and a series of additional data points. The basic result was that resemblance in social attitudes is consistent with a genetic model, which is indicative of a potential role for biology/genetics as it relates to political temperament. This initial work inspired other researchers (in particular, John Alford, Peter Hatemi, John Hibbing, and colleagues) to examine the degree to which genetics and political attitudes could be linked, albeit with largely mixed results (eg, Alford, Funk, & Hibbing, 2005; Hatemi, Alford, Hibbing, Martin, & Eaves, 2009; Hatemi et al., 2011, 2010; Smith, Oxley, Hibbing, Alford, & Hibbing, 2011a).

Despite evidence for a potential role of genetics, political temperament is a somewhat unique personality variable in that it rarely develops until late adolescence at the earliest, although less cognitively demanding personality traits that correlate with particular political orientations appear to be evident quite early (Block & Block, 2006). Moreover, it is clear that political temperament is not solely biologically determined given that changes in political views over the lifespan occur on occasion. As such, our interest in biology relates more so to downstream effects and how these might affect basic political behaviors and attitudes. To that end, Hibbing, Smith, and colleagues have identified physiological reactivity to certain stimuli as a predictor of political temperament (eg, Dodd et al., 2012; Oxley et al., 2008; Smith, Oxley, Hibbing, Alford, & Hibbing, 2011b). Oxley et al. (2008) were among the first to report that political attitudes correlate with changes in skin conductance when exposed to a variety of sudden noises and/or threatening visual images. In their study, 46 adults with strong, identifiable political beliefs participated in two separate sessions. In the first, participants completed a variation of the well-known Wilson–Patterson scale, which requires respondents to indicate whether they agree or disagree with a number of bedrock issues such as the death penalty, prayer in schools, and gun control (Wilson & Patterson, 1968), etc. The second session took place approximately 2 months after the first, at which point participants were exposed to a variety of visual and auditory stimuli while physiological reactivity was measured via skin conductance and orbicularis oculi startle blink electromyogram response. The critical finding was that political temperament was correlated with physiological response such that more conservative individuals tended to be more physiologically reactive to threatening stimuli. Although this finding does not afford a determination of causal processes—eg, it is unclear whether people

who are more reactive to threat are more likely to subsequently adopt conservative positions or whether those who adopt conservative positions become more physiologically responsive in turn—it provides evidence that political temperament could be a useful individual differences measure to include in subsequent research.



3. HOW DOES ENHANCED PHYSIOLOGICAL REACTIVITY MANIFEST IN TERMS OF BASIC COGNITIVE BEHAVIORS?

Given that physiological reaction correlates with a variety of downstream behaviors (Carlson, 2013), the finding that conservatives are more responsive to threat leads to a variety of interesting questions regarding how other basic cognitive processes are subsequently affected. To that end, the authors of the current chapter began collaborating on a research program seeking to determine the degree to which political temperament correlates with differences in basic attention and perception. The initial question of interest was how enhanced sensitivity to threat would influence the choice of where one attends when presented with numerous, simultaneously presented stimuli of varying valence (ie, some positive and some negative). Critically, we were interested in determining whether physiological reactivity to aversive stimuli would manifest as a bias toward said stimuli (eg, enhanced vigilance in the face of something you are sensitive to) or away from it (eg, avoidant behavior indicative of an attempt to ignore stimuli that potentially make you uncomfortable) (Dodd et al., 2012).

To that end, we created a series of collages using images drawn from both the International Affective Pictures System (IAPS; Bradley & Lang, 2007) and additional images from our laboratory which had been rated along a number of dimensions similar to those employed by the IAPS. The collages consisted of four images, one in each quadrant of the computer screen, and were designed such that they consisted of a single appetitive image (eg, a strawberry dipped in chocolate) with the remaining images being aversive; a single aversive image (eg, a toilet bowl filled with feces) with the remaining images being appetitive, or an equal balance of the two. Filler collages with more neutral images were also included. The collages were presented to participants for 8 s each with the task being to freely view the display in any manner they saw fit (eg, “We are interested in where people decide to look when given multiple viewing options”). As participants viewed each image, their eye movements and fixations were recorded via an SR

Research Eyelink 2 eyetracker operating at 500 Hz (eg, the location of the eyes in space were measured every 2 ms). Eyetracking was critical to this paradigm given that it is one of the only tools that can measure avoidant visual behavior. Most attentional paradigms (eg, dot probe) provide an indication of whether attention is at a specific location at a specific point in time. If that specific location is not attended, however, it is unclear where attention actually is, where it is going, and where it has been previously. With eye-tracking, we were able to determine how long individuals spent processing each image over the course of the entire trial, meaning that if an image was avoided it would be represented by a significantly reduced dwell time relative to other images in the display. Moreover, we were able to use a variety of oculomotor measures to determine (1) how long each image was fixated (dwell time—longer dwell times are indicative of a greater attentional bias toward a stimulus), (2) how quickly each image was fixated relative to the onset of the image (first fixation time—faster first fixation times are indicative of a greater attentional bias toward a stimulus), (3) how long each image was fixated the first time it was visited (first run dwell time), and (4) how many times each image was returned to (run count).

Following the free-viewing task, all participants were asked to indicate their political party affiliation in addition to filling out an updated version of the Wilson—Patterson battery and an additional “Society Works Best” scale (Smith et al., 2011a). The latter presents individuals with paired statements, requiring them to choose which they feel would most benefit society [eg, “Society works best when a) those who break the rules are punished or b) those who break the rules are forgiven] with one option being more in line with conservative values and the other being more in line with liberal values. These scales/responses were then combined to create a broad measure of political orientation. This was particularly important given that the participants in this study were university undergraduates, many of whom may not yet have developed strong political leanings. In many past studies of political temperament, community samples have been used such that participants would be expected to have strong political opinions and/or were recruited specifically based on their pre-identified beliefs. If biology plays any role in political temperament, however, then one might expect to observe effects in young adults, even if they do not yet have fully established political leanings.

The basic finding of the study is that those with more conservative leanings exhibited a strong bias toward aversive stimuli (Dodd et al., 2012). Relative to those with more liberal leanings, conservatives spent more

time looking at aversive images (eg, on trials with a single aversive image and three appetitive images, those who were more conservative spent nearly a full second longer fixating aversive images on average relative to those who were more liberal) in addition to fixating aversive images much more quickly. Relative to those with more conservative leanings, liberals spent more time looking at appetitive images in addition to fixating appetitive images more quickly (see Fig. 1). There are two aspects of these results that require additional attention. First, it is not simply the case that liberals are exhibiting an overwhelming bias toward the appetitive: on average both conservatives and liberals tend to fixate aversive images more quickly than appetitive images in addition to spending more time fixating aversive images overall. Evolutionarily, this makes intuitive sense given that many of our aversive images could be deemed threatening or disgusting, and over time, the attentional system likely evolved to be sensitive to stimuli that may signal danger (Bradley & Lang, 2007; Bradley, 2000; Carver, Sutton, & Scheier, 2000; Gray, 1972, 1981; Marcus, 2002; Mortensen, Becker, Ackerman, Neuberg, & Kenrick, 2010). It is simply the case that this bias is more pronounced in those with more conservative leanings. This ties directly into the second aspect of our results that is worth noting: although conservatives are certainly faster to orient toward aversive images, when looking at the first run dwell time (how long individuals spend fixating an image the first time they visit it), there was actually little difference between conservatives and liberals (Dodd, Hibbing, & Smith, 2009). Rather, the large total dwell time difference between the two groups was based on the higher likelihood that conservatives would revisit and spend additional time on the aversive images, whereas liberals preferred to revisit appetitive images (Dodd et al., 2009).

Overall, the eyetracking results are consistent with the conclusion that liberals and conservatives have differential biases as it relates to positive and negative stimuli. This study was complemented by another physiological investigation in which skin conductance changes were measured in a community sample of participants (Dodd et al., 2012). A different set of 33 pictures was presented to participants, with the critical stimuli being three highly positive and three highly negative images (as pre-rated by 126 raters who did not take part in either the eyetracking or the physiological study). The negative images captured the emotional responses of fear, disgust, and anger while the positive images all evoked happiness given that there tends to be fewer discrete categories for positive stimuli. Consistent with both previous research and the eyetracking results, conservatives exhibited a greater

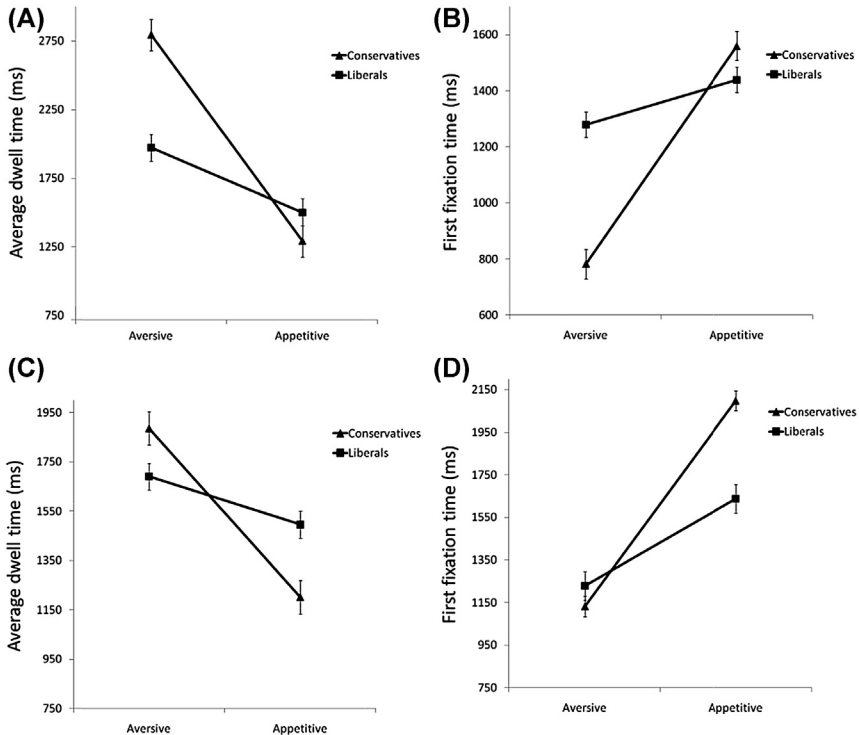


Figure 1 Mean dwell time values (in milliseconds; left column) and mean first fixation time values (in milliseconds; right column) as a function of image type and trial type for liberal and conservative participants. Dwell time (A) and first fixation time (B) on trials in which three appetitive and one aversive image are presented (predominantly appetitive), and dwell time (C) and first fixation time (D) on trials in which one appetitive and three aversive images are presented (predominantly aversive). The values reported are the average dwell time for each individual image, so on a trial with three appetitive images, the total dwell time for all appetitive stimuli would be the reported number multiplied by 3. Note that unlike dwell time—in which large values represent a greater attentional bias toward an image—small first fixation time values represent a greater attentional bias toward an image given that the lower the value, the faster the image was fixated. From Dodd, M. D., Balzer, A., Jacobs, C., Gruszczynski, M., Smith, K. B., & Hibbing, J. R. (2012). *The political left rolls with the good, the political right confronts the bad: physiology and cognition in politics*. *Philosophical Transactions of the Royal Society B*, 367, 640–649.

electrodermal response to the negative stimuli when compared with liberals, whereas liberals exhibited a greater electrodermal response to the positive stimuli when compared with conservatives. Given evidence of differential processing biases between liberals and conservatives, it is of interest to note that the set of 33 pictures also contained images of prominent political

figures, including two touchstones of the Democratic (Bill and Hillary Clinton) and Republican (Ronald Reagan and George Bush) parties. Since liberals tend to be more physiologically responsive to positive stimuli, whereas conservatives tend to be more responsive to negative stimuli, these images afforded an opportunity to examine the degree to which this pattern also extends to political figures. Interestingly, both groups of participants exhibited greater reaction to the Democratic figures, but the reason for this enhanced reactivity is different for each group: Liberal participants tend to view Democratic figures as positive such that their greater change in electrodermal activity is consistent with their bias toward positive stimuli, whereas conservative participants tend to view Democratic figures as negative such that their greater change in electrodermal activity is consistent with their bias toward negative stimuli (Dodd et al., 2012) (Fig. 2). Taken together, this initial pair of studies provided support for the notion that greater physiological reactivity to certain stimuli as a function of political temperament also manifests in basic cognitive differences at the attentional level.

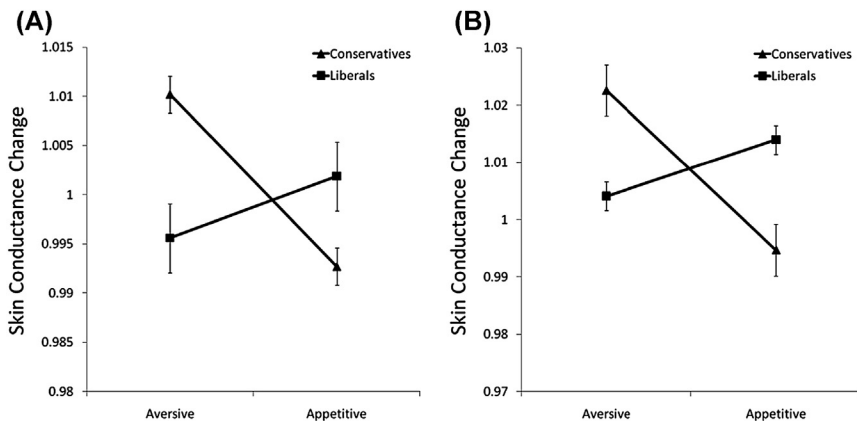


Figure 2 Mean skin conductance change (in microsiemens) as a function of political temperament (liberal vs conservative) and image type (appetitive vs aversive). (A) Mean skin conductance change in response to the three most positive and three most negative images as judged by 126 independent raters. (B) Mean skin conductance change in response to political figures wherein appetitive images are of those individuals with whom participants share a similar ideology and aversive images are of those individuals with whom participants have differing ideologies (e.g., George Bush would be considered aversive to those on the left and appetitive to those on the right). From Dodd, M. D., Balzer, A., Jacobs, C., Gruszczynski, M., Smith, K. B., & Hibbing, J. R. (2012). *The political left rolls with the good, the political right confronts the bad: physiology and cognition in politics*. *Philosophical Transactions of the Royal Society B*, 367, 640–649.



4. LOOK INTO MY EYES AND TELL ME WHAT YOU SEE

That liberals and conservatives differ with regard to how they process positively and negatively valenced stimuli is strong initial evidence that political temperament is worth exploring as a basis of individual-level variation in cognitive behaviors. Given that these two groups also differ with regard to political opinion, this provides a solid entry point into determining how other cognitive behaviors may correlate with political temperament. For example, it is widely acknowledged that those on the right tend to be more supportive of individualism than those on the left (Burns, 2009). This, in turn, leads to the suggestion that conservatives may value personal autonomy more so than liberals. Given that those who value personal autonomy are less likely to be influenced by others, we posited that a difference may be observed with regard to the likelihood that liberals and conservatives attend to the eyes of other individuals. We initially attempted to examine this with two separate tasks. The first was an extension of the aforementioned collage task in which our appetitive and aversive images were replaced by neutral images and, on some trials, an image of a face would appear in one of the quadrants. We expected that the image of the face would be highly likely to be fixated (it was) but we were interested in whether political temperament would moderate this effect (it did not). The second task was an emotion judgment task in which we eyetracked participants while they viewed faces drawn from the NimStim database (Tottenham et al., 2009) and required them to discriminate whether the emotion elicited by the face was happy, calm, disgust, or fear (Dodd et al., 2009). Again, our primary interest was in looking behavior toward the eyes but we did not observe any difference in the propensity to fixate the eyes as a function of political temperament (Dodd et al., 2009).

Although political temperament did not influence the likelihood that the eyes are fixated in the aforementioned tasks, it was unclear whether this was attributable to a lack of influence of political temperament per se or to task-related variables. In the collage task, participants are given free-view instructions meaning that processing the eyes of the image may be rather secondary to the goal of processing the collage and/or each individual image as a whole. In the emotion judgment task on the other hand, the eyes may convey critical information regarding the emotion being elicited in the image (Baron-Cohen, Jolliffe, Mortimore, & Robertson, 1997; Baron-Cohen, Wheelwright, Spong, Scahill, & Lawson, 2001; Sullivan, Ruffman, & Hutton, 2007) such that successful completion of the task requires substantial

fixation of this area. What was needed, then, was a task in which we could assess the degree of influence that the eyes may have over subsequent processing. As such, we opted to use a gaze cueing paradigm to determine whether political temperament affected the magnitude of gaze cueing in a simple target detection task.

It has been repeatedly demonstrated that a variety of different stimuli can affect the allocation of attention in either a bottom-up and automatic or a top-down and controlled manner (Corbetta & Shulman, 2002; Desimone & Duncan, 1995; Egeth & Yantis, 1997; Enns, Austen, Di Lollo, Rauschenberger, & Yantis, 2001; Folk & Remington, 1998; Folk, Remington, & Johnston, 1992; Itti & Koch, 2000, 2001; Jonides, 1981; Posner, 1980; Remington, Johnston, & Yantis, 1986; Theeuwes, 1990, 1994; Yantis, 2000; Yantis & Jonides, 1984). For example, rapid onsets in our periphery tend to automatically capture attention, leading to a brief period of enhanced processing at the location of the onset (Jonides, 1981; Posner & Cohen, 1984). Similarly, predictive directional cues (eg, an arrow pointing toward a location that is predictive of where a subsequent target will appear 80% of the time) also enhance processing at cued location by allowing participants to make a controlled shift of attention in the predicted direction, although these effects are observed more slowly and on a longer time course relative to peripheral onsets (Jonides, 1981; Posner, 1980). This dichotomy between exogenous and endogenous attention has been a critical focus of the literature for decades but, more recently, substantial evidence has mounted that attention can also be influenced by symbolic cues (Gibson & Kingstone, 2006; Hommel & Akyürek, 2009; Hommel, Pratt, Colzato, & Godijn, 2001; Pratt & Hommel, 2003; Ristic & Kingstone, 2006, 2012; Ristic, Landry, & Kingstone, 2012). Symbolic cues are not predictive of a target's upcoming location, but, nonetheless, have a strong spatial association such that they affect reaction times (RTs) despite being irrelevant to a primary target detection task. For example, when a leftward pointing arrow is presented at fixation, participants are considerably faster to detect a target that subsequently appears to the left of fixation relative to a target appearing to the right of fixation, despite the fact that the arrow is nonpredictive (50% cue validity). Symbolic cues tend to have an effect on attentional allocation that differs from exogenous and endogenous cues given that the cueing effects themselves seem fairly automatic—as is the case with exogenous cues—but the time course of the cueing effects tends to more closely resemble that observed with endogenous cues (Hommel & Akyürek, 2009; Hommel et al., 2001; Ristic & Kingstone, 2012; Ristic et al., 2012).

Gaze direction represents a type of symbolic cueing wherein participants are presented with either a photograph or a schematic drawing of a face at fixation, with the eyes looking to either the left or right side of the screen. Although these cues are not in any way predictive of the upcoming target location, gaze cues tend to elicit reflexive shifts of attention to locations that are consistent with the direction of gaze (eg, Bayliss & Tipper, 2006; Driver et al., 1999; Friesen & Kingstone, 1998; Friesen, Ristic, & Kingstone, 2004; Kingstone, Tipper, Ristic, & Ngan, 2004). Given the importance of joint attention—the ability to follow another individual's eye movements or direction of gaze—to a variety of social behaviors, this would suggest that it is difficult to ignore the influence of gaze even when it is irrelevant to a primary task. Since gaze cueing represents a situation in which gaze direction is technically irrelevant for detecting the target, but at the same time processing the eyes seems unavoidable, this seemed like a good candidate paradigm for examining whether there is a moderating influence of political temperament. Moreover, the gaze cueing paradigm has previously been used in individual differences work given that not all populations elicit large gaze cueing effects (eg, gaze cueing has been shown to be reduced or eliminated in those scoring highly on the Autism Spectrum Quotient and in males more so than females (Bayliss & Tipper, 2005—but see Nation & Penny, 2008—Bayliss, di Pellegrino, & Tipper, 2005).

Once again, we used undergraduate volunteers as our sample and had them complete a standard target detection task in which target onset was preceded by an irrelevant gaze cue at fixation (Dodd, Hibbing, & Smith, 2011). The cue was a schematic drawing of a face without pupils which was initially presented as a placeholder for 750 ms, after which pupils appeared, giving the impression that the face is looking to the left or right. Following a variable stimulus-onset asynchrony (SOA), a target appeared at either the gazed-at or gazed-away-from location. Participants were instructed to simply press the spacebar the moment they detected the target and that they should ignore the face that was presented prior to this as gaze direction was not predictive of target location (see Fig. 3 for an example trial sequence). Following this task, all participants completed the Wilson—Patterson and Society Works Best batteries in addition to self-reporting political party identification. This information was again combined to create a broad measure of political orientation which then allowed us to examine gaze cueing effects as a function of political temperament.

Before considering the results as they relate to political temperament, it is useful to consider the overall data for all participants averaged together. This

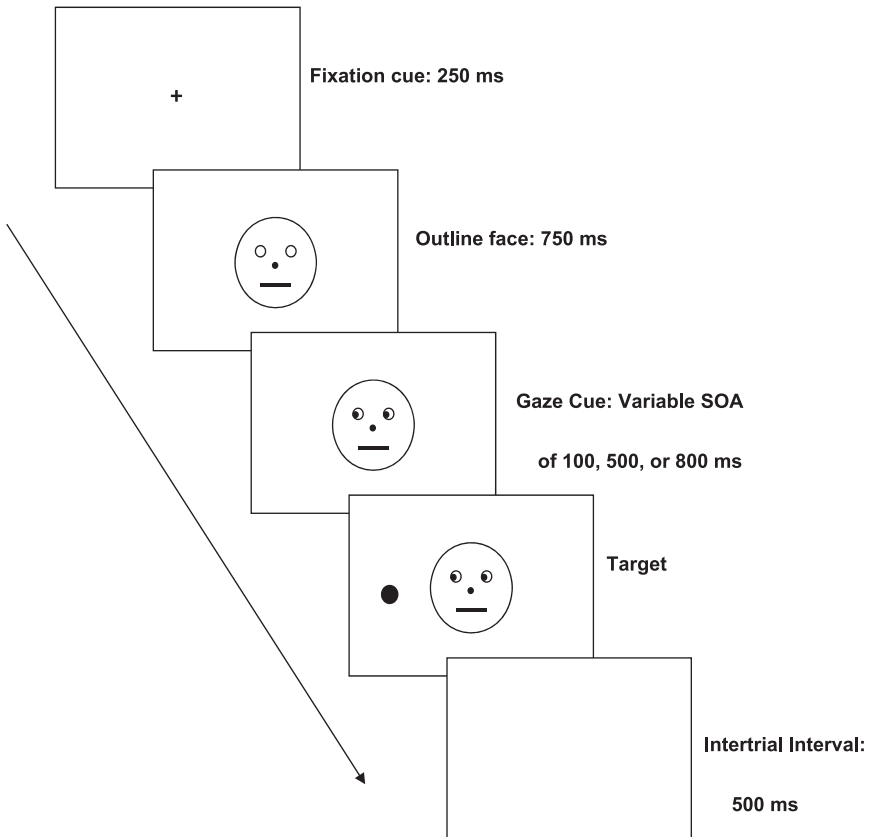


Figure 3 A sample trial sequence of a valid cue trial. For an invalid cue trial the target would appear in a location that is the opposite of the direction of gaze. From Dodd, M. D., Hibbing, J. R., & Smith, K. B. (2011). *The politics of attention: gaze cuing effects are moderated by political temperament*. *Attention, Perception, & Psychophysics*, 73, 24–29.

can be found in the bottom row of [Table 1](#) which reports response times for valid trials (eyes looking toward target location), invalid trials (eyes looking away from invalid trials), and the subsequent cuing effect (RTs from invalid trials minus RTs from valid trials). What is observed is highly typical of most gaze cueing studies: there is a relatively large and significant gaze cueing effect at the 500-ms SOA, a slightly smaller but significant gaze cueing effect at the 800-ms SOA, and a trend toward a similar effect at the 100-ms SOA but this is both small and not significant. That is to say there is nothing unusual or uncharacteristic about this overall result when compared to the literature. Of greater interest is what is observed when the data are broken down by political temperament, which can be found in the top two rows of [Table 1](#).

Table 1 Mean reaction times (RTs) (in milliseconds) as a function of gaze direction of cue validity (valid vs invalid), stimulus onset asynchrony (100, 500, or 800 ms), and political temperament (liberal vs conservative). Standard deviations appear in parentheses below each mean and cuing effects (RT for invalid trials minus RT for valid trials) for each SOA appear to the right.

Cue Type	Valid 100	Valid 500	Valid 800	Invalid 100	Invalid 500	Invalid 800	Cuing 100	Cuing 500	Cuing 800
<i>Political temperament</i>									
Liberals	356 (40)	302 (40)	300 (37)	368 (47)	324 (45)	313 (41)	11 (27)	22 (18)	13 (14)
Conservatives	348 (43)	304 (41)	292 (42)	349 (44)	307 (46)	292 (42)	1 (31)	3 (18)	0 (16)
Overall	352 (41)	303 (40)	296 (38)	358 (46)	316 (46)	303 (43)	6 (30)	13 (20)	7 (16)

From Dodd, M. D., Hibbing, J. R., & Smith, K. B. (2011). The politics of attention: gaze cuing effects are moderated by political temperament. *Attention, Perception, & Psychophysics*, 73, 24–29.

Specifically, the magnitude of the gaze cueing effect is very strong and robust in our liberal participants at all three cue-target SOAs (at the 100-ms cue-target SOA, the cueing effect is in the expected direction but does not quite reach conventional levels of significance). For the conservatives, however, a quite different story emerges, as there was no evidence of a gaze cueing effect at all in this population (Dodd et al., 2011). Although we had anticipated that political temperament may moderate gaze cueing, we certainly did not anticipate a complete absence of the effect. It is worth noting that we have replicated this basic result in a community sample, although in this case, a small but significant gaze cueing effect was observed in the conservatives. Moreover, Carraro, Dalmaso, Castelli, and Galfano (2015) have also shown that conservatives exhibit gaze cueing effects that are reduced relative to liberals, while simultaneously demonstrating a similar moderation is not observed with arrow cues (see also Liuzza et al., 2011 for related work). The more reasonable conclusion then is not that conservatives are immune to the effect of gaze cues altogether but they are less affected relative to their liberal counterparts.

The political temperament results may help to more broadly explain why gaze cueing effects are inconsistently observed at SOAs of 100 ms or less. One of the reasons that symbolic attention is often characterized as a unique form of attention is that the cueing effects seem reflexive (eg, not under the control of the observer) but the time course of the effect is more consistent with controlled endogenous shifts of attention. There are studies, however, in which symbolic cueing effects have been observed with very brief cue-target SOAs (eg, Ristic, Wright, & Kingstone, 2007). In the Dodd et al. (2011) study, liberal participants exhibited a trend toward a small gaze cueing at the earliest SOA but this effect disappears when the data for all participants (liberal and conservative) are considered together. This opens up the possibility that the likelihood of observing gaze cueing effects at early cue-target SOAs may be linked to sample characteristics. If a given participant sample skews more liberal the likelihood of observing effects at brief SOAs may increase, whereas a sample that skews more conservative may mask the gaze cueing effects that would otherwise be observed in more liberal participants (see Fig. 4 for an important note on sample characteristics when conducting research on political temperament). In any case, the moderating effect of political temperament on gaze cueing would have gone completely unnoticed had it not been directly investigated. When all participants' data were considered together, the result was consistent with what is generally expected from a task of this type.

A NOTE ON SAMPLE CHARACTERISTICS

In this section, we noted that (1) our finding that political temperament moderates gaze cueing effects has been replicated both by our lab in a community sample and independently by other researchers, however, in those studies a small but significant gaze cueing effect was observed for conservatives rather than a complete elimination of the effect and (2) the finding that gaze cueing effects are inconsistently observed at brief cue-target SOAs may be linked to particular sample characteristics if political temperament is an important moderating variable. It is also important to mention that in our investigations of political temperament, we tend to do a median split on our participant sample and this is often sufficient to observe the aforementioned effects. It is sometimes the case, however, that the reported effects are stronger if we consider only the tails of our distribution (eg, the one-third most conservative and the one-third most liberal participants) though this does not hold across all studies. As such, it is important to comment on sample characteristics and why they are important to take into account in studies of this type.

As previously noted, we assess political temperament broadly by asking participants to indicate their political party affiliation (if any) in addition to having them complete the Wilson–Patterson and Society Works Best batteries. We then use composite scores on all three measures to do a median split on our sample such that one half of the sample is considered “more conservative” while the other half is considered “more liberal.” It is critical to note, however, that when participants are referred to as liberal or conservative in a given study, that refers to liberal or conservative relative to the sample we are drawing from. There is not a score that a participant can receive on the Wilson–Patterson or Society Works Best scale that allows us to conclude with certainty that an individual is definitely liberal or definitely conservative. This means that someone who is characterized as liberal in one sample could be characterized as conservative in another sample and vice versa (though this is more likely in the middle of our distribution and less likely at the tails). This is particularly critical given that all of the studies from our research group have been conducted in Lincoln, Nebraska. Lincoln is a University town and as such, the city tends to be more liberal leaning than the rest of the state. The state of Nebraska, however, tends to be more conservative leaning, making it difficult to determine how representative our community and undergraduate samples are relative to the rest of the United States and/or other countries. It is important to see this work also conducted on samples in other locations to determine the degree to which these findings replicate or differ across cultures and locales. We are currently collaborating with researchers in other countries to determine the degree to which these findings can be considered “universal”.

Figure 4 An important note on sample characteristics.

Although not directly tied to studies of political temperament per se, our examination of gaze cueing effects also inspired us to examine whether symbolic cueing effects could be obtained using political figures as the to-be-ignored cues. Traditionally, symbolic cueing effects have been observed for stimuli which have a strong overlearned spatial association that is difficult to ignore (eg, gaze cues, arrows, directional words). Political figures also tend to have a strong association with the “left” or “right,” although the connection to physical space is tenuous at best. At minimum, this distinction dates back to 18th-century France wherein those supporting the French Revolution sat to the left of the president of the National Assembly. Those supporting the king on the other hand, sat to the right. Left and right continue to be used in the present day to metaphorically represent the two ends of the ideological spectrum, although any relation to physical space was abandoned some time ago. This led to the question of whether the left/right connection to politics would be sufficiently strong as to evoke shifts of spatial perception when prominent liberal and conservative figures are presented at fixation. The linking of *conceptual* space to *physical* space is not without precedent. Chasteen, Burdzy, and Pratt (2010) observed symbolic cueing effects to

targets appearing above and below fixation when these were preceded by nonpredictive cues relating to divinity. Specifically, cues related to “God” tended to shift attention upward, whereas cues related to the “Devil” tended to shift attention downward.

In this study, participants completed one of two tasks (Mills, Smith, Hibbing, & Dodd, 2015). In the first, the standard gaze cueing paradigm outlined in the previous discussion was adapted such that on each trial, an image of a prominent political figure was presented at fixation as opposed to a gaze cue (images of Barack Obama, Joe Biden, Hillary Clinton, and Al Gore were the Democrats used given that they were considered the most prominent members of the Democratic party at the time of this study; George Bush, Dick Cheney, John McCain, and Sarah Palin were considered to be the most prominent members of the Republican party at the time and their images were also used in turn). Unlike the gaze cueing paradigm—in which the pupils of the pictured individual are averted to either the left or right—each of the pictured individuals were looking straight ahead, meaning the only connection to the left or right related to their political ideology. Participants were instructed to ignore the image presented at fixation as it did not predict the location of the upcoming target which would appear to the left or right of fixation. Participants simply pressed the spacebar as quickly as they could the moment they detected the target. The second task was quite similar to the first with the exception that, rather than being required to detect a target, participants were simply asked to make an eye movement to the left or right following the presentation of an image of a political figure at fixation. The direction of the saccade was up to the participant and there were no correct versus incorrect responses. We were simply interested in whether the likelihood of a leftward eye movement would be increased when the image presented at fixation was that of a Democrat relative to a Republican—and in turn whether the likelihood of a rightward eye movement would be increased when the image was that of a Republican relative to a Democrat. To avoid response bias, participants were additionally instructed to not always make the same eye movement and to attempt to avoid making any specific patterns of eye movements (eg, alternating left and right eye movements on every other trial). We also sought to obtain a measure of political knowledge by having participants indicate who each of the eight pictured individuals were and what their political party affiliation was at the conclusion of the experiment given that symbolic cueing effects would be unlikely to occur if participants were not familiar with our cue stimuli. This turned out to be particularly important for the choice eye

movement task which was conducted in late 2014, a full two years removed from the 2012 Presidential election. As such, political knowledge tended to vary considerably among participants, allowing us to include this variable as a predictor in our analysis. In the RT task—which was conducted in early 2009, just months following the 2008 election—there was a clear bimodal distribution of political knowledge such that participants tended to know most/all or none/few of the politicians and as such, our focus was solely on those participants who could indicate the names and affiliations of at least six of the pictured individuals (Mills et al., 2015).

In both the target detection task and the choice eye movement task, we observed evidence consistent with the notion that merely perceiving political figures was sufficient to trigger a shift of attention in the direction consistent with that individual's political leanings. In the target detection task, participants were faster to detect targets appearing to the left relative to the right following an image of a Democrat and were faster to detect targets appearing to the right relative to the left following an image of a Republican. This difference was only apparent, however, at the 500-ms cue-target SOA. In the choice eye movement task we examined the likelihood of making an eye movement to the right as a function of both the political image and the participant's political knowledge. Participants were more likely to make an eye movement to the right following the presentation of an image of a Republican and were less likely to make an eye movement to the right following the presentation of an image of a Democrat. Moreover, the magnitude of this bias increased as political knowledge increased such that the effect was much more pronounced in those participants who could identify the name/affiliation of most/all of the pictured individuals (Mills et al., 2015).



5. EMOTION PROCESSING

Given mounting evidence that liberals and conservatives exhibit differences with regard to the manner in which they process information (see also Carraro, Castelli, & Macchiella, 2011; Castelli & Carraro, 2011), we also became interested in how the two groups may differ as it relates to emotion processing. Having previously demonstrated that liberals have a more positive processing bias, whereas conservatives have a more negative processing bias (Dodd et al., 2012), the potential connection to emotion processing is quite salient: emotions differ in valence and serve as indicators

of one's current internal state to both the self and other individuals with whom you may interact. Consistent with our findings regarding differential processing biases, [Vigil \(2010\)](#) has demonstrated that when evaluating ambiguous faces, Republicans are more likely to interpret facial expressions as threatening, in addition to being more likely to perceive the faces as expressing dominant emotions relative to Democrats, who were less likely to view the faces as threatening. We had previously conducted an emotion judgment task (detailed above) in which our specific interest was the degree to which our participants looked at the eyes of the pictured individuals ([Dodd et al., 2009](#)). Within this context, we did not observe a moderating effect of political temperament, although it is important to note that the task itself was quite easy (discerning between four quite dissimilar emotions) in addition to requiring participants to intentionally attend to and make judgments regarding emotion. In our follow-up work, therefore, we opted to make emotion processing indirect to the primary task as this type of manipulation may be more sensitive to the types of biases we expect to observe. In the following sections, we describe two separate studies regarding emotion processing as it relates to political temperament. In the first, we examined whether emotional stimuli would differentially affect performance on a flanker task ([McLean et al., 2014](#)).

5.1 Flanker Task

Our initial interest was to determine whether liberals and conservatives would exhibit differential biases toward positive and negative emotions in the same manner that we observed differential biases toward/away from appetitive and aversive images in our earlier work. To that end, we opted to use a flanker task in which the targets and distractors consisted of either congruent or incongruent emotional faces (eg, angry target with angry distractors vs angry target with happy distractors). The flanker task is commonly used to examine the focus of attention to stimuli across a variety of domains, in both normal and impaired populations ([Eriksen & Eriksen, 1974](#); [Jones, Helmsley, & Gray, 1991](#); [Tiplady, Degia, & Dixon, 2005](#); [Wylie et al., 2009](#); see [Eriksen, 1995](#), for a review). In a standard task, a target item is presented at fixation and it is flanked on either side by irrelevant distractors that are either consistent or inconsistent with the required target response. For example, if your task was to characterize a target as being a consonant or a vowel, then the experimental display A E A would be considered congruent because both the target and the distractors belong to the same response category (vowels). If on the other hand, the experimental display

consisted of F E F, it would be considered incongruent because the target and distractors belong to different response categories. The typical finding in this paradigm is that participants are faster and less error prone when responding to congruent displays, and slower and more error prone when responding to incongruent displays. As such, a number of researchers have adapted this task using emotional faces or taboo-related content to determine which specific stimuli capture attention (Fenske & Eastwood, 2003; Grose-Fifer, Hoover, Rodrigues, & Zottoli, 2009; Matthewson, Arnell, & Mansfield, 2008). To investigate emotional processing in liberals and conservatives, we used a version of this task in which the emotional faces (drawn again from the NimStim database; Tottenham et al., 2009) conveyed either happiness or anger, with participants being required to indicate via the choice button response—as quickly as possible—whether they liked or disliked the target image (McLean et al., 2014). As before, all subjects completed our various measures of political orientation, allowing us to determine the degree to which angry and happy faces capture attention as a function of political temperament. We anticipated that conservatives would be faster to respond to angry faces relative to happy faces on congruent trials, and that they would be slower to respond on incongruent trials when the distractors were angry, indicative of angry faces capturing attention in this group. For liberals, we anticipated faster response to happy faces relative to angry faces on congruent trials, and slower response on incongruent trials when the distractors were happy, indicative of happy faces capturing attention in this group.

The results were partially supportive of our predictions. Conservatives were indeed quick to respond when angry faces served as targets and it did not necessarily matter whether the distractors were congruent or incongruent (McLean et al., 2014). The angry targets appear to lead to both a capture and narrowing of attention in conservative participants such that the flankers receive little attention. Although liberal participants exhibited flanker effects on incongruent trials when the target is angry and the flankers are happy, there was no relationship between political temperament and performance on trials in which the target was a happy face. It is worth noting, however, that our response options (do you like or dislike the target) may not have been optimal given that our goal was to examine emotion processing in an indirect manner. Participants may still have been motivated to directly process the emotion in registering their decision. As such, a better test of our hypothesis comes from a different paradigm, the face-in-the-crowd (Hansen & Hansen, 1988). This visual search task requires participants

to determine whether there is an oddball face among a series of identical neutral face distractors. The oddball face generally conveys an emotion (eg, anger) but participants are not required to directly process this emotion, rather they are judging perceptual similarity/dissimilarity in the search display.

5.2 Visual Search: Resolving Discrepancies and Investigating Mechanisms

In the second emotion processing study (Mills, Smith, Hibbing, & Dodd, 2014) we examine whether political temperament moderates emotional pop-out in a visual search task. This latter study is particularly noteworthy for two reasons. First, the influence of political temperament serves to provide insight into a longstanding discrepancy in the emotional pop-out literature relating to the types of emotion that are more likely to capture attention. Second, and more importantly, the emotional pop-out/visual search study afforded us an opportunity to understand the mechanisms underlying differences related to political temperament. Prior to this, our focus on political temperament as an individual differences variable centered around the fact that differences exist without providing insight into why differences exist. We discuss each study in turn.

The decision to use a visual search paradigm as it relates to emotional processing came from a senior graduate student, Mark Mills. Mark's interest in our political temperament findings, however, was more directly related to a well-known discrepancy in the visual search literature for which he thought political temperament might be key to explaining. When an emotional face is presented among a series of identical neutral face distractors, the emotional target tends to pop-out and is detected relatively quickly. Although this basic result has been replicated numerous times, there is debate over which specific emotional expressions are more or less likely to pop-out. Numerous studies have reported an anger-superiority effect wherein angry targets are detected more efficiently than happy targets. Moreover, this effect has been reported for both real images of face (eg, Fox & Damjanovic, 2006; Gilboa-Schechtman, Foa, & Amir, 1999; Hansen & Hansen, 1988; Horstmann & Bauland, 2006; Pinkham, Griffin, Baron, Sasson, & Gur, 2010) and schematic faces (eg, Eastwood, Smilek, & Merikle, 2001; Esteves, 1999; Fox et al., 2000; Horstmann, 2007; Öhman, Lundqvist, & Esteves, 2001; Tipples, Atkinson, & Young, 2002). Not all studies have observed an anger-superiority effect, however, with some researchers reporting no difference in search efficiency between angry and happy targets

(eg, Purcell, Stewart, & Skov, 1996) and others reporting a happy-superiority effect (eg, Becker, Anderson, Mortensen, Neufeld, & Neel, 2011; Byrne & Eysenck, 1995; Juth, Lundqvist, Karlsson, & Öhman, 2005; Krysko & Rutherford, 2009; Williams, Moss, Bradshaw, & Mattingley, 2005). Given that we have repeatedly observed a bias toward negative stimuli in conservatives and a bias toward positive stimuli in liberals, the question became whether political temperament might be a critical predictor regarding whether anger-superiority or happy-superiority effects are observed.

Participants performed a search task in which they were required to indicate whether an oddball face was present amid displays that otherwise consisted of the same face repeatedly exhibiting a neutral expression (Mills et al., 2014). There were 6, 12, or 18 faces present in each display. When an oddball face appeared, it could be either a happy face or an angry face; participants only needed to indicate whether an oddball face was present or absent via choice button response, they did not have to indicate the emotion or valence of the face). As before, the faces used were drawn from the NimStim database (Tottenham et al., 2009). Following the visual search task, all participants completed our standard measures of political orientation so that we could examine the RT results to determine whether political temperament is a moderating variable. The critical finding was that political temperament was indeed an important determinant regarding which type of emotional pop-out effect is observed. Specifically, the more conservative one was the faster they were to detect angry-face targets relative to happy-face targets. Similarly, the more liberal one was, the faster that person was to detect happy-face targets relative to angry-face targets (see Fig. 5). We replicated this effect again (Experiment 4; Mills et al., 2014) in a follow-up experiment using a wider variety of target/distractor face stimuli so as to ensure that the effect was not attributable to any characteristics relating to the specific face model used. Moreover, we are confident that the observed differences are attributable to the emotional content of the face rather than factors relating to lower level perceptual features of the face given that no effect of political temperament was observed in a second group of participants who performed the same task with the displays inverted (Experiment 2; Mills et al., 2014). Inverting faces is a common control in the face processing literature given that it maintains the perceptual integrity of the display but disrupts holistic processing of the face which, in the present study, also made the emotional content of the face far more difficult to discern. Similarly, we did not observe an effect of political temperament in a third group of participants who performed a visual search task in which an

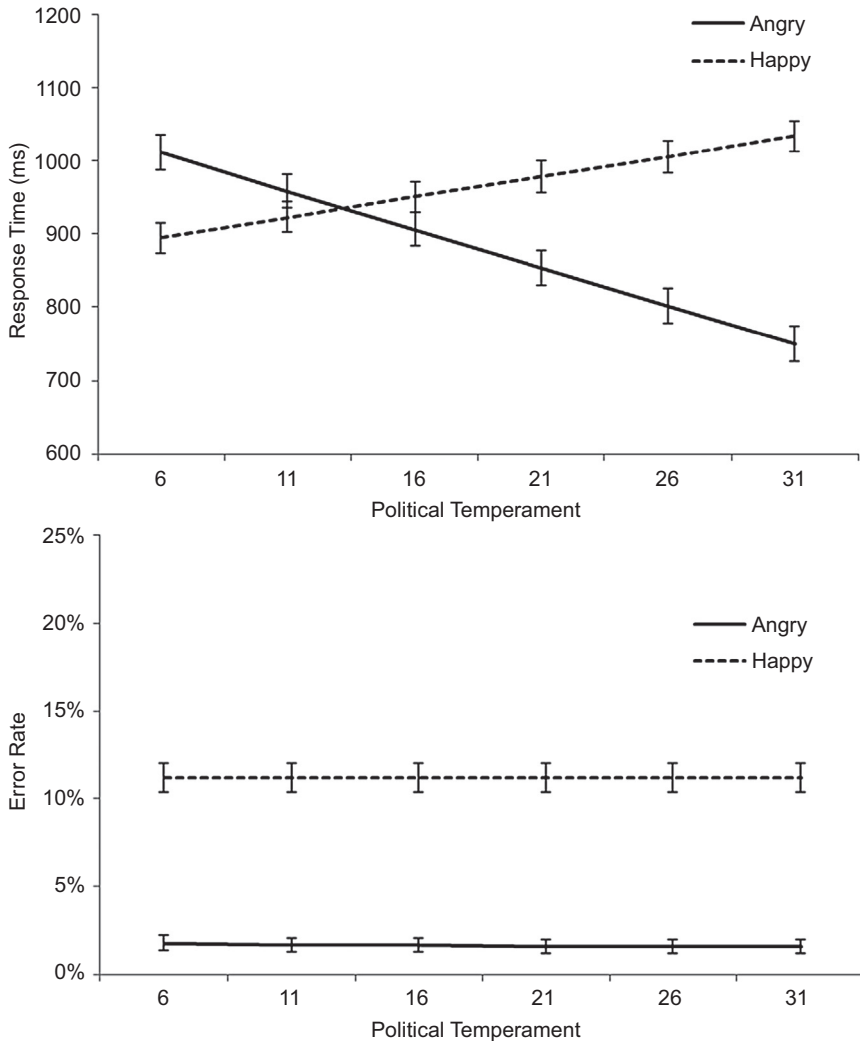


Figure 5 Mean response time in milliseconds (top panel, smaller values represent speeded detection) and mean error rate (bottom panel, smaller values represent more accurate detection) as a function of political temperament (higher values represent a more conservative temperament) for angry and happy targets. Error bars represent ± 1 standard error of the mean. From Mills, M., Smith, K. B., Hibbing, J. R., & Dodd, M. D. (2014). *The politics of the face-in-the-crowd*. *Journal of Experimental Psychology: General*, 143, 1199–1213, Experiment 1 (the exact same result is observed in Experiment 4, a replication with a larger set of facial images).

emotional target was always present and participants had to discern whether it was an angry or happy face (Experiment 3; Mills et al., 2014). This served as a test of whether the differences in search performance in our initial experiment could be linked to variability in controlled processing between our liberal and conservative participants. Unlike simple detection, a discrimination response relies on enhanced attentional processing (Bergen & Julesz, 1983; Cheesman & Merikle, 1986; Sagi & Julesz, 1985). That we did not observe an effect of political temperament under these conditions provides additional insight into why we may not have observed an easily discernible influence of orientation on emotion processing in our previous emotion judgment and flanker tasks, neither of which may have been ideal as it relates to simple detection.

The face-in-the-crowd paradigm afforded an additional opportunity to examine oculomotor behavior during search given that there are numerous eyetracking variables with the potential to help illuminate the mechanisms underlying our findings relating to political temperament. Recall that in our original free-viewing collage study, we eyetracked behavior given that (1) eyetracking is one of the only ways in which avoidant visual behavior can be observed in real time and (2) there were numerous additional metrics that could provide converging evidence of attentional biases toward or away from certain stimuli. Our motivation for using eyetracking in the visual search study was quite different. As previously noted, our initial examinations of political temperament were primarily focused on the fact that differences are observed between liberals and conservatives with limited ability to determine why these differences are observed. We identified two specific eyetracking variables that could potentially add insight into the why piece of the puzzle. The first is first fixation path ratio given that saccade path ratio has been shown to be a measure of eye movement efficiency (Henderson, Weeks, & Hollingworth, 1999). This variable is a measure of eye movement efficiency as it represents the total distance the eyes travel before landing on a critical item relative to the shortest distance the eyes could travel before landing on said item. A first fixation path ratio of 1 is indicative of optimally efficient search as this means that the very first eye movement/fixation made during the trial landed directly on the target. Values greater than 1 represent a greater distance traveled with higher values being indicative of less efficient search. The second eyetracking variable we were interested in was postfirst fixation path ratio which is a measure of how much additional visual scanning an individual engages prior to responding once the eye has landed on a critical item (in this case, the oddball target).

Post-first fixation path ratio is an indicator of postselection processes and in the current context can be thought of as a measure of response efficiency. A post-first fixation path ratio of 0 means that response was optimally efficient, such that no additional visual scanning occurred once the eye landed on the target. Values greater than 0 represent additional visual scanning behavior prior to response, with higher values being indicative of less efficient response. We eyetracked participants in our Experiments 1 and 4 (same experiment but a larger set of facial stimuli in Experiment 4) so that we could specifically examine whether first fixation path ratio and postfirst fixation path ratio differed as a function of target type (angry vs happy) and political temperament as we thought these variables could further elucidate “why” liberals and conservatives differed in this task.

We begin with first fixation path ratio. There was no influence of political temperament on first fixation path ratio to angry faces. This means that although conservative participants did exhibit an anger-superiority effect in terms of response time, it was not attributable to greater efficiency in detecting angry-face targets. Both liberals and conservatives were equally efficient in detecting angry targets as it relates to visual behavior. This was not the case, however, for happy-face targets. There was a strong influence of political temperament on happy-face target detection, such that the more conservative an individual was, the higher their first fixation path ratio values were. Lower first fixation path ratio values were observed the more liberal one was (see Fig. 6). This is indicative of the happy-superiority effect for liberal participants being attributable to visual scanning efficiency (Mills et al., 2014). Liberals are more drawn to the happy face relative to conservatives and are able to detect it more quickly as a result. The opposite was true for post-first fixation path ratio. Here, we do observe an influence of political temperament on post-first fixation path ratio to angry faces. Although conservatives were no more efficient in terms of how far the eyes traveled before landing on the target, once the target is fixated they are much faster to respond as evidenced by the lower post-first fixation path ratio values. Liberals, on the other hand, exhibited larger post-first fixation path ratio value for angry faces meaning that they engaged in additional post-selection processing prior to response (see Fig. 7). Political temperament did not interact with post-first fixation path ratio when the target was a happy face (Mills et al., 2014). In summary, the happy-superiority effect exhibited by liberals in this task is based on the efficiency with which they detect the target, whereas the anger-superiority effect exhibited by conservatives is based on the efficiency with which they respond to the target once they

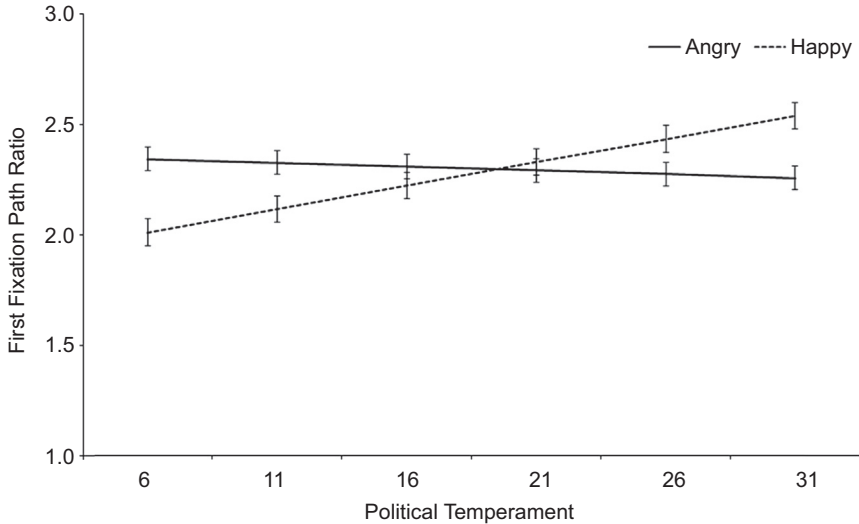


Figure 6 Mean first fixation path ratio (smaller values represent more efficient search) as a function of political temperament (higher values represent a more conservative temperament) for angry and happy targets. Error bars represent ± 1 standard error of the mean. From Mills, M., Smith, K. B., Hibbing, J. R., & Dodd, M. D. (2014). *The politics of the face-in-the-crowd*. *Journal of Experimental Psychology: General*, 143, 1199–1213, Experiment 1 (the exact same result is observed in Experiment 4, a replication with a larger set of facial images).

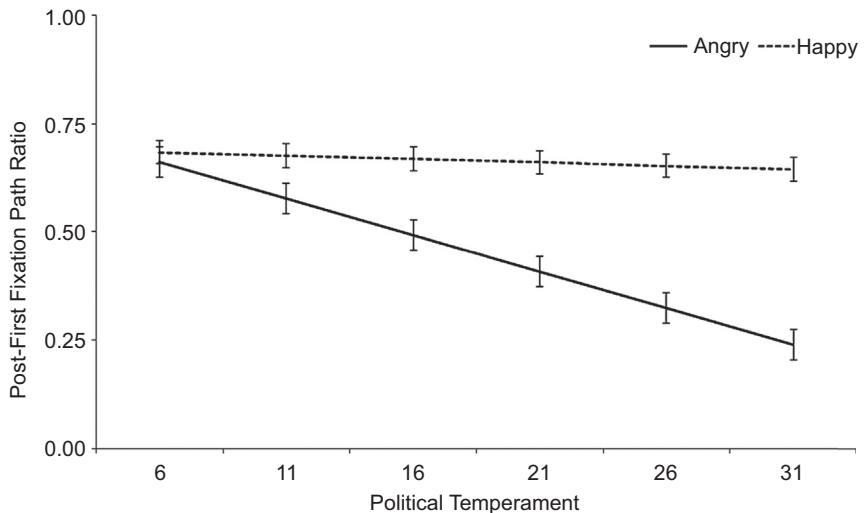


Figure 7 Mean postfirst fixation path ratio (smaller values represent enhanced postselectional processing) as a function of political temperament (higher values represent a more conservative temperament) for angry and happy targets. Error bars represent ± 1 standard error of the mean. From Mills, M., Smith, K. B., Hibbing, J. R., & Dodd, M. D. (2014). *The politics of the face-in-the-crowd*. *Journal of Experimental Psychology: General*, 143, 1199–1213, Experiment 1 (the exact same result is observed in Experiment 4, a replication with a larger set of facial images).

have detected it. Put another way, liberals are faster to detect happy expressions but they are not faster to respond to them, whereas conservatives are faster to respond to angry expressions but they are not faster to detect them. This is one of the first studies to provide an indication of why differences may exist between liberals and conservatives as it relates to processing positive and negative stimuli, at least within the context of this task/paradigm.



6. POLITICAL TEMPERAMENT DOES NOT INTERACT WITH EVERYTHING

It should go without saying that while we have attempted to convince the reader that political temperament is an important individual differences variable that is worthwhile to study, it is certainly not the case that we observe a moderating influence of orientation in all situations. We have alluded to some of these above but it is worthwhile to acknowledge a couple of additional studies here. Given that liberals and conservatives may differ with regard to their willingness to cooperate with others, we attempted to determine whether political temperament would moderate performance on a Joint Simon task in collaboration with Tim Welsh from the University of Toronto. The Simon effect (Craft & Simon, 1970; Simon, 1969, 1970; Simon & Rudell, 1967) is a spatial compatibility effect wherein participants tend to be faster responding to stimuli appearing in the left visual field if they are responding with their left hand (or the right visual field if they are responding with their right hand), even when stimulus location is irrelevant to a primary task. Joint Simon effects have been observed when participants complete a task simultaneously such that each individual is only responsible for responding to one set of stimuli (see Dolk et al., 2014, for a review). Although we did observe the joint Simon effect, there was no evidence that political orientation moderated the effect.

Similarly, we have sought to determine whether political temperament would influence performance in an emotional antisaccade task wherein participants are required to make an eye movement either toward or away from a peripheral target. Critically, the target is preceded by the presentation of an irrelevant emotional face at fixation (happy, angry, or neutral). Although we did observe differential effects in performance as a function of which emotion was presented at fixation, we did not observe an effect of temperament. In retrospect, this is not surprising given that the antisaccade task engages cognitive control processes and in our visual search paradigm detailed

above, we did not see an effect of temperament in a task requiring greater attentional control (discrimination of emotion). Moreover, as detailed above, it is important to keep in mind that liberalism/conservatism in these studies is relative to the sample from which participants are drawn, such that the magnitude and directions of many of the effects we have previously reported may vary in samples that are more or less conservative. Regardless, the critical point to make is that political temperament has a clear impact on a variety of different task types and settings, although future research will be required to determine the boundary conditions for these effects.



7. SUMMARY AND TAKEAWAY

The purpose of the present chapter has been to summarize and highlight recent work from our research program demonstrating the manner in which political temperament has been shown to influence performance in a number of experimental paradigms. To that end we have observed differences between liberals and conservatives with regard to physiological reaction to positive and negative stimuli, attentional biases toward/away from appetitive/aversive stimuli under free-viewing conditions, differential influence of irrelevant gaze cue stimuli in a target detection task, and response time biases in both flanker and visual search tasks with emotional faces as the critical stimuli. Taken together, we hope to have convinced the reader that political temperament is a valuable individual differences measure that is deserving of study in its own right and also has the potential to provide insight into discrepancies in the literature which may be attributable to otherwise unexplored sample characteristics.

It is important to conclude, however, by commenting on the nature of the topic of investigation and what can be gained in a larger sense. One of the challenges inherent in conducting work on political temperament is the potential for the work to be misinterpreted as suggesting that one political orientation is superior to the other. This is certainly not the case as there is no value judgment inherent in reporting differences between liberals and conservatives nor are any of our observed differences necessarily negative for either group. A liberal could argue that their susceptibility to gaze cues is positive as this could be taken as a sign of empathy or compassion for others whereas a conservative could similarly argue that not being susceptible to gaze cues is a positive as it makes one less likely to be influenced by others and subsequently led astray. Similarly, a liberal could characterize a

bias toward positive stimuli as being indicative of optimism and hope, whereas a conservative could characterize a bias toward negative stimuli as being important for safety and self-preservation. Political temperament is just one of a great number of personality variables that elicit information processing and performance differences but the present investigations merely catalog these differences in the absence of any determination of whether that processing disposition is good or bad.

Perhaps the most important takeaway, then, is that liberals and conservatives may simply experience the world quite differently, which in turn could make it difficult for a liberal individual to understand and appreciate the perspective of a conservative individual, and vice versa. We have all experienced being in an argument with another person in which we have trouble convincing them to adopt our own point of view, leading us to wonder “why can they not just see things the way I see them?” The most straightforward answer to that would seem to be that other individuals may not be capable of adopting the same perspective as you. In all the studies discussed in the present chapter, the one commonality that is true across all experiments and paradigms is that our liberal and conservative participants are all observing the exact same stimuli—the same collages, the same gaze cues, the same emotional faces, the same search displays—and yet even though they are all seeing the exact same thing, they are clearly processing things in a quite different manner. The present work suggests that virtually all aspects of the world can be processed differentially in any number of ways based on the characteristics of the individual observer. Political temperament provides at least one previously untapped avenue to better understand these differences.

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