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Subordinate Frames: Testing the Political Effects of Color and Music in Television News.

Nate Clark

A Thesis in the Field of Government

for the Degree of Master of Liberal Arts in Extension Studies

Harvard University

May 2023

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Abstract

Contemporary television news programs routinely add colorful title animations and dramatic music to otherwise substantive issue coverage. These market-driven aesthetic choices—principally deployed as psychological advertising techniques—may provoke emotions, guide public opinion, influence issue salience, or affect political outcomes. This thesis explores the possibility of *subordinate frames* in news media, defined as (1) innately non-rhetorical aesthetic devices that are (2) emotionally stimulative and (3) enlisted to serve apolitical primary goals (e.g., audience engagement) while also producing secondary political effects. Three randomized control trial experiments (N = 847) utilizing a video-driven survey instrument demonstrate that thematically congruent variations in background music and title graphics in otherwise neutral media coverage of homelessness vary the audience's emotional response and influence attitudes about the topic.[1] Additionally, I observe small shifts in voter support for housing policy proposals when the video includes sad music or red title graphics. Cumulatively, these findings encourage further investigation of subordinate frames used in television news media, campaign media, social media, and algorithm-driven online news platforms.

Keywords: framing effects, subordinate frames, public opinion, affective response, television news production, homelessness, housing policy

[1] Replication data available on Harvard Dataverse at https://doi.org/10.7910/DVN/JOX1A8

Dedication

For Nico. Never stop listening.

Acknowledgments

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Chapter I.

Introduction

In 1908, industrial psychologist Walter Dill Scott's *The Psychology of Advertising* (1908) introduced readers to the psychological underpinnings of successful commercial advertising. Scott's work showed advertisers how to provoke emotional and somatic responses to influence consumer behavior. Since then, businesses, governments, et al. have increasingly incorporated numerous covert psychological strategies to coax public behavior (e.g., musical jingles and propaganda semiotics). Organizations rely on these techniques to spread their message and engender support for their products, services, and point of view.

The television news landscape is not exempt from these strategies. Media outlets and publications often depend on direct revenue from third-party advertisers and format their programming around advertisements (e.g., commercial breaks). News producers also incorporate advertising techniques directly into their content to attract and retain audiences. Psychological devices—both rhetorical and non-rhetorical—are ubiquitous in commercial news content as news producers entice the public to watch, like, and subscribe. As such, Americans are hard-pressed to find television news that has not been sensationalized in some way to pull eyeballs toward the screen.[2]

Market-driven aesthetic production elements play a substantial role in television news packaging. For example, sophisticated title graphics invoke a sense of urgency and

[2] I use the term "sensationalized" to describe television news that provokes sensation (e.g., emotion, somatic response) in addition to or in lieu of informing the public.

importance or imply danger in the news. Likewise, background music can inspire sympathy or fear, and musical "stingers" suggest the importance of specific stories and insinuate peril if the audience ignores them. Producers employ these dramatic techniques foremost as audience engagement tools, not directly as framing devices. Although these elements are inherently non-rhetorical, they amplify rhetorical frames when deployed congruously with substantive issue positioning.[3] Thus, seemingly apolitical creative production techniques gain salience as political frames.

Research Question

Can market-driven aesthetic choices in news media production act as framing devices—vis-à-vis affective cues or otherwise—to influence political attitudes or policy preferences independently of substantive framing in the news content? [4] In other words, do voters use music and colorful graphics in television news as heuristic cues when forming political attitudes or casting their ballots?

This research project examines the potential for creative visual and musical elements in video news coverage of homelessness to contribute independently to political outcomes. Based on an interdisciplinary synthesis of political science scholarship, affect research, and media studies, I propose the possibility of *subordinate frames* in news media, defined as (1) inherently non-rhetorical aesthetic devices that are (2) emotionally stimulative and (3) enlisted to serve apolitical primary goals (e.g., audience engagement) while also producing secondary political effects.

[3] I assign the term "rhetorical" to describe written or spoken narrative. For example, if a newscaster uses the word "dangerous" to describe homeless individuals, they have framed issue rhetorically.
[4] I use the term affect to encompass both a person's mood and the discreet emotions they might use to describe their feelings. I use these terms somewhat interchangeably in this paper, for better or worse.

Preliminary Hypotheses

News stories about homelessness influence the social construction of "homelessness" as a concept (Schwan, 2016), ultimately engendering normative assumptions about unhoused individuals and both the voluntaristic and systemic causes of homelessness. Using a set of original survey experiments, I test for political effects resulting from changes to the title colors and background music in a video depicting individuals experiencing homelessness in California. The experiment tests hypotheses in three parts, as follows:

H_1: Emotional Response to Subordinate Frames

The first portion of this experiment tests if participants react emotionally to subordinate frames in video coverage of homelessness. Subjects self-report their affective response using a standardized set of emotional descriptors for three discreet negative emotions—fear, anger, and sadness. Based on their responses, I measure the extent that treatment with subordinate frames increases a participant's negative emotional state directly after viewing the video.

- Null Hypothesis (H_{0a}): Subordinate frames—such as title color and music—do not provoke a measurable change in a viewer's immediate emotional state (i.e., affective response);
- Alternative Hypothesis (H_1): Subordinate frames may increase or decrease affective response in treatment groups compared to the control group.

H_2: Changes in Perceptions of the Cause of Homelessness

The second portion of this experiment tests for changes in attitudes and opinions regarding homelessness that may result from subordinate framing. The survey instrument uses a pre-post question to ascertain respondents' perceived primary cause of homelessness. This design allows me to compare opinion changes among participants receiving treatment to changes among the control group. Secondarily, I test for differences in perceptions of the cause of homelessness as either a systemic problem or a matter of personal choice.

- Null Hypothesis (H_{0b}): Subordinate frames do not influence public perceptions about the primary cause of homelessness vis-à-vis affective response or otherwise.
- Alternative Hypothesis (H_{2a}): Subordinate frames can shift attitudes about homelessness when deployed congruously with the rhetorical substance. For example, (H_{2b}) subordinate frames may entice the public to consider homelessness as either a public safety issue or a human rights obligation based on the quality of the framing (e.g., scary music frames homelessness as a threat while sad music frames it sympathetically).

H_3: Voter Behavior Post-exposure to Subordinate Frames

The final portion of this experiment tests the viability of subordinate frames as heuristic cues voters may use when casting their ballot for housing policies that are facially unrelated to homelessness. The political science literature exploring the interaction between emotions, opinions, and voter behavior suggests that voters may use

emotion as a lodestar when voting. The survey instrument includes Likert questions to ascertain support or opposition to various progressive housing policy positions, and I compare responses from treatment groups to the control group.

- Null Hypothesis (H_{0c}): Short-term exposure to subordinate frames—and subsequent emotional response—will not be strong enough to counter pre-existing opinions regarding housing policy, and no apparent discernable effects on voter behavior will emerge.
- Alternative Hypothesis (H_3): Subordinate frames cause measurable shifts in support for (opposition to) facially unrelated housing policy, vis-à-vis an increased emotional response or otherwise.

Thesis Organization

First, I survey political science literature on media economics, media effects, opinion formation, and affect effects. I subsequently consider extra-disciplinary scholarship in relevant areas, including music psychology and color psychology, before briefly summarizing relevant literature on homelessness and housing to provide context for the experiment.

Next, I outline methods for a randomized controlled trial (RCT) survey experiment to test against the null hypotheses. Using previous experiments in media effects research, I describe the methodological foundations for my research design.

Finally, I report the results of each hypothesis test and conclude by discussing my findings and offering implications for further study.

Chapter II.

Background of the Problem

In preparation for the experimental portion of this investigation, the following chapter considers extant theorization and research in several relevant subject areas and poses unanswered questions arising from previous scholarship. These areas include (1) media economics and news coverage, (2) opinion formation, (3) framing effects, (4) affect effects, (5) the effects of sound and color on human emotions, (6) subordinate frames in political media, (7) media framing of homelessness, and (8) the public's influence on housing policy.

Media Economics and News Coverage

How do news media outlets (aka, "the press") choose the stories they cover, and how do they present that content to audiences? More often than not, self-preservation in the marketplace guides the press because news outlets depend on audiences to stay in business. In the early 19th century, technological advances in printing presses facilitated the mass production of printed news. Subsequently, this opportunity shifted newspaper publishers away from patronage or government financing and toward advertising-driven profit models (Ladd, 2011; Schudson, 1978). As a result, prices for newspapers dropped to almost nothing, and publishers began relying on income from advertising placed opposite the stories on the page. Once publishers became reliant on large audiences to profit, the previously "partisan press"—aimed at wealthy elites—was eclipsed by "yellow

journalism," a publishing strategy that prioritized fear-based headlines, misleading stories, faked interviews, and splashy images to attract the attention of a broad, unsophisticated audience (Mott, 1962). This ad-driven model persisted throughout the 19th and 20th centuries and continues today. Occasionally in American history, the news media has prized objectivity and authenticity over sensationalism, but these periods of noble pursuit were nonetheless guided by market demand, not civic-minded publishers (Hamilton, 2004; Ladd, 2011). Thus, it is essential to note that US news media outlets have historically been inherently motivated by profit margins more than public-spiritedness. Profit incentives marshal business models and marketing strategies indifferent to journalistic integrity.

Despite the press's reliance on market-share to survive, scholars debate the influence of market forces on news quality. Empirical research shows how lower levels of civic affairs content can decrease viewership, implying that market competition may lead to declines in coverage and editorial caliber (Kernell et al., 2018; Zaller, 1999). Yet Gentzkow and Shapiro (2008) argue that competition between outlets in a highly fractured media landscape can effectively prevent supply-side bias because "the greater the number of firms *N* in the market, the less likely [a] story is to be suppressed" (p. 137). Conversely, Dunaway (2008) finds that corporate ownership type and market context play less desirable roles in news quality, and market competition reduces substantive political issue coverage (p. 1201). Despite robust debate, scholars concur that capitalism plays a role in the quality and character of the news programming the public consumes.

However, media economics research largely neglects two distinct areas of interest. First, most studies explore news coverage of electoral politics (i.e., "horserace"

coverage) in lieu of policy coverage, thereby missing how profit-driven business models might influence public attitudes about issues distinct from elections.[5] Second, much of the literature seems to ignore market-driven production decisions in news coverage that are not directly related to an outlet's overt political positioning. Aside from choosing *what* news to feature, media producers must also decide *how* best to deliver it to compete in an arena of limitless consumer options.

Production decisions include aesthetic choices irrespective of corporate political positioning. Even when a news outlet purposefully bends toward a political ideology, this blatant positioning might best be understood as meeting viewers' preexisting expectations to satisfy the outlet's business model. Likewise, producers' creative choices address apolitical marketing objectives. Additionally, many aesthetic techniques have evolved into ubiquitous tropes; they may simply be a matter of industry best practice and not a conscious attempt to manipulate the viewer. (For example, it is hard to imagine an evening news program without the musical bumpers, stingers, and assertive graphics packages we have grown to expect.[6]) Even the vocal cadence of news reporters reading copy has become standardized to the point it is easily caricatured. Unfortunately, media economics literature overlooks these practices, their potential as heuristic cues, and the possibility of eventual political consequences.

[5] Bailard (2016) offers one notable exception, finding that media ownership structure significantly influenced newspaper coverage of the *Citizens United v. Federal Elections Commission* (FEC) if the newspaper's parent company concurrently owned television stations which stood to experience a financial windfall from political ad buys. However, although Bailard's study quantifies issue coverage (i.e., *Citizens United*), the ultimate financial incentive for the companies in question was tied to potential campaign advertisements.

[6] "Bumper" is a television production term to describe brief (less than 15 sec) musical pieces used as transitions between news stories or commercials. "Stinger" describes the same, only shorter (less 5 sec). In commercial news, these musical bits are typically dramatic and highly percussive. Likewise, graphics packages are used as visual transitions or to provide written context for the story (e.g., titles, location information), and are also typically fast and dramatic in the commercial television news programs.

Opinion Formation: Can the Press Influence Public Opinion?

Distinct from publishers' objectives when crafting the news are questions of viewers' capacity for persuasion. Can the press influence political opinions? Some scholars of public opinion formation embrace theories of ideological innocence—the assertion that average citizens are largely "empty-headed (lacking genuine attitudes)" (Sniderman, 1993, p. 219) or lack ideological constraint (Campbell et al., 1980; Converse, 2006). Thus, these scholars argue that political attitudes are predominantly random, and the public is unlikely to be swayed by news media. Additionally, they offer that opinions materialize early in life and remain relatively fixed in adulthood.

Conversely, other scholars assert that public attitudes are malleable and that shifts in collective opinion can prompt changes to foreign policy (Hinckley, 1992; Page, 1992), military policy (Hartley & Russett, 1992), social welfare policy (Page, 1992) and more. Early work by Page, Shapiro, and Dempsey (1987) demonstrates that news commentators and experts shape collective opinion more than events, interest groups, or Presidents. Comparing identical policy preference questions across pairs of National surveys between 1971 and 1986, they find that television news accounted for more than 90% of public opinion shifts during that period in American history (Page et al., 1987).

Other literature offers theories of rational ignorance, asserting that the public uses heuristics and affective responses to make political choices; therefore, the public is only "rational" in aggregate despite limited cognitive awareness and low information retention (Popkin, 1994; Sniderman et al., 1991). Research rooted in behavioral economics and cognitive psychology suggests that citizens with low civic knowledge who rely on heuristic cues to participate are necessary to keep democracy afloat. Thus, "limited

information need not prevent people from making reasoned choices" (Lupia & McCubbins, 1998, p. 4), and democratic stability depends on such participation.

Many scholars recognize the pros and cons of heuristics and the potential for these cues to persuade citizens and shape political outcomes (Cassino et al., 2007; Kahneman et al., 1982; Zaller, 1992, 2012). As such, some see the benefit of entertaining news formats (i.e., infotainment) to impart the basic information the public needs to participate (Baum, 2011; Baum & Jamison, 2011; Zaller, 2003). However, other scholars offer that "soft news" undermines issue comprehension and salience (Baumgartner & Morris, 2006; Prior, 2003).

Research by Kuklinski and Quirk (2000) proffers a complicated view of citizen competence, using research in human cognition to assert that the human brain is ill-equipped for the tasks a functional democracy requires of citizens. Heuristics are advantageous because they allow citizens to be *relatively* well-informed in at least two areas: voting and evaluating public policy (Kuklinski & Quirk, 2000). The fundamental takeaway of Kuklinski and Quirk's research is that heuristics work when citizens focus [consciously] on cues from political parties, social groups, organized or institutionalized ideological frameworks, and established leaders with authority. However, the American public increasingly focuses on "elements of politics where it is likely to make unreliable judgments," such as "singular events, aspiring leaders, changing social or economic conditions, and, in particular, specific policies" (p. 43) and is therefore increasingly prone to cognitive bias and, subsequently, distortions in mass opinion.

As with the bulk of public opinion research, Kuklinski and Quirk (2000) recruit electoral outcome data (i.e., candidate performance) to measure the use of heuristics.

They quantify what are—for lack of a better word—*direct* effects of, for instance, likeability heuristics. For example, voters may find Candidate *A* more likable and vote accordingly without substantive cognitive engagement or attention to Candidate *A's* policy positions. Other scholars find similar likeability effects stemming directly from political advertising (Franz & Ridout, 2007; Kaid, 2004, 2012), while more recent research argues that these effects are negligible (Coppock et al., 2020).

However, likeability heuristics represent the voter's *conscious* decision—or, at least, an acknowledged affective response. What about heuristics developed subconsciously from media methods that are ostensibly exogenous? Can creative visual and auditory cues deployed for apolitical purposes indirectly train political attitudes, condition ideological identity, or alter policy preferences? Unfortunately, extant scholarship fails to address these questions.

Framing Effects

Media effects scholarship aims to measure the media's potential to influence political outcomes. Three media effects dominate the literature: agenda setting, priming, and framing. My research focuses on the capacity of aesthetic choices in news media to function as independent framing devices.

Framing is a primary "schemata of interpretation" (Goffman, 1974, p. 21)—memory facilitates an individual's ability to position, identify, and categorize the issues and events they encounter. In other words, framing is a mental context consumers use to organize information and feelings about political issues. News producers often manufacture this context (i.e., they "frame" it). News media framing theories focus on

how stories are covered instead of *which* stories are chosen for coverage (Carter, 2013; Nisbet, 2010; Scheufele & Tewksbury, 2007).

How a news story is told can influence the audience's ability to extrapolate conclusions independently of their interpretation of substantive facts. Tversky and Kahneman demonstrate that "seemingly inconsequential changes" in how facts are presented can radically alter preferences (Tversky & Kahneman, 1981, p. 457). Similarly, Iyengar (1987) shows that when a random sample of television news viewers are treated with varying stories about poverty (e.g., homeless teenagers; a couple who couldn't pay their heating bill), their causal beliefs are "significantly molded by the manner in which the news framed poverty" (p. 820). In Iyengar's experiment, participants report understanding poverty as alternatively caused by motivational factors, cultural explanations, inadequate skills, economic factors, or governmental/societal factors based on the treatment story they receive. Subsequently, Chong and Druckman's (2007) behavioral analysis of frames considers the influence of moderators, mediators, and competing frames in a viewer's conceptualization of the subject matter. Additional research extends these framing theories by exploring topics like the levels of journalistic agency in deploying political frames (Lecheler, 2018), the interaction between frames and emotions (Aarøe, 2011), and the effectiveness of moral reframing (Feinberg & Willer, 2019). Scholars observe television news framing effects on public support for social welfare policy (Stromberg, 2015), climate-change policy (Nisbet, 2010), and many other urgent social issues.

Frames and framing in news media are best understood as an attempt to reduce a complex topic—an issue, idea, or even a person or persons—down to one aspect of its

component attributes (Nelson et al., 1997, p. 568). In other words, "a frame is simply an organizing idea, dimension, or principle that colors interpretations of an issue" (Nelson et al., 1997, p. 154). By emphasizing one aspect of a story, news media potentially increases its salience as a primary descriptor of the issue, thus shaping how individuals position the topic in their broader understanding. Frames "act like plots or storylines" (Nelson et al., 1997, p. 568), and media effects scholars often study the words (rhetoric) chosen to tell a story. For instance, one might examine how often a news program uses the word "dangerous" to describe individuals experiencing homelessness and whether or not increased usage increases audience agreement that homeless individuals are dangerous. Similarly, a researcher might count the percentage of times a news program shows a homeless individual using drugs and then surmise that the news program frames homeless individuals as primarily illegal substance abusers. To put it simply, scholars regularly examine frames from a rhetorical perspective (Cooper, 2010; Kuypers, 2010).[7]

Scheufele and Scheufele (2010) parse frames into three levels: (1) the cognitive frames of journalists, (2) discursive frames (i.e., those born from collaboration in the news organization), and (3) textual frames at the media level. However, a cognitive-rhetorical approach does not account for innately non-rhetorical frames—what I will now refer to as *subordinate frames*—that might be altogether free from the journalist's or news producer's conscious decision-making process because they are applied primarily for other reasons. For example, musical stingers, soundtracks, and graphics packages are all potential instances of subordinate frames. Subordinate frames may be deployed for many reasons: (1) purposefully to augment or mediate rhetorical frames, (2) to add drama

[7] This might stem from the fact that much of the work focuses on content analysis of newsprint journalism.

to the storytelling, (3) as part of an intentional marketing strategy, (4) inadvertently as a function of industry standards, or for any combination of these reasons. My research aims to explore political effects stemming from seemingly non-rhetorical creative choices acting as independent framing instruments in television news.

There is limited scholarship documenting framing effects based solely on non-verbal cues. Parrott, Hoewe, Fan, and Huffman (2019) observe that visually portraying the topic of immigration with either immigrants and refugees (human interest framing) or politicians (political framing) yields different attitudes about immigration. Showing footage of refugees increased positive attitudes toward immigration, while showing footage of politicians speaking about immigration increased negative attitudes toward immigration. Likewise, Coleman and Banning (2006) combine visual framing and agenda-setting theories to demonstrate similar effects. They find that a specific television news network's preference for flattering non-verbal visuals of candidate Al Gore and unflattering non-verbal visuals of then-candidate George W. Bush during the 2000 Presidential campaign cycle led to differences in attitudes about each candidate.[8] Viewers who watched more of the coverage significantly preferred Gore, finding him more moral and intelligent than Bush.

Grabe and Bucy (2009) posit that visual cues impact humans more than textual cues because human sight evolved before speech and text. Furthermore, we assess visual information faster and encode it more readily than text because we are evolutionarily positioned to process visual information more quickly. Grabe and Bucy present sound research associating what they call "image bites," symbolic framing, and even facial

[8] Visuals were determined to be flattering or unflattering based on a set of "candidate traits" that included posture, eyes, arms, and hand positions.

expressions with public support for candidates. Their research provides a solid jumping-off point for examining subordinate frames and the possibility that covert visual frames can influence political outcomes.

Baum and Gussin (2008) offer a related line of inquiry by measuring how news media brand names (e.g., Fox, CNN) function as heuristics that influence consumers' perceptions of bias in reporting. Baum and Gussin use network logos as independent variables in a novel experiment to measure readers' perception of bias in otherwise identical news copy. The results demonstrate how, for instance, a Fox logo can inspire readers to perceive bias in inherently unbiased content due to brand perception. Moreover, their findings indicate that logos can engender political dissonance among consumers regardless of content.

Baum and Gussin (2008) offer a unique understanding of visual framing, and the research is profound. However, these effects stem from branding and network identity, pre-existing expectations of the brand, and selective perception. Baum and Gussin do not assert that consumers' misperceptions of bias arise based on the surface construction of the Fox logo; the *color* or *shape* of the logo is not the subject of this research. However, colors and shapes might also act as independent framing devices by prompting an affective response in consumers stemming from entirely apolitical cognitive associations. The same applies to music. How the audience reacts to a specific hue or a particular chord progression might have little or nothing to do with context. Still, nonetheless, that reaction might be stored as a heuristic that later guides attitudes and behaviors.

Affect Effects: Emotions, Attitudes, and Political Behavior

Since ancient times, scholars have considered the influence of emotions on attitudes and behaviors. From Plato to Freud, philosophers and scientists historically assumed that emotions impede cognition and are an unfortunate holdover from primitive man. However, a growing body of recent research suggests that emotions mediate or moderate cognition (Forgas, 2003, 2010; Lecheler et al., 2015; Spezio & Adolphs, 2007; Storbeck & Clore, 2008) and personal moral deliberation (Haidt, 2003) in positive ways. It makes sense that framing effects scholars would explore the relationship between emotional state and attitude, comprehension, and behavior. A significant body of literature connecting affect, framing, and opinion formation has recently emerged.

Following years of communications research bias favoring rational decision-making over affect, scholars realize that news frames and emotions are interdependent (Lecheler et al., 2013, p. 189). Emotions are integral to framing effects, and framing can also increase affective response, which in turn makes the frame more salient and memorable (Aarøe, 2011; DeSteno et al., 2004; Gross & Brewer, 2007; Gross & D'Ambrosio, 2004; Nabi, 1999, 2003; Petty et al., 2003). A viewer's susceptibility to framing effects might be conditioned or mediated by the mood they bring to the table or by a direct affective response to the media itself. Additionally, emotions play a more significant role in morally convicted political attitudes about topics like abortion and LGBTQ rights, and these attitudes are strong motivators for political action (Clifford, 2019). Regardless of the reasoning—pun intended—emotion facilitates a peripheral route to persuasion that can act in concert with central route persuasion (i.e., "rational, message-relevant thinking") or as an independent heuristic tool (Turner, 2021, p. 240).

An emotional response can be information in and of itself, and a frame may become more potent if it appeals to fear, guilt, or anger (2021, pp. 241–250).

Emotions are often categorized as belonging to one of two polar valances: positive or negative. However, the effects of discreet emotions within a valence can provoke distinct and sometimes conflicting responses from frames (DeSteno et al., 2004). Lecheler et al. (2013) measure the influence of four distinct emotional responses—enthusiasm, contentment, anger, and fear—in an experimental test of policy response to positive and negative news framing. After exposing subjects to preestablished framings of immigration, they used a survey to measure political opinions of immigration and emotional effects on distinct 7-point Likert scales. Results show that anger and enthusiasm have strong indirect effects on policy attitudes (negative and positive, accordingly). However, fear and contentment did not affect policy (Lecheler et al., 2013, p. 202).

Although framing a news story positively or negatively can have corresponding positive and negative influences on policy preference, it appears that discreet emotions act independently and not simply as a function of positivity or negativity. For example, an experiment by Kühne and Schemer (2013) demonstrates that independent anger and sadness news frames deployed in a story about drunk driving also have independent effects. The anger frame increased feelings of anger (emotional response) and a preference for punitive measures (policy response). In contrast, the sadness frame produced more sadness and a preference for remedial measures (Kühne & Schemer, 2013, p. 397). Additional research confirms comparable results for discrete anxiety. While anger may dampen deeper levels of thought, anxiety is more likely to provoke risk

assessment and strategy, which requires deeper cognitive processes (Huddy, 2007). Therefore, we can conclude that although anger, sadness, and anxiety are all negative emotions, they yield distinct political effects when deployed as independent framing devices.

The question of the efficacy of subordinate frames now comes into clear view. For example, if color or music can provoke discreet emotions—which I explore in the following section—might those emotional responses function independently of any substantive rhetorical framing in the news? It seems evident that creative production choices amplify rhetorical frames when deployed congruously, but can they demonstrate independent political effects in absence of substantive framing devices?

The Effects of Color and Sound on Human Emotion

Psychologists, social scientists, and communications scholars study the potential effects of color on emotion and persuasion. Much of this work appears to be application-specific (e.g., commercial marketing, therapeutic interventions), but the results can be applied in broader contexts. An extensive survey of empirical studies of color effects finds that "color can carry important meaning and can have an important impact on people's affect, cognition, and behavior" (Elliot & Maier, 2014).

Many studies draw these conclusions from physiological measurements of somatic response to color, saturation, vibrance, and hue (Jacobs & Hustmyer, 1974; Jacobs & Suess, 1975; Valdez & Mehrabian, 1994). For instance, Wilms and Oberfeld (2018) demonstrate that bright, saturant colors are associated with arousal by measuring biometric data (skin conductance and heart rate) and participant self-assessment. Similarly, Güneş and Olguntürk (2020) measure reactions to red, green, blue, and gray

colors in a living room and find strong emotional correlations with specific colors. Further research also shows that these effects are not contingent on gender, ethnicity, culture, or nationality (Aslam, 2006; Güneş & Olguntürk, 2020; Ou et al., 2004).

Although some researchers find color-emotion pairing ungeneralizable or inconsistent—arguing that human interpretation of color is experiment-specific (Fugate & Franco, 2019)—most research points to probable cross-cultural color-emotion associations regardless of context. For example, Hanada (2018) uses correspondence analysis to hypothesize that perceived temperatures of colors and emotions act as primary associations (p. 235). While the foundational causes of these heuristics remain debatable, humans broadly associate color (hue, tone, and saturation) with specific emotions. Furthermore, advertisers routinely capitalize on physiological and psychological responses to colors, and these effects are well documented (Aslam, 2006; Cheskin, 1954; Hunjet & Vuk, 2017; Shi, 2013). Therefore, it stands to reason that color choice in news coverage also prompts an innate affective response in viewers, separate from a conscious perception of the effect or its resultant heuristic coding.

Likewise, research finds that sound and music are emotive manipulators that similarly influence attitude and behavior (Brown & Volgsten, 2006; Fukui & Toyoshima, 2014; Gorn, 1982). Advertisers regularly use musical cues to highlight key product features (Hecker, 1984) because these peripheral cues can arouse viewers and make them more receptive to persuasion (Stout & Rust, 1993). Music can also function independently to provoke emotions. For example, the underscoring in the shower scene from Psycho (Hitchcock, 1960) is the primary driver of fear in that scene, not the action portrayed (Sullivan, 2006). Imagine this scene without music, and it takes on a

completely different meaning. (This effect is regularly demonstrated in first-year film school classes.) Like film directors, news producers regularly deploy threatening musical cues to frighten and entertain, not exclusively to frame the topic.

Music must work congruously with the subject matter to have persuasive effects. When audiences perceive that the music agrees with preexisting assumptions about the subject, music can inspire emotions and shape attitudes (Claudia Bullerjahn, 2005; Hung, 2000; Kellaris et al., 1993; Shevy, 2007). However, when audiences perceive that music conflicts with the subject matter, the music counteracts the message by undermining the audience's intelligence or being misinterpreted as comedy. (For example, imagine a video of a car chase accompanied by circus fanfare.) For music to have maximum emotional and persuasive value, it should be both attention-grabbing and music-message congruent (Kellaris et al., 1993).

Research confirms the emotional effects of music and color despite unanswered questions about how these effects occur. Aesthetic-emotional frames may gain salience through a mix of somatic, psychological, or cultural variables. Regardless, the effects are demonstrable and persistently exploited as psychological advertising strategies, including in televised news programs. For this reason, color and musical cues used as marketing tactics in news media coverage deserve an independent investigation.

Subordinate Frames in Political Media

A small body of research explores the political effects of music, visuals, and emotions from similar, yet distinct, angles that complement my definition of subordinate frames. An experiment by Thorson et al. (1991) uses 16 original political commercials for four candidates distributed randomly to 161 students of voting age to observe whether

different versions impact viewers' affective response and support for candidates. Four independent variables cross with each other among the videos: (1) one of two types of background settings—family or professional setting, (2) a script with either support or attack appeals, and (3) either an image or issue focus, and (4) either with or without background music. Results show that music mediates memory effects across the dimensions of issue-image, attack-support, and professional-family background variables (p. 480). The research illuminates complex dynamics between visual framing, auditory framing, and emotional response.

Ezell (2012) finds affective effects when testing musical differentiation (e.g., major vs. minor keys) while controlling for verbal-visual content in political ads. Using a novel experimental design incorporating facial electromyography and self-reporting methods to measure mood changes, Ezell demonstrates variance between the two measures. Psychophysiological affective contrast among low political sophisticates most notably indicates that they absorbed the auditory framing even when self-reporting that they did not (pp. 100–108). Like Thorson, Ezell finds that music is an independent variable with affective and cognitive effects.

However, Ezell and Thorson et al. focus exclusively on political campaign ads, where likeability and electability heuristics are often the primary motivation for voter behavior. Auditory and visual frames might also act independently in general media coverage of issue areas and policy preferences, so these areas warrant similar experimentation.

Not all scholars observe effects from auditory and visual framing as independent variables. Building on early work by Brosius (1990), Kopiez et al. (2013) use a television

report on toxic substances in energy-saving lamps to deliver music as an experimental treatment. They find that neither music with negative valence nor music with positive valence led to significant changes in issue cognition, retention, or attitudes among either sophisticates or non-sophisticates (2013, pp. 323–328). The researchers conclude that effects witnessed in other studies result from the experimental separation of music as an independent variable distinct from other modalities rather than arising from the complicated multisensory process that occurs when news media is viewed in reality (p. 327).

Although Kopiez et al.'s findings are provocative, the research fails to consider several essential questions. First, the research design accounts for differences in several discreet emotions concerning their distance on a scale of valence (positive vs. negative) vs. arousal (2013, pp. 315–316). However, the survey instrument does not include any measure of participants' discreet emotional response (e.g., "fear" or "sadness") (2013, Appendix S1). Being that discreet emotions play distinct, sometimes conflicting roles as framing devices (DeSteno et al., 2004; Huddy, 2007; Lecheler et al., 2013), Kopiez et al.'s conclusions seem premature. Second, the video topic used in the design—toxicity in lamps—might not be the most effective prompt for measuring emotions and attitudes. Environmental standards are arguably more robust in the European Union—where the sample originates—than in the United States, but the topic does not offer the potential for large changes in emotion or attitude that one would hope to measure. I do not anticipate large policy preference changes in my experiment, but even slight changes deserve notice. Likewise, isolating discreet emotional effects warrants serious consideration because extant literature points to the important role affect plays in political outcomes.

Subordinate frames are ubiquitous in news media, and exposure to these tactics likely contributes to policy outcomes, although under what conditions this occurs remains an open question.

Recently, Herget & Albrecht (2022) address the importance of discreet emotions in two similar experimental designs. By varying music in a 7-minute excerpt of a documentary about the Chernobyl nuclear site and a 3-minute excerpt of a documentary about diet and health, they find that "carefully selected music can be used effectively to influence recipients' emotions, memory performance, potential attitude changes, and evaluations of the media format and its perceived credibility, with medium or large effect sizes" (p. 520). A principal tenet of these findings is that effects depend on music-message congruency, as I noted earlier. Additionally, effects on attitude were distinct among those reporting "fear," "sadness," and "anger" responses.

Herget & Albrecht's (2022) research design closely resembles my experiment, and I borrow their methods for affective response measurement for my investigation. However, I hope to account for several variables they fail to explore. First, Herget & Albrecht do not assess the potential for color to act as an independent variable in news media. Second, they do not measure explicit policy preference—directly or indirectly—as a dependent variable related to the emotional and subsequent attitudinal changes they observed. Third, they rely on preexisting documentary footage and do not account for substantive framing in the content. In contrast, I hope to eliminate questions of rhetorical neutrality by crafting an original video free from any political point of view. Fourth, and finally, as with Kopiez, Herget & Albrecht (2022) sample European citizens and the subject matter may not be sufficiently emotionally provocative to observe mediating

effects from subordinate frames among Americans.[9] Conversely, my design measures attitudes toward homelessness and policy preferences related to housing, which are "hot-button" issues in California, where my sample is located.

Media Framing of Homelessness

Setting aside visual and auditory dimensions of framing, reviewing scholarship assessing the impact of rhetorical news media frames on public perceptions of homelessness is prudent because my experiment explores related attitudes and policy preferences as a vehicle for testing subordinate frames. Scholars provide multiple examples of how narrative frames describe homelessness alternately as a humanitarian crisis or a public safety issue (Buck et al., 2004; Calder et al., 2011; Gottbreht, 2019; Pruitt, 2019). This section and the subsequent section provide a frame of reference for measuring the effects of subordinate frames on attitudes about homelessness and housing.

Best (2010) uses content analysis of 475 articles to ascertain that newspaper journalists rarely frame homelessness as a social problem and that articles prompted by crime and conflict were the least likely to present the issue as humanitarian. Similarly, Truong (2012) uses content analysis to establish a causal relationship between media coverage that negatively stereotypes homeless individuals and increasingly punitive policies to combat the issue in Los Angeles, Atlanta, and Orlando.

Other published scholarly articles consider humanitarian frames used in media coverage of homelessness. Varma (2018) examines the role of solidarity in journalism by researching the methods journalists use to humanize people experiencing homelessness.

[9] Participants were sampled randomly from the University of Wuerzburg, Germany.

They define solidarity journalism as preferencing a commitment to social justice over the pursuit of objectivity (Varma, 2022). Some journalists practice solidarity by framing homelessness as a social problem with structural and institutional roots. Such framing positively affects public perceptions of homeless individuals by shifting blame for homelessness from the individual to society. However, Varma finds that when journalists attempt to humanize people by framing homelessness in terms of the personal problems they face, institutional arguments are sidelined by perceptions of homelessness as a matter of individual responsibility, despite the journalists' intentions (p. 138). This research points to the power of media framing to influence public perceptions of homelessness.

Reppond and Bullock (2018) validate the direct effect of news media framing of homelessness on voting behavior. They examine articles from the *San Francisco Chronicle* in the months leading up to a controversial 2002 ballot proposition that addressed homelessness by diverting General Assistance (cash aid) for unhoused individuals into funding for direct services like shelter and substance abuse programs. Using content analysis, the authors found that the *Chronicle* predominantly framed homelessness as "a threat to businesses, tourism, and residents of San Francisco, and welfare as enabling deviant behavior" (p. 1). Their research concludes that media framing of homelessness as a public safety issue led to the bill's successful passage. Furthermore, the authors argue that when news media frames homelessness this way, it exacerbates public perceptions of welfare programs as "fostering dependency and deviancy" (p. 22).

While most of the extant literature relies on content analysis of newspaper coverage, it stands to reason that framing homelessness in television news—particularly

local broadcasts—also influences public perceptions of homelessness and related policies. Quantifying and qualifying the relationship between television news coverage, public perceptions of homelessness, and welfare-related policies warrant a separate investigation.

The Public's Influence on Housing Policy

Zoning laws are a "widely used municipal instrument[s] that separates the land into sections, or zones, with different rules governing activities on that land" (Hirt, 2018, p. 3). Municipalities designate some areas for residence (i.e., homes) and others for business or public use. Residential zoning laws may govern the safety, character, and density (i.e., amount) of available housing or address environmental concerns, access to natural resources, and historic preservation.

Throughout American history, residential zoning laws have worked as covert surrogates for enforcing social prejudices, most notably as a means of racial segregation (Fischler, 2018; Hirt, 2018; Lehavi, 2018). Regulations that facially address legitimate concerns may be devised to alter the housing market for ulterior purposes. For example, density restrictions ultimately limit supply, thereby inflating home prices and effectively pricing out lower-income populations. Although racial segregation is illegal in the US, municipalities have a long history of enacting residential zoning laws that de facto segregate people by race, ethnicity, and economic means.

Fischel (2001) argues that the average homeowner's wealth is tied to home equity, so their votes in local elections are motivated by calculations intended to maximize home value. Thus, homeowners' support for (opposition to) proposed changes in residential zoning is not based on political ideology or values schemas but is motivated

primarily by financial concerns. Liberal homeowners are barely more likely than their conservative counterparts to support zoning laws that increase density (Manville, 2021; Marble & Nall, 2021). Additionally, their risk-reward calculus incorporates both overt financial anxiety and prejudices as well as ambiguous fears of the unknown (e.g., how will this law impact my insurance premiums?) (Fischel, 2001, pp. 8–10).

In their recent work, Einstein, Glick, and Palmer (2019, 2020) corroborate Fischel's argument. They argue that political participation by voters who oppose increased housing density is fostered by structural (i.e., institutional) support at all points during the development process; they use city boards and commissions, neighborhood organizations, state and federal environmental oversight, and local planning administration to sideline new development. Moreover, NIMBYs are adept at stifling zoning laws that increase density or bolster affordable and inclusionary housing. They also successfully squash development projects that otherwise conform to existing zoning regulations. Moreover, these "homevoters" are likely to participate in the political process at much greater rates than average citizens.

Recent research by Hankinson (2018) demonstrates that NIMBY-ism is not contingent on homeownership. Using national and city-level data, Hankinson shows that renters in expensive cities oppose density irrespective of their minimal vested financial interest in the housing market. Interestingly, Hankinson notes that renters often fear density increases in their neighborhoods while supporting more density city-wide. This research highlights the broader impact of spatial proximity and scale (i.e., neighborhood proximity vs. city-wide proximity) on political behavior.

The research on housing policy relates intimately to homelessness issues without directly addressing it. It should seem obvious that the volume of housing stock available—and, consequently, the market rate of housing—impacts the likelihood of citizens experiencing homelessness (Lee et al., 2010). Progressive housing policies indirectly address homelessness in many ways, including (1) encouraging development and increasing the available housing stock, (2) suppressing housing prices or enforcing rent control, (3) protecting renters from eviction, (4) protecting renters from discrimination, (5) supplementing housing costs through Section 8 vouchers, and more.

News media frames that reinforce support for progressive housing policies have the potential to alter support for these interventions among voters. Matheis and Sorens (2022) confirm that framing effects can "play a role in solving the housing shortage in coastal markets" (p. 15). By swaying voters toward pro-development attitudes, more houses can be built to ease housing market tension (Matheis & Sorens, 2022; Sorens, 2022). Such an outcome would indirectly address homelessness for the reasons mentioned above.

The housing policy literature prompts further questions about links between media framing of homelessness and public support for progressive housing policies. Is exposure to media framing of homelessness more likely to positively impact progressive housing policies or to scare voters further toward support for anti-development attitudes? How might subordinate frames in television news coverage of homelessness influence public perceptions of the problem and alter political behavior related to housing? Existing scholarship indicates a tension between liberal ideologies and financial self-interest among urban residents. This tension plays out in real-time as cities grapple with the crisis

of increasing housing demand. Do subordinate frames in news media reinforce that tension? Can subordinate frames act independently of rhetorical context—vis-à-vis an affective response or otherwise—to alter the mental balance between an individual's desire to address the systemic causes of homelessness and their personal interests and fears? The following experimental research design aims to address these questions by isolating subordinate frames in a randomized controlled trial experiment.

Chapter III.

Methods

I conducted an online randomized controlled trial (RCT) survey experiment to test my hypotheses in November and December of 2022.[10] After receiving approval from Harvard University's institutional review board, I engaged survey panel provider Dynata to recruit California residents aged 18 and older.[11] Dynata followed all privacy and security standards and best practices per the European Society for Opinion and Marketing Research (ESOMAR) "37 Questions" guidelines (Dynata, 2022). These standards include maintaining a sizeable proprietary panel of participants, performing fraud checks and validation techniques, SOC2 Type II security compliance, and necessary privacy and compensation standards per Harvard's IRB. In addition, participants were recruited based on target quotas for age, gender, race, Hispanic ethnicity, educational attainment, party ID, and housing status (i.e., homeownership) and further screened for California residency and auditory or visual impairment.

Additionally, two attention checks were included to ensure cognition and engagement with the survey instrument.[12] Two thousand one hundred fifty-eight participants were recruited, of which 1270 responses were screened for age, location (not

[10] The survey was hosted on Harvard's Qualtrics platform.
[11] Demographic quotas and weights were based on the American Community Survey (ACS) 2019 5-year data limited to California (US Census Bureau, 2022).
[12] The first attention check was a timer on each video page that ensured the viewer could not advance to the next slide until after 90 seconds had passed. The second attention check was a question asking each viewer to describe the voice of the narrator (*See* Appendix A, Q31),

CA residents), audiovisual impairment, or possible duplicates. Forty-one additional responses were removed for failing the attention check. The final sample size is 847.

I delivered the experiment via an online survey (Appendix A) hosted on Harvard's Qualtrics platform (Qualtrics, 2005). In addition to primary demographic questions, the first portion of the survey gauges perceptions of the affordability and ease of acquiring local housing. Additionally, a political interest question is a proxy for measuring political knowledge (Rapeli, 2022).[13] Participants were also asked if they voted in the last election. Finally, I combined the measurement of political interest with a binary score for voting (not voting) to account for participants' political sophistication. Recent voters who report following what's going on in government and public affairs "most of the time" were coded as having "High" political sophistication (n = 341); all others were coded as "Low" (n = 506).

Before offering the treatment, participants provided their opinion of the primary cause of homelessness from among five options: (1) economic hardship, (2) rising housing costs, (3) low minimum wage, (4) mental illness, or (5) drug and alcohol abuse.[14] Survey methods literature indicates the potential for users to click the first choice (primacy effect) or last link (recency effect) presented to them (Couper et al., 2004; Murphy et al., 2006). Therefore, answer choices were ordered randomly for each participant to avoid these effects, and all choices were visible concurrently via radio buttons.

[13] Participants were asked "How often do you follow what's going on in government and public affairs?" Their choices were (1) Hardly ever, (2) Only now and then, (3) Some of the time, or (4) Most of the time.
[14] Participants also reported their support for (opposition to) government-ensured housing on a Likert scale of one to five. I intend to use this measurement for future analysis.

I composed a 90-second video documenting homelessness in California to deliver subordinate frames as experimental treatments. All versions of the video contained identical substantive content. The video clips and still images used in the video were culled from commercial television news (National, state, and local), independent news outlets (e.g., Vice media), government agencies (e.g., the City of Santa Monica, CA), and non-profit's serving homeless populations in California. (See Appendix B for a list of the sources of media clips included.) Using pre-existing footage served several purposes: (1) it ensured that all imagery came from actual news media that California residents might have been exposed to, (2) it avoided the inherent visual bias of a single film director, and (3) it allowed me to document individuals experiencing homelessness without directly endangering that population for the experiment. The video is accompanied by plainspoken narration describing the five aforementioned potential causes of homelessness using apolitical (i.e., unframed) statistics related to each cause.[15]

The control video ("control") includes title cards in grayscale with no musical underscoring. Color is commonly applied to illicit stronger affective responses—as in the case of warning signs (Elliot et al., 2015) or educational materials (Plass et al., 2014)—so grayscale imagery remains a lesser affective prompt when not accounting for brightness.[16] Each treatment video added a distinct aesthetic element: red and black title graphics ("Red GFX"), blue and pale-yellow title graphics ("Blue GFX"), sad instrumental underscoring ("Sad Music"), or scary instrumental underscoring ("Scary Music"). *Figure 1* shows examples of the different colorways used for treatment effects.

[15] I have read copy for public radio for more than 15 years, so I narrated the video myself in a neutral, impartial tone.

[16] I cannot account for the brightness of a participant's viewing device, but neither can a television news producer.



(i) *(ii)*



(iii)

Figure 1. Examples of Color Differences in Treatment Videos.

Description: Still frames demonstrating colorways for the Control (i), Blue GFX (ii), and Red GFX (iii) video groups.

The musical treatments were purchased from audiojungle (*AudioJungle - Royalty Free Music & Audio*, 2022; maasipro, 2018; Meerkats, 2020), a royalty-free stock asset company, and were chosen for their popularity within relevant subgrouping descriptions (e.g., "sad instrumental music"). Participants in a pilot survey validated congruity between all four treatments and the subject matter. The five videos were randomly assigned to participants by the Qualtrics platform, and the timer and attention check helped ensure that participants watched and listened to their prescribed video in its entirety.

After watching the video, participants ranked their emotional responses using Likert scales. This self-reported measurement of discreet emotions is referred to as an experiential measurement, and it is adapted from the PANAS-SF schedule, a dimensional approach to affect measurement (Mackinnon et al., 1999). This form of affect assessment is not without inherent bias, but previous research indicates that it is a good measurement in place of biophysical methods (Harmon-Jones et al., 2016; Thompson, 2007; Zheng et al., 2021). Because homelessness is uniformly considered a social ill, participants were only asked to rate their emotional response across the negative valence.[17] I adapted the format for my Likert scales from a study by Kühne & Schemer (2013). Each emotion was measured using three different words to describe it, providing a total of nine opportunities for assessment across three discreet emotions: anger ("anger," "annoyed," "furious"), sadness ("sadness," "regret," "sorrow"), and fear ("fear," "anxiety," "faint-hearted"). Participants ranked the strength with which they experienced each of these emotions on a five-point Likert scale ranging from (1) "not at all" to (5) "extremely." These measurements of emotional response allow me to test changes in emotional response resulting from subordinate frames (H_1).

Next, participants chose the most likely cause of homelessness from the same five choices offered pre-test. This tactic created a straightforward pre/post question setup for measuring changes in perceptions of homelessness. Finally, to further measure attitudes, participants ranked their agreement with each of four statements framing homelessness as either a public safety or a humanitarian issue. Together, these questions form the basis for testing changes in perceptions of the cause of homelessness (H_2).

[17] The subject of homelessness does not warrant measurement of the positive (pleasant) valence.

The final portion of the survey tested respondents' amenability to supporting progressive housing policies at the state and local levels (H_3). Although these policies are facially unrelated to homelessness, I wanted to explore the possibility that respondents receiving treatments would demonstrate a change in support for pro-housing policies despite the absence of a direct relationship between homelessness and the policy choices offered. By choosing policies that address the structural causes of homelessness (e.g., housing policy), I test whether audiences apply subordinate frames broadly in their cognitive deliberation as part of a complicated political calculation. For example, can framing homelessness with threatening music increase voter apprehension toward policies that increase lower-income housing in their neighborhoods?

Public opinion about housing policy is overwhelmingly governed by self-interest, not altruism (Marble & Nall, 2021). Testing for increased support for progressive housing policies helped deter respondents from reflexively expressing altruistic support for policies that directly address homelessness after watching the video. Nine housing policy questions were inspired by Marble and Nall's (2021) study of liberal homeowners opposing progressive housing policy, and participants rated their support (opposition) to each one based on a 5-point Likert scale.

After the survey closed (December 20, 2022), responses were exported from Qualtrics and imported into R Studio for coding and statistical analysis. Replication data, code, and video instruments are available on Harvard Dataverse at https://doi.org/10.7910/DVN/JOX1A8.

Chapter IV.

Results & Discussion

I have grouped the results of my experiments into three parts. Part One tests for an affective response to subordinate frames across nine discreet negative emotions. Part Two tests for changes in general attitudes and opinions about homelessness. Part Three tests for changes in policy preference for seven hypothetical housing-related policies at state and local levels.

Cross-disciplinary debate continues about the appropriateness of using Likert scale data to perform statistical analysis. Likert values are ordinal and, therefore, should not be treated numerically. (After all, the distance between "sometimes agree" and "agree" is never guaranteed to equal the distance between "agree" and "rarely agree.") However, some argue that summing Likert scores across variables does create a numeric result that merits parametric regression. I offer a visual Likert analysis and a parametric analysis for each experiment.

A table showing target demographic quotas opposite delivered quotas appears in Appendix C. I use the American Community Survey (ACS) 2019 5-year data for California (US Census Bureau, 2022) to create survey weights for age, gender, educational attainment, race, and Hispanic ethnicity. First, I sum the Likert scores for the affect questions to develop a total affective response score for each participant. I similarly create sub-scores for each participant's discreet emotional response (anger, fear, and sadness). Likewise, I sum the Likert scores for the housing policy questions to develop a

total policy response score and sub-scores for state and local policies. I then standardized all scores (mean = 0) using two standard deviations, as Gelman (2008) suggests. Next, basing my code on a process outlined by Hertz (2022), I use the anesrake package (Pasek, 2018) to apply the demographic weights to each score. All statistical calculations are performed in R Studio using an array of R packages (R Core Team, 2022) cited in Appendix D.

Finally, I create a variable for binary party ID (Dem vs. Rep). Self-selecting Republicans and Democrats are coded as such; self-selecting Independent voters are coded based on the party they indicate leaning toward the most. This binary variable is used in statistical models to account for party affiliation.

Part 1: Testing Emotional Response to Subordinate Frames

My first hypothesis (H_1) postulates that subordinate frames in a video depicting homelessness may increase or decrease affective responses. Based on an experiment by Kühne & Schemer (2013, p. 395), I list nine discreet emotions and ask participants to rate their experience of each emotion along a five-point Likert scale. I explore the results visually before turning to statistical analysis.

Likert Analysis of Discreet Emotional Responses

The Likert results appear as component bar charts showing the weighted proportions of each answer type on the Likert scales for each discreet emotion. Each scale is grouped by experimental treatment, and the scales are organized by secondary emotional constructs: anger (*Figure 2*), fear (*Figure 3*), and sadness (*Figure 4*).

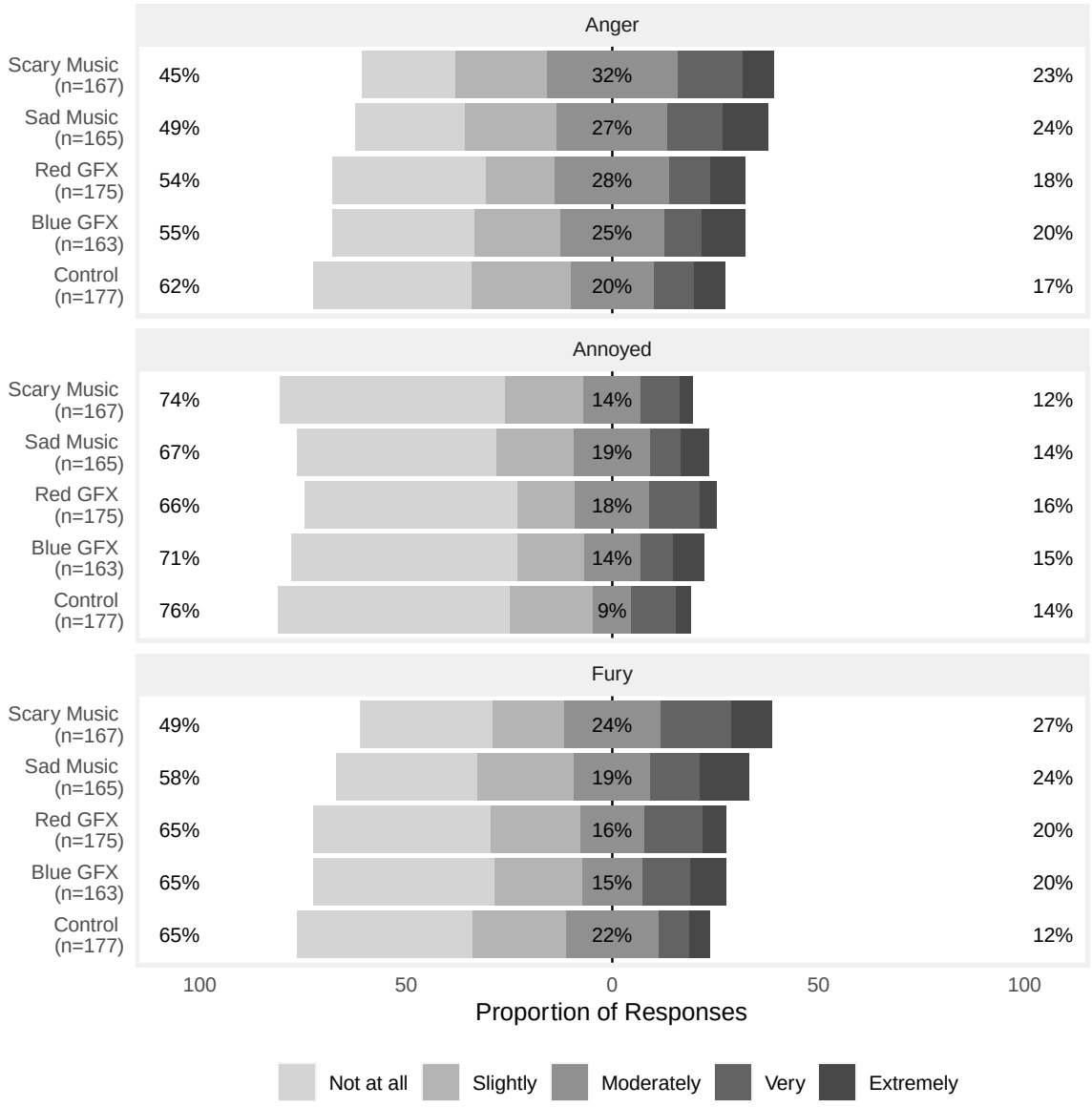


Figure 2. Anger Valence Likert Proportions.

Description: Proportions of Likert values for each anger (discreet emotion) descriptor, organized by treatment group. Percentages to the left of the bar include those with less than moderate responses Percentages to the right of each bar indicate those with greater than moderate responses. Results are weighted for gender, age, education, race, and Hispanic ethnicity.

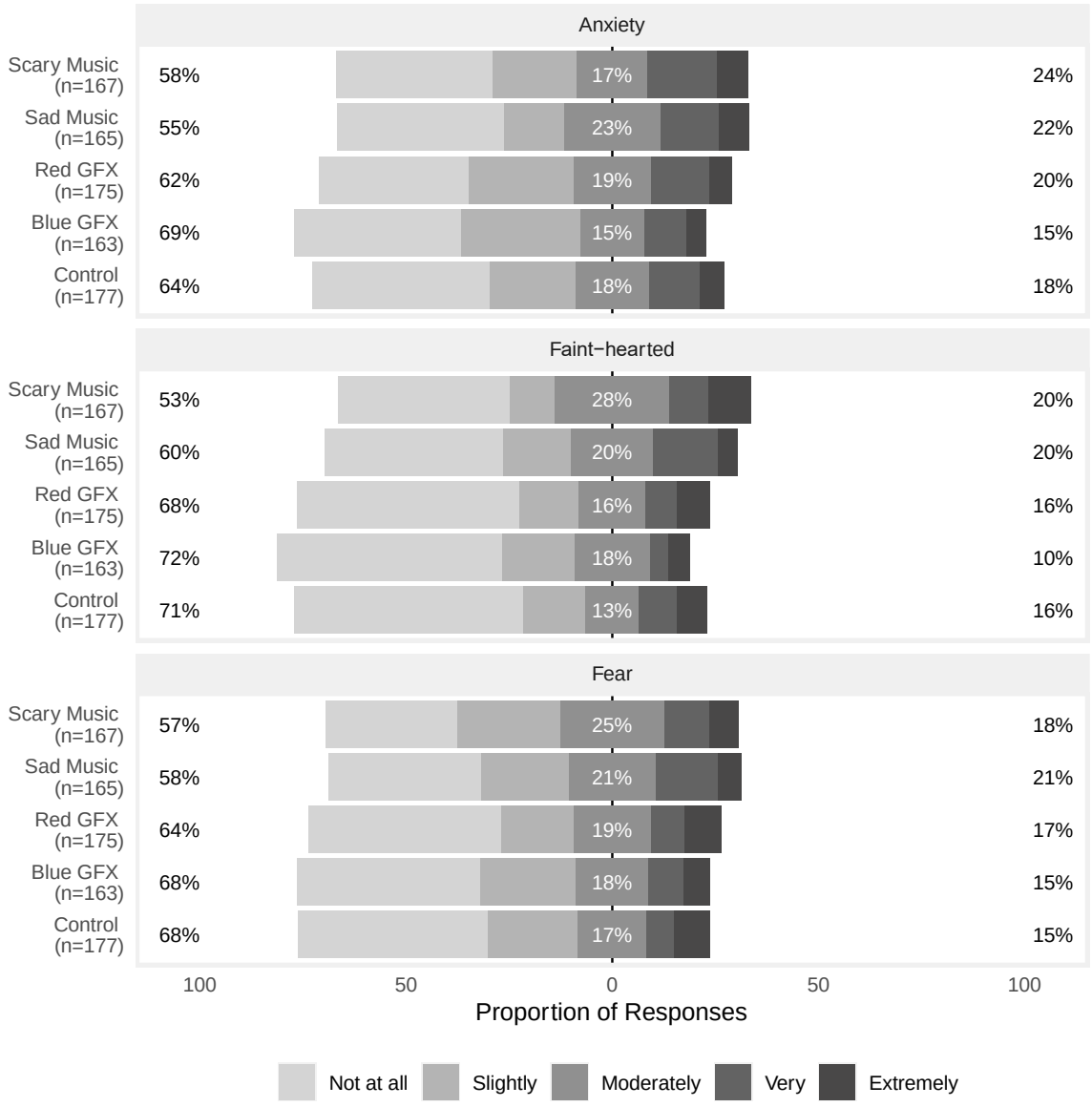


Figure 3. Fear Valence Likert Proportions.

Description: Proportions of Likert values for each fear (discreet emotion) descriptor, organized by treatment group. Percentages to the left of the bar indicate those with less than moderate responses. Percentages to the right of each bar indicate those with greater than moderate responses. Results are weighted for gender, age, education, race, and Hispanic ethnicity.

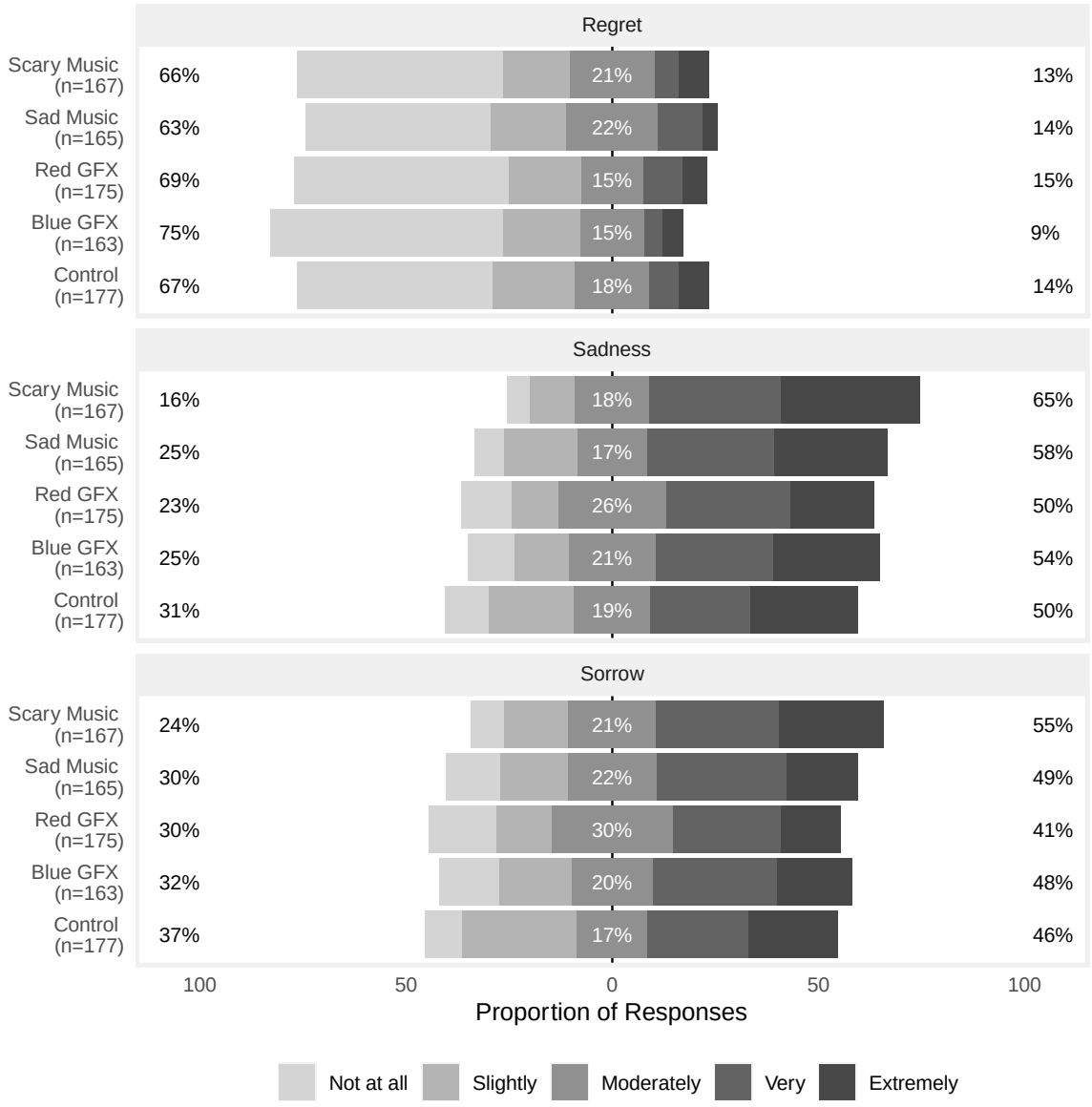


Figure 4. Sadness Valence Likert Proportions.

Description: Proportions of Likert values for each sadness (discreet emotion) descriptor, organized by treatment group. Percentages to the left of the bar indicate those with less than moderate responses. Percentages to the right of each bar indicate those with greater than moderate responses. Results are weighted for gender, age, education, race, and Hispanic ethnicity.

Although emotions cannot be felt negatively (i.e., one cannot qualify their experience of emotion as "less than zero"), I have coded these graphics to indicate the middle answer—"moderately"—with a median line to approximate a neutral emotional experience visually. This process may help address concerns of central tendency bias in answer choices. The percentage of those who responded "moderately" appears on top of the middle portion of the bar. The percentages shown to the left and right of each bar indicate the total percentages of responses falling above and below the moderate group, respectively: the percentage to the left includes "not at all" and "slightly" answers, and the percentage to the right contains "very" and "extremely" answers.

A quick visual analysis of these Likert scores shows the variance in self-reported emotional response based on treatment with subordinate frames. For instance, the anger group (*Figure 2*) shows notable increases in strong feelings of "anger" and "fury" among those who heard music compared to those who did not. For example, 27% of respondents receiving the Scary Music treatment and 24% of those receiving the Sad Music treatment reported feeling "very" or "extremely" furious, compared to only 12% of respondents in the control group. Likewise, 24% of responses in the Sad Music group and 23% in the Scary Music group reported strong feelings of anger, versus 17% in the control group. In general, feelings related to anger increased for the treatment groups. However, the chart for feeling "annoyed" shows significantly less variance.

Proportions of high affective responses for the "fear" group (*Figure 3*) emotions also indicate increases among musical groups. For example, 24% of those receiving the Scary Music treatment report high feelings of "anxiety," compared to 18% in the control group. Variations in the sadness construct scales (*Figure 4*) are not as dramatic but still

relevant. Participants who heard music with the video were considerably more likely to report higher levels of "sadness" and "sorrow" than the control group.

It is also noteworthy that slight declines in affective response generally occur for those receiving the Blue GFX treatment compared to the control group. This observation appears as lower measurements in the high-score ranges and higher measurements in the low-score ranges. For instance, there is a 5-point increase in those feeling low levels of "anxiety" compared to the control group. These observations mirror findings that a predominantly blue color palette is the most pleasant (Valdez & Mehrabian, 1994, p. 406) and may counteract the anticipated negative emotional response expected based on the subject matter.

Although these scores indicate increased emotions for the musical groups, these measurements do not calculate *how* affective response variations to subordinate frames occur. These effects may result directly from treatment without necessarily coinciding with the intended discreet emotional response. For example, the Sad Music group report smaller high-level responses for "sadness" (58%) and "sorrow" (49%) than the Scary music treatment (65% and 55%, respectively). Thus, subordinate frames may work to moderate pre-existing feelings about the issue of homelessness by, for example, making respondents angry about opposing dimensions of the issue. To illustrate this, suppose that an individual can feel anger toward both systemic causes of homelessness or, conversely, toward the homeless individual. The self-reported emotion is constant (i.e., anger), but it may be applied to support either of two contradictory points of view.

Likewise, subordinate frames may alter affective response as a function of pre-existing heuristics. For instance, the Red Group may associate red with the Republican

party. Therefore, I might theorize that exposure to red in a political context would increase feelings of anger among Democrats (outgroup) while having less effect on Republicans (ingroup). However, these inquiries fall outside the scope of my current research. So instead, I offer that this Likert analysis simply indicates observable emotional changes resulting from treatment with subordinate frames. Because emotions play a role in shaping political attitudes and behavior—as previously demonstrated in the literature—this finding seems significant in and of itself.

Regression Analysis of Affect Response Measurements

Using statistical analysis in social science research allows for greater specificity when observing effects. This approach facilitates a quantitative comparison between variables and offers testing to prevent Type I errors during exploratory analysis (Gerring, 2012, p. 36).[18] For example, although I hypothesize that subordinate frames influence affective response and policy, I am unsure of the direction (positive or negative) of these effects for multiple variations of subordinate frames. Performing a two-tailed statistical analysis of results allows me to note the direction of these effects and test for significance in changes between control and treatment groups.

To analyze my results, I create an aggregate score for total affective response. Likert choices are coded from 1 to 5 along an increasing ordinal scale of reported emotions experienced. A report of "not at all" feeling the emotion is coded as 1, while a report of "extremely" feeling the emotion is coded as a 5. The values for all emotions are summed for each observation. The possible score for total affective response ranges from

[18] A Type I error is when the researcher incorrectly rejects a true null hypothesis.

nine (no feeling for any of the emotions mentioned) to 45 (extreme response for all emotions). These scores are standardized (normalized and mean-centered around 0) and weighted, as described in the Methods chapter of this paper.

Before performing regression analysis, I examine a top-level comparison of each group's mean total affective response score (*Figure 5)*. Although the variation in response seems small, these means further indicate a trend toward higher affective responses for the musical treatments. On first look, the Scary Music treatment group reported a mean total affective response score nearly three times higher than the control group.

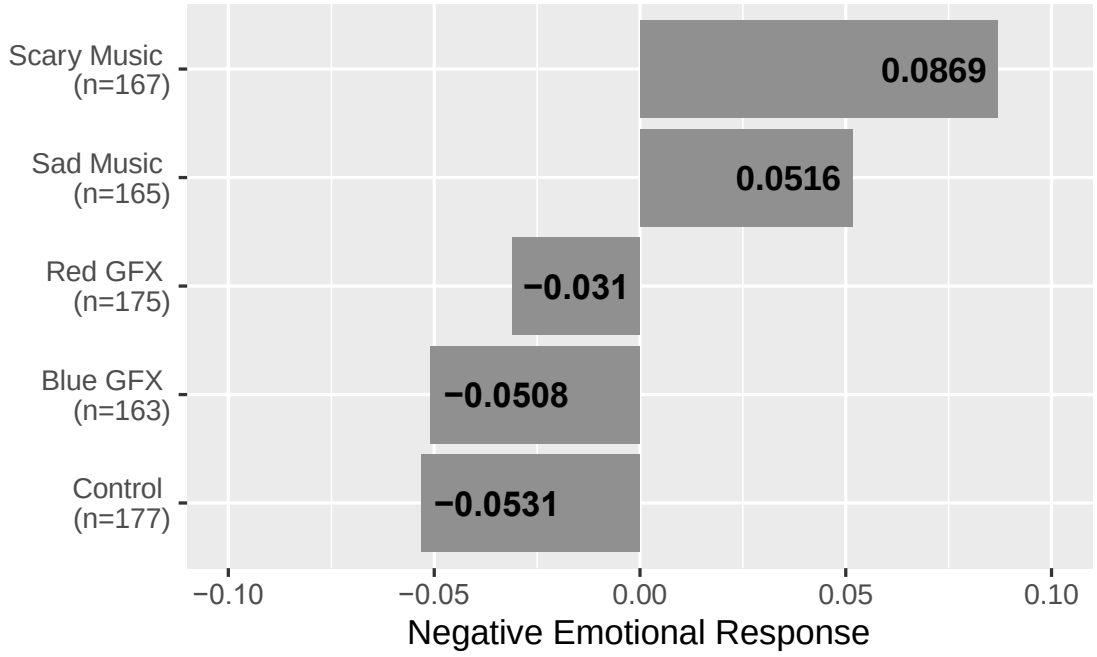


Figure 5. Mean Total Affective Response Scores by Group.

Description: Total affective response score means by treatment group. Values are standardized by two standard deviations. Results are weighted for gender, age, education, race, and Hispanic ethnicity.

Table 1 uses linear regression to examine further the differences in means between each treatment group and the control group (intercept). In addition to the total affective response score, I similarly summed scores for each discreet emotion (anger, fear, and sadness) as subgroups and normalized and weighted these scores individually.[19] The table includes models for total affective response (col. 1) and models for each composite discrete emotion group (cols. 3, 5, and 7). I have also included models with controls for party ID, homeownership, and political sophistication (cols. 2, 4, 6, and 8). Robust standard errors are reported in parentheses below the coefficients.

These results demonstrate small but statistically significant increases in affective response for those receiving the Scary Music treatment and, to a lesser extent, the Sad Music treatment. P-values are noted for two-tailed tests, but having seen the positive correlation between music and emotional response, I would be justified in performing one-sided tests during future analysis. Furthermore, these results corroborate my inference from the Likert proportion bar charts: the musical treatment groups reported feeling stronger negative emotions.

Two other things are worth noting. First, I've shown the coefficient values for each control instead of simply mentioning their inclusion. There is a substantial increase in affective response, particularly fear (0.125, $p < 0.01$) among non-homeowners. I speculate that this is due to renters/others being more afraid of experiencing homelessness than homeowners, but the question merits further exploration.

Second, it's worth noting a significant decrease in total emotional response reported by Republicans and Republican-leaning respondents (-.076, $p < 0.001$),

[19] Each of the three discreet emotions was represented by three questions, so these scores ranged from 3 to 15 before being normalized and weighted.

Table 1: Emotional Responses to Subordinate Frames.

	Total Response		Anger Response		Fear Response		Sadness Response	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Control (Intercept)	-0.053	-0.075	-0.077 *	-0.149 +	-0.043	-0.056	-0.017	0.012
	(0.043)	(0.083)	(0.037)	(0.080)	(0.044)	(0.081)	(0.047)	(0.088)
Blue GFX	0.002	-0.008	0.059	0.055	-0.026	-0.039	-0.027	-0.036
	(0.062)	(0.063)	(0.061)	(0.061)	(0.059)	(0.059)	(0.065)	(0.065)
Red GFX	0.022	0.018	0.059	0.057	0.027	0.021	-0.030	-0.033
	(0.064)	(0.062)	(0.059)	(0.059)	(0.064)	(0.062)	(0.065)	(0.064)
Sad Music	0.105 +	0.097	0.140 *	0.137 *	0.093	0.082	0.038	0.031
	(0.061)	(0.060)	(0.058)	(0.058)	(0.062)	(0.061)	(0.064)	(0.063)
Scary Music	0.140 *	0.132 *	0.133 *	0.128 *	0.123 +	0.111 +	0.107 +	0.104 +
	(0.060)	(0.059)	(0.055)	(0.055)	(0.064)	(0.062)	(0.061)	(0.059)
Controls Included								
Party ID [1] (Republican)		-0.076 ***		-0.024		-0.080 ***		-0.096 ***
		(0.022)		(0.022)		(0.021)		(0.022)
Homeownership (Renter/Other)		0.114 **		0.084 *		0.125 **		0.087 *
		(0.040)		(0.039)		(0.039)		(0.039)
Political Sophistication (High)		-0.019		-0.023		-0.061		0.038
		(0.039)		(0.039)		(0.039)		(0.039)
N	847	847	847	847	847	847	847	847
R^2	0.013	0.044	0.011	0.021	0.013	0.053	0.010	0.044

Note: Survey-weighted linear regression. Weighted for gender, age, education, race, and Hispanic ethnicity.
*Significance: *** p < 0.001; ** p < 0.01; * p < 0.05; + p < 0.1.*
[1]Binary party ID variable for Democrat and Democrat-leaning or Republican or Republican-leaning.

particularly regarding “fear” and “sadness.” This observation corroborates my earlier assertion that participants’ emotions may principally align with other factors (e.g., party affiliation) while subordinate frames act as mediators or moderators of the anticipated affective response.

Finally, although the effects of the Blue GFX treatment are minor and not statistically significant, it seems noteworthy that responses decreased for fear, sadness, and total affective response for that treatment. This observation agrees with my visual interpretation of the Likert proportion data that the Blue GFX treatment appears to lessen negative emotional reactions.

Although the effects are minor, my results disprove the null hypothesis (H_{0a}) and confirm that adding music positively correlates to a viewer’s affective response to television news media. This is a substantively important finding and merits further analysis, including future one-sided testing of individual effects.

Part 2: Testing Perceptions of the Cause of Homelessness

My second hypothesis (H_2) suggests that subordinate frames in a video depicting homelessness can influence attitudes and opinions about homelessness. Homelessness might best be defined as a dynamic relationship between sets of factors, some systemic and some voluntaristic (Mago et al., 2013). Two survey questions illuminate how California voters view homelessness post-treatment: (1) a Likert scale measuring agreement and disagreement with four statements that characterize homelessness, and (2) a pre/post question asking respondents to identify the primary cause of homelessness from among five possible causes reported in the video. I analyze the results from both questions below.

Likert Analysis of Statements on the Nature of Homelessness

The first question uses a Likert scale to indicate agreement with four statements: two favor social responsibility for homelessness, and two suggest that homelessness is someone else's problem. Participants rank their agreement with each of the four statements. *Figure 6* and *Figure 7* use stacked component bar charts to show the weighted proportions of agreement and disagreement for each statement, organized by treatment group. *Figure 6* shows attitudes framing responsibility for homelessness as someone else's problem; agreement appears in red, while disagreement appears in blue. *Figure 7* shows attitudes attributing social responsibility for homelessness; disagreement appears in red, while agreement appears in blue.[20]

[20] Note that bar chart colors are reversed depending on the character of the statement.

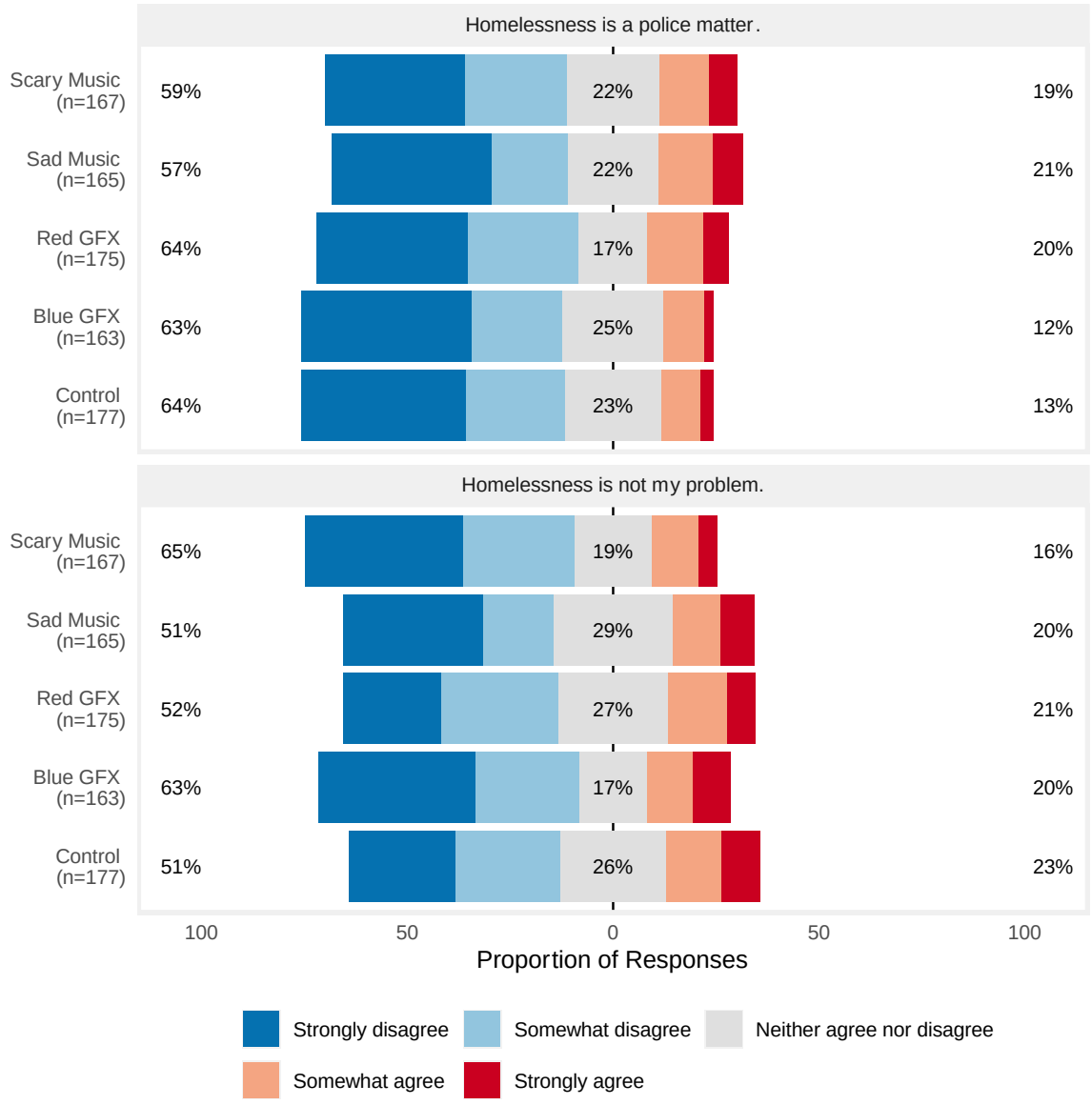


Figure 6. Perception of Homelessness as "Not My Problem".

Description: Proportions of Likert scores for attitudes that categorize homelessness as a matter of personal responsibility (i.e., voluntarism or rational choice). Percentages to the right of bars indicate the proportions of each group that views homelessness as the homeless individual's problem. Percentages to the left of bars indicate the proportion of respondents in each group who view homelessness as society's problem. Results are weighted for gender, age, education, race, and Hispanic ethnicity.

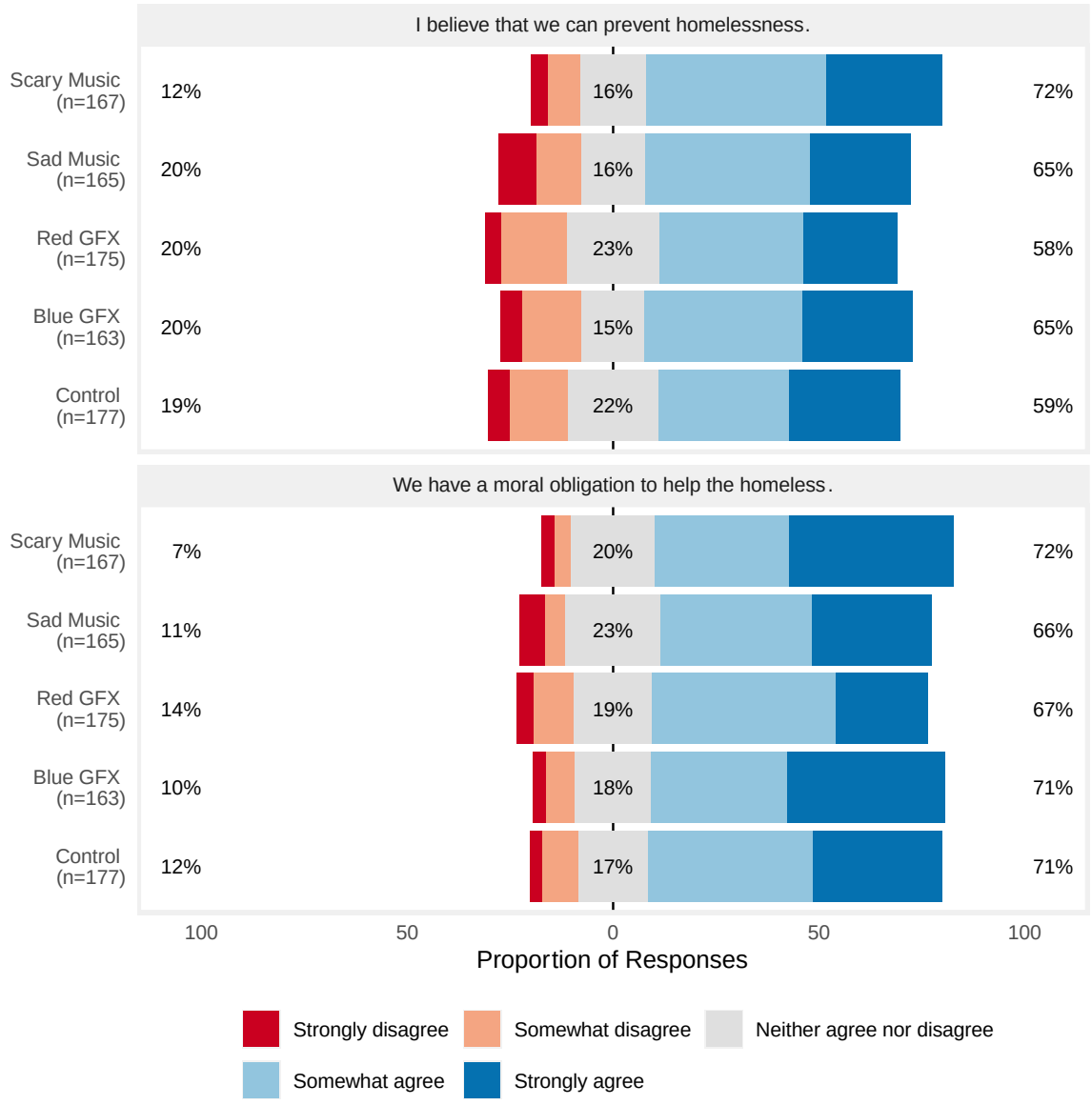


Figure 7. Perception of Collective Responsibility for Homelessness.

Description: Proportions of Likert scores for attitudes that categorize homelessness as a systemic issue with collective solutions. Percentages to the right of bars indicate the proportions of each group that views homelessness as society's responsibility. Percentages to the left of bars indicate the proportion of respondents who viewed homelessness as the homeless individual's responsibility. Results are weighted for gender, age, education, race, and Hispanic ethnicity.

These Likert results do not indicate blatant patterns like those measuring affective response. Overall, participants strongly favor statements acknowledging homelessness as a community responsibility rather than someone else's problem. However, musical treatment groups agree slightly more that "we can prevent homelessness" and disagree more strongly with the sentiment that "homelessness is not my problem." In particular, the Scary Music treatment group reported the highest levels of agreement (72%) that homelessness is preventable vs. the control group (59%).

Levels of sympathy for homeless individuals are correlated with increased attitudes and opinions attributing social responsibility for homelessness (Agans & Liu, 2015). Increased agreement with the collective responsibility statements may coincide with increased sympathy for homeless individuals resulting from a statistically significant increase in general affective response among the Scary Music treatment group (*Table 1, cols. 1 and 2*). Of note is the fact that the increase in overall affective response to Scary Music can be attributed to increased "anger" and "fear" responses, not the "sadness" construct. Further study may clarify the interaction between anger, fear, and sympathy—distinct from sadness—and how each discrete emotion may work for or against substantive framing in television news. Although no clear patterns emerge from this analysis, the results deserve additional research.

Changes in the Attitudes about Homelessness

The survey instrument also features a set of questions to measure opinion changes regarding the cause of homeless pre- and post-treatment. Before watching the video, participants were asked to identify the primary cause of homelessness from among five choices: (1) drug and alcohol abuse, (2) economic hardship, (3) low minimum wage, (4)

rising housing costs, or (5) serious mental illness. Choices appeared in a random order for each participant to avoid selection bias.

The substantive content of the video presented neutral facts about each of these five causes, although the order they appeared in the video remained constant for all treatment groups. After watching the video, participants were again asked to identify the primary cause of homelessness from among a randomly ordered list of these five causes.

Table 2 shows sums of answer choices for each of the five potential causes of homelessness among participants in each group. A "% change" column indicates the percentage of change for each answer choice among each group. The results are unweighted.

I anticipated that increased emotional response would influence audience perceptions of the cause of homelessness (H_{2a}) and also assumed—a posteriori of personal experience as a filmmaker—that sad music and scary music would frame homelessness as either a humanitarian issue or a public safety issue, respectively (H_{2b}). Thus, I predicted that sad music would increase attribution to systemic causes (economic hardship, low minimum wage, and rising housing costs), while scary music would increase attribution to personal responsibility (drug and alcohol abuse and serious mental illness). These categories are not fundamentally discrete, but they offer a glimpse into the top-level issues voters contemplate when debating the issue of homelessness.

Table 2: Changes in Perception of Primary Cause of Homelessness.

Perceived cause of homelessness	*Treatments*														
	Control			**Blue GFX**			**Red GFX**			**Sad Music**			**Scary Music**		
	pre	post	% change	pre	post	% change	pre	post	% change	pre	post	% change	pre	post	% change
Drug and alcohol abuse	43	38	-11.6	37	31	-16.2	32	29	-9.4	28	37	32.1	42	32	-23.8
Economic hardship	30	90	**200.0**	45	86	**91.1**	41	94	**129.3**	36	81	**125.0**	41	95	**131.7**
Low minimum wage	10	8	-20.0	11	7	-36.4	10	8	-20.0	12	9	-25.0	6	6	0.0
Rising housing costs	56	22	-60.7	51	33	-35.3	64	28	-56.2	61	24	-60.7	52	22	-57.7
Serious mental illness	37	18	-51.4	26	13	-50.0	20	8	-60.0	27	13	-51.9	29	15	-48.3

Note: Response counts for each of the five perceived causes of homelessness across control and treatment groups. The table shows counts prior to the video, post-video, and percentage change. Results are unweighted.

At first look, results do not disprove the null hypothesis (H_{0b}) that there is no correlation between treatment with subordinate frames and a change in a viewer's perception of the primary cause of homelessness from voluntarist to systemic reasons, or vice versa. Viewers across all groups shift overwhelmingly toward "economic hardship" as the primary cause of homelessness and away from the four alternative causes mentioned. "Economic hardship" appears first in all five videos, so the general shift likely results from the "first is best" constraint on rational behavior (Carney, 2012). Individuals viewed "economic hardship" before other potential causes and retained that information more than subsequent explanations when answering the question.

However, there are noticeable differences in the size of this effect between treatment groups. Control participants experience the greatest shift toward "economic hardship" (200% increase), while the Blue GFX group experience the smallest shift (91.1%). This observation coincides with the finding from Part One that the Blue GFX treatment group experienced a smaller increase in general affective response. The results for other groups also indicate less susceptibility to the "first is best" constraint, with shifts ranging from 125% to 131.7%.

Subordinate frames appear to influence viewers' cognition of the information presented and subsequent attitudes about the issue. One might assume that this effect results from the increased affective responses attributed in Part One, but the reaction from Blue GFX treatment undermines that logic.[21] Instead, subordinate frames may act as mediators or moderators of other variables that more directly influence attitudes.

[21] The Blue GFX group experienced the smallest affective response but the largest opinion effect.

Participants seem to rely on their emotions as part of the cognitive process, although it is unclear how this effect transpires. Further investigation—perhaps qualitative—might expose viewers' conscious deliberation of the issue and allow for a deeper exploration of the interaction between subordinate frames, emotional response, and opinion formation.

Part 3: Testing Voter Behavior Post-exposure to Subordinate Frames

Part Three of this experiment tests for a correlation between subordinate frames and support for facially unrelated state and local housing policies. Respondents ranked their affinity for progressive housing-related policies from "strongly support" to "strongly oppose."[22] The seven hypothetical policies presented in the survey were modeled on research by Marble & Nall (2021). Like the previous sections, I explore Likert responses visually before turning to statistical analysis.

Likert Response Analysis of Support for Progressive Housing Policies

Figure 8 and *Figure 9* use stacked composite bar charts to show the weighted proportions of responses across the control and treatment groups. These are further grouped by state policies (*Figure 8*) and local policies (*Figure 9*).

The visual analysis shows general support for progressive housing policies across the board. This observation corroborates findings that the predominantly liberal California electorate favors policies that afford greater access to housing *on paper* while

[22] I use "progressive" in the sense that these are policies that increase governmental oversight in the housing market and offer more opportunities for people to find housing. I would consider "conservative" housing policies those that limit government involvement in the housing market or intentionally stifle housing development in favor of maintaining status quo.

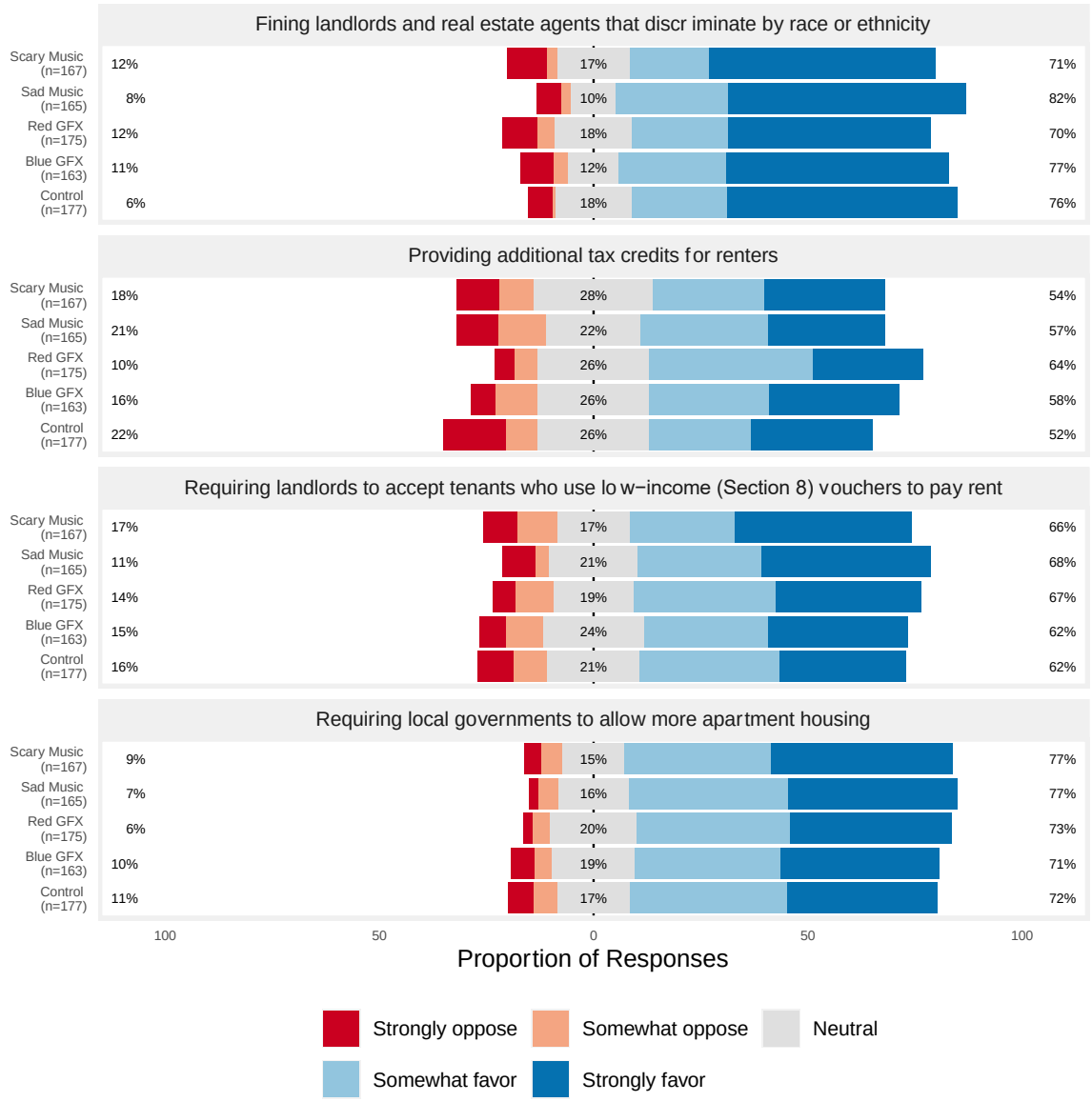


Figure 8. Support For Progressive Housing Laws (State).

Description: Proportions of Likert scores for support and opposition to progressive state housing laws. Percentages to the left of bars indicate combined opposition, while percentages to the right of bars indicate combined support. Results are weighted for gender, age, education, race, and Hispanic ethnicity.

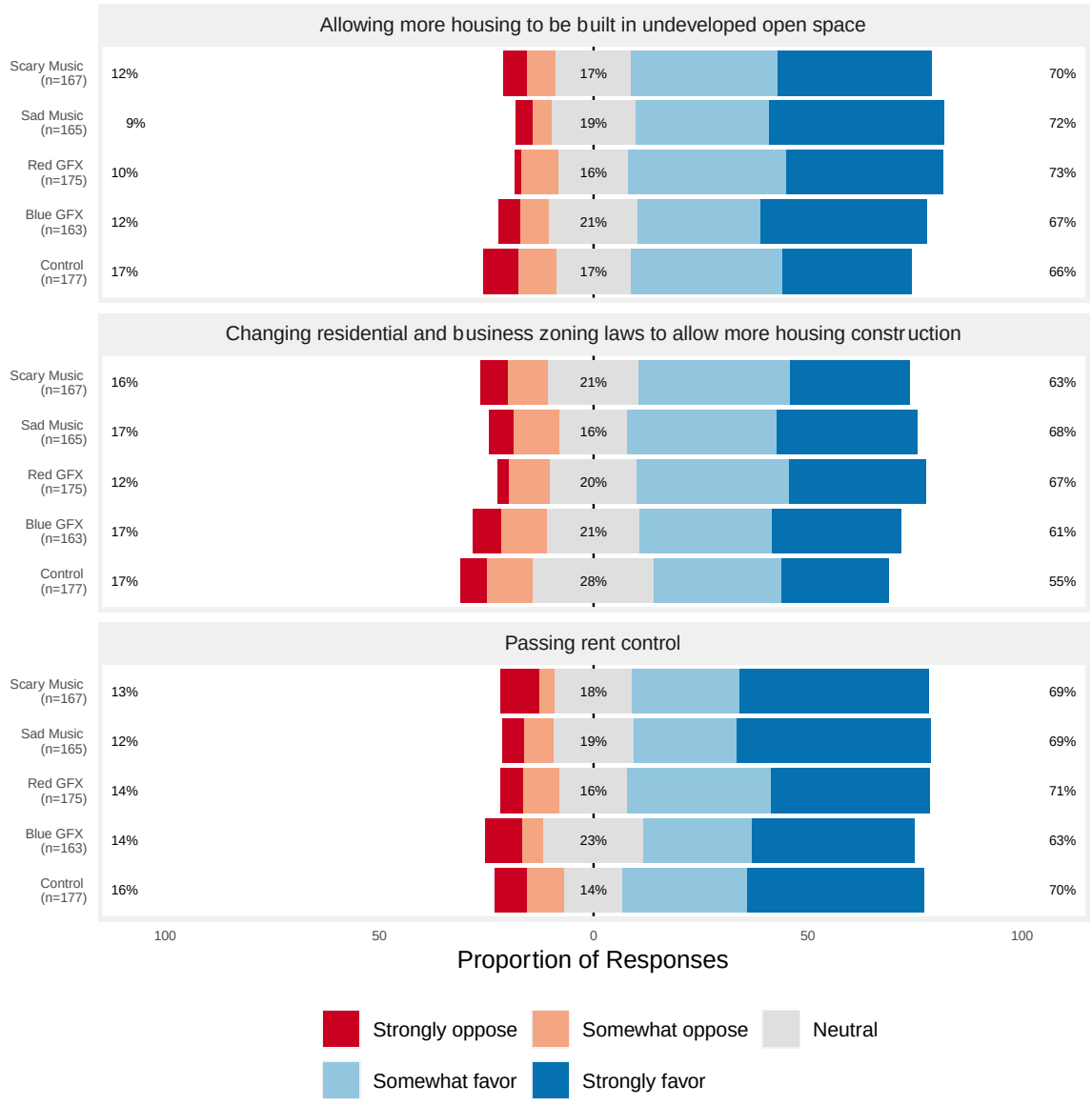


Figure 9. Support For Progressive Housing Laws (Local).

Description: Proportions of Likert scores for support and opposition to progressive local housing laws. Percentages to the left of bars indicate combined opposition, while percentages to the right of bars indicate combined support. Results are weighted for gender, age, education, race, and Hispanic ethnicity

opposing these policies at the ballot box (Marble & Nall, 2021; Manville, 2021: *See also* Fischel, 2001; Hankinson, 2018). Alternatively, this result might reflect broad sympathy for homeless individuals, irrespective of subordinate framing.

One observation stands out: there appears to be increased support among the Sad Music group and the Red GFX group, with these groups experiencing the highest levels of support for seven out of seven policy proposals. For example, 82% of the Sad Music group support "fining landlords and real estate agents that discriminate by race or ethnicity" compared to 76% of the control group. However, the Red GFX reported the lowest level of support for fining landlords. What might cause these differences?

It appears reasonable to assume that subordinate frames act differently in different policy contexts by either (1) mediating an emotional response and, subsequently, a policy preference or (2) mediating or moderating existing heuristics viewers use to rationalize their policy positions. To wit, the effects from subordinate frames appear to be contingent on how each specific policy proposal aligns with the respondent's preexisting political ideology. For example, the proposition that the state penalizes landlords who discriminate favors renters over landlords, and the presumption based on previous housing policy research is that landlords are more conservative (i.e., Republican-leaning) than renters. In this instance, those receiving the Sad Music treatment displayed the greatest support (82%), while those in the Red GFX group displayed the least support (70%). This result might reflect emotional response trumping partisan ideology for the Sad Music group while seeing the color red—the color of the Republican party—reinforces a conservative fiscal preference for those receiving the Red GFX treatment. Likewise, the Red GFX

group provided the largest support for offering tax breaks to renters (64%), another policy that aligns with Republican ideologies.[23]

However, these ideas are merely speculative, and the results require more purposeful scrutinization. Despite that, and although visual analysis of these policy responses does not yield glaring patterns, the results indicate effects. Further studies parsing singular policy positions, specific subordinate frames, and isolated ideologies might elucidate these interactions.

Regression Analysis of Policy Responses

Statistical analysis of the policy response scores provides a closer look at these effects. To perform this analysis, I created an aggregate policy response score akin to the affective response score. Likert choices are coded from 1 to 5 along an increasing ordinal scale of reported opposition or support for progressive housing policies. If a participant indicates they "Strongly disagree" with the policy, the answer is coded as 1, while a report of "Strongly agree" is coded as a 5. The total number of possible points for policy response ranged from seven (strongly opposing all policies) to 35 (strongly supporting all policies). Aggregated scores were standardized and then weighted. *Figure 10 s*hows the mean of each group's total policy response score.

[23] To clarify, Republicans prefer tax breaks to policies that provide blatant entitlements or increase market regulations.

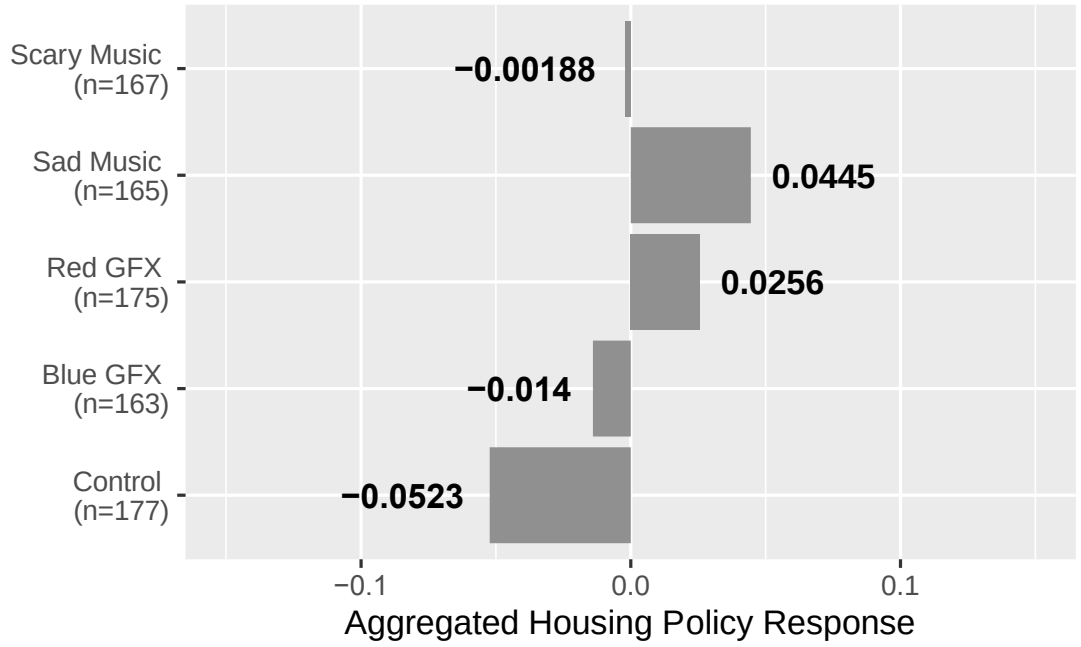


Figure 10. Housing Policy Support Scores by Group.

Description: Mean of total policy response scores by group. Values are standardized by two standard deviations. Results are weighted for gender, age, education, race, and Hispanic ethnicity.

As noted in the previous section, participants overwhelmingly support these policy proposals. As such, the differences between the standardized scores are relatively small. However, the Sad Music and Red GFX treatment groups exceed the centered mean, reinforcing my visual assessment of the Likert data. Additionally, the Sad Music group has the highest response (0.0445), almost twice the average response of the control group (-0.0523).

Affective Response and Policy Response. Before analyzing by treatment group, it is prudent to illustrate the net positive correlation between affective response and policy support. *Table 3* uses linear regression to demonstrate the effect of heightened emotional

Table 3: Policy Response to Affective Response

	Baseline	Including Affective Response
(Intercept)	0.053 (0.079)	0.051 (0.076)
Affective Response		0.165 *** (0.040)
Party ID [1] (Republican)	-0.311 *** (0.039)	-0.291 *** (0.038)
Homeownership (Renter/Other)	0.212 *** (0.036)	0.194 *** (0.035)
Political Sophistication (High)	0.146 *** (0.036)	0.151 *** (0.036)
N	847	847
R^2	0.149	0.175

*Note: Weighted for gender, age, education, race, and Hispanic ethnicity. Robust standard errors are shown in parentheses. Significance: *** p < 0.001; ** p < 0.01; * p < 0.05.*
[1]Binary party ID variable for Democrat and Democrat-leaning or Republican or Republican-leaning.

response on policy preference. As expected, party ID, homeownership, and political sophistication are all significant predictors of policy preference. Additionally, a clear, statistically significant correlation exists between all groups' affective and policy response scores. Of note, the affective response is a stronger predictor (0.165, $p < 0.001$) than political sophistication (0.151, $p < 0.001$) in this model. This observation confirms the meaningful correlation between emotions and policy preference.

Policy Responses to Subordinate Frames. *Table 4* uses linear regression to further explore policy response scores by treatment group while also accounting for affective response, party ID, homeownership, and political sophistication.

Table 4: Policy Responses to Subordinate Frames.

	Total Policy Response		State Policy Response		Local Policy Response	
	(1)	(2)	(3)	(4)	(5)	(6)
Control (Intercept)	-0.052	0.005	-0.040	0.007	-0.059	0.001
	(0.044)	(0.083)	(0.044)	(0.085)	(0.043)	(0.084)
Blue GFX	0.038	0.025	0.036	0.023	0.035	0.024
	(0.063)	(0.055)	(0.063)	(0.055)	(0.062)	(0.056)
Red GFX	0.078	0.074	0.053	0.049	0.097 +	0.093 +
	(0.059)	(0.055)	(0.060)	(0.056)	(0.059)	(0.056)
Sad Music	0.097	0.074	0.077	0.058	0.106 +	0.082
	(0.060)	(0.055)	(0.062)	(0.057)	(0.059)	(0.054)
Scary Music	0.050	0.034	0.038	0.026	0.058	0.038
	(0.062)	(0.057)	(0.062)	(0.057)	(0.062)	(0.058)
Controls Included						
Affective Response		0.163 ***		0.123 **		0.187 ***
		(0.040)		(0.040)		(0.040)
Party ID (Republican) [1]		-0.290 ***		-0.285 ***		-0.250 ***
		(0.038)		(0.039)		(0.038)
Homeownership (Renter/Other)		0.196 ***		0.197 ***		0.162 ***
		(0.035)		(0.036)		(0.036)
Political Sophistication (High)		0.153 ***		0.147 ***		0.135 ***
		(0.035)		(0.035)		(0.036)
N	847	847	847	847	847	847
R^2	0.005	0.179	0.003	0.158	0.006	0.153

*Note: Linear regression models weighted for gender, age, education, race, and Hispanic ethnicity. Robust standard errors are shown in parentheses. Significance: *** p < 0.001; ** p < 0.01; * p < 0.05; + p < 0.1.*

[1]Binary party ID variable for Democrat and Democrat-leaning or Republican or Republican-leaning.

According to these results, the Sad Music group and Red GFX groups do, in fact, experience effects on policy preference. Those who hear sad music alongside the video demonstrate increased support for progressive local housing policies, with a 0.082 coefficient with controls (col. 6) and a 0.106 coefficient without (col. 5). The Red GFX group also exhibits a statistically significant increase in support for local policy responses (cols. 5 and 6). These results disprove the final null hypothesis (H_{0c}).

I should note a few things about this finding. First, the coefficients for party ID, homeownership, and political sophistication match expectations based on prior research. Republicans were less likely to support the proposed policies (cols. 2, 4, 6), and the coefficients are more than twice those (negative) than the effects from sad music or red title graphics. Still, the findings suggest that adding sad music to a spot about homelessness may counterbalance negative party ID effects to a limited extent. This effect might seem small, but shifts of this magnitude could sway an election.

Second, being a renter or other non-homeowner also significantly impacted support for these policies, ranging from (0.162 to 0.197, $p < 0.001$). This makes sense, as non-homeowners benefit the most from policies that support or guarantee housing. Additionally, those with high political sophistication were more likely to support these policies, and affective response remains a notable positive modifier of policy preference in this model.

Third, p-values are noted for two-tailed tests. Having seen the positive correlation between sad music and red graphics and policy response, I would be justified in performing one-sided tests in future models. Likewise, these observations merit

additional study, including two-stage causal models to account for specific interactions between individual subordinate frames and policy outcomes.

The causal interaction between subordinate frames, emotions, and policy preferences is complicated. However, this regression indicates that subordinate frames can play a role in policy preference, at least within the confines of a limited, experimental scenario (H_3).

Chapter V.

Conclusion

Based on substantial previous research regarding voter preference for (against) housing policy, I anticipated that short-term changes in emotion resulting from subordinate frames would not be strong enough to provoke a demonstrable shift in voter support for progressive housing policies. However, my results paint a different picture. This research demonstrates that subordinate frames not only influence emotions but also show the potential to affect voter attitudes and policy preferences.

I am not pursuing the causal claim that subordinate framing is *responsible* for public opinion or policy outcomes. Conversely, I suggest that vote choice results from a constellation of variables, and subordinate frames should be considered among them. For example, although party ID remains the dominant driver of voter behavior, subordinate frames may have a pivotal impact in areas where party ID is a weaker predictor. Non-partisan local elections, referendums, issues with contradictory party alignment (e.g., housing policy, abortion), and topics with innate emotional appeals are all areas where exposure to subordinate frames may meaningfully shift policy outcomes. Although the effects I observe are minor, they are noteworthy.

This research demonstrates that subordinate frames can influence outcomes when positioned congruously with policy-relevant information. The short-term ramifications of subordinate frame usage are obvious. Based on my results, it is not difficult to imagine

what might happen if a voter were shown a video of homelessness underscored with sad music moments before entering the voting booth.

Subordinate frames may engender new emotions about a topic or simply act as mediators or moderators of other variables, such as party ID. For instance, aggressive red graphics might augment affective polarization—either positive or negative feelings, depending on affiliation—if the viewer associates the use of red graphics with the Republican party. Thus, subordinate frames may amplify or stifle other heuristic cues voters absorb from news content.

My results also inspire broader questions about subordinate framing. For example, how long do the effects of subordinate frames last, and what might be the long-term effects of repeated exposure? Do effects increase when music and color are deployed simultaneously, as commonly occurs in practice? Can subordinate frames have a measurable impact on issue salience? One can imagine how responding to a subordinate frame might prompt a viewer to discuss or share the information with peers, thus increasing awareness of the issue or candidate from a particular perspective.

What about the myriad other creative production choices I do not investigate here? Examples include how a news anchor speaks or dresses, the pacing or color fidelity in a video edit, title and graphic animation, and newer techniques like virtual or augmented reality. Like music and color, these aesthetic choices might also influence an audience's receptivity toward embracing or opposing a policy or candidate simply as a byproduct of art direction, an audience captivation strategy, or an as-yet-to-be-developed industry best practice.

These observations also elicit questions about subordinate framing's constraints. For instance, sad music may stoke political effects in overtly humanistic contexts (e.g., homelessness, abortion), but how might it perform when paired with fiscal policy proposals (e.g., tax reform, school choice)? Based on prior research, audiences must perceive congruity between the aesthetic decisions and the meaningful content, or the producer risks contradictory effects. If the audience intuits that a subordinate frame subverts the content, are they less inclined to support the position offered? For instance, if a viewer deduces that the musical message delivered in a campaign ad is disingenuous, how much does that negative response decrease the candidate's likeability?

Aside from commercial television news, subordinate frames abound in digital and online media. In an age of decentralized editorial control, reliance on eye-catching visuals and dramatic audio is an apparent consequence of the new click-driven media ecosystem. The success of independent news media, user-generated media, Internet advertising, and the like depends on algorithmic programming. Producers who capitalize on these media types count on the audience's affective response to the content because emotions compel clicks and streams. Likewise, the algorithms that disseminate and promote political content online likely prioritize audience reactions over the substance of the content itself. When deployed in social media ads, stories, and posts, do subordinate frames guide programming or ultimately play a role in attitude formation or policy preference? Like television news, market-driven aesthetic production techniques deployed in digital spaces will likely have political implications.

To conclude, this research reveals that subordinate frames yield measurable effects. Although one might assume that aesthetic choices in news media do not act as

independent framing devices, my research shows that music and color can function separately from the substantive content and may contribute to political outcomes. Moreover, audiences should be wary of emotional responses resulting from covert marketing tactics. On the one hand, using an authentic affect heuristic in political decision-making seems beneficial under certain conditions. On the other hand, deceptively manufactured emotional responses muddy our judgment, prompting political behavior that may undermine our true values. Labeling subordinate frames as such recognizes their separateness from overt issue framing and provides a tool to evaluate the integrity of news content and our emotional reactions to it. Likewise, subordinate frames across all political media types deserve greater research attention.

Appendix A.

Survey Instrument

(101322) California Homelessness & Housing Survey 2022

Q1 What state do you live in? (Please spell out the name of your state.)

Q2 What is your US Zip Code?

Q3 How old are you?

- Under 18
- 18-24 years old
- 25-34 years old
- 35-44 years old
- 45-54 years old
- 55-64 years old
- 65+ years old

Q4 Do you experience and of the following auditory or visual limitations? (Check all that apply.)

- Hearing difficulty
- Vision difficulty

- Color blindness
- None of the above

Q5 What is the purpose of this research?

This research aims to gauge how voters feel about homelessness in California.

What can I expect if I take part in this research?

You are being asked to participate in an online survey about homelessness in California. Your answers and all information collected and retained will remain confidential. As a participant in this survey, you will answer several demographic questions and then watch a 90-second video about homelessness. The video includes clips and photographs from previously published news sources (e.g., television news, newspapers, city government websites, social services organizations, etc.). At the same time, a narrator reads statistics about homelessness in California.

Please note that the video contains images of real individuals experiencing homelessness, including depictions of substance abuse. After completing the video, you will be asked a question to verify that you watched the entire video. You will then be asked a short series of questions about residential zoning laws in California.

The survey will take most participants between 10 and 12 minutes to complete.

What should I know about a research study?

Whether or not you take part is up to you. Your participation is completely voluntary. You can choose not to take part. You can agree to take part and later change your mind. Your decision will not be held against you. Your refusal to participate will not result in

any consequences or any loss of benefits that you are otherwise entitled to receive. You can ask all the questions you want before you decide.

You may not be told everything or may be misled. As part of this research design, you may not be told or may be misled about the purpose or procedures of this research. However, the purpose or procedures of the research will be disclosed to you following your participation.

Who can I talk to?

If you have questions, concerns, or complaints, or think the research has hurt you, please email nac724@g.harvard.edu.

Q6 How do you describe yourself?

- Male
- Female
- Non-binary / third gender
- Prefer to self-describe

Q7 Choose one or more races that you consider yourself to be

- White or Caucasian
- Black or African American
- American Indian/Native American or Alaska Native
- Asian
- Native Hawaiian or Other Pacific Islander
- Other

Q8 Are you of Spanish, Hispanic, or Latino origin?

- Yes
- No

Q9 What is the highest level of education you have completed?

- Some high school or less
- High school diploma or GED
- Some college, but no degree
- Associates or technical degree
- Bachelor's degree
- Graduate or professional degree (MA, MS, MBA, PhD, JD, MD, DDS etc.)

Q10 Which of the following best describes your current living situation?

- Renter
- Homeowner
- Living with family or friends
- Living in a shelter
- Unhoused

Q11 What was your total household income before taxes during the past 12 months?

- Less than $25,000
- $25,000-$49,999
- $50,000-$74,999

- $75,000-$99,999
- $100,000-$149,999
- $150,000 or more
- Prefer not to say

Q12 Did you vote in the last election?

- Yes
- No

Q13 Generally speaking, do you usually think of yourself as a Republican, a Democrat, an Independent, or something else?

- Republican
- Democrat
- Independent
- Other _____
- No preference

Q14 Do you think of yourself as closer to the Republican or Democratic party?

- Republican
- Democratic

Q15 Some people seem to follow what's going on in government and public affairs most of the time, whether there's an election going on or not. Others aren't that interested. How often do you follow what's going on in government and public affairs?

- Hardly ever
- Only now and then
- Some of the time
- Most of the time

Q16 Is it easy or difficult to find housing in your area?

- Extremely difficult
- Somewhat difficult
- Neither easy nor difficult
- Somewhat easy
- Extremely easy

Q17 Is housing affordable or expensive in your area?

- Housing is extremely expensive
- Housing is moderately expensive
- Housing costs are average
- Housing is moderately affordable
- Housing is extremely affordable

Q18 In your opinion, which of the following problems is the most likely cause of homelessness in California? (Choose one.)

- Economic hardship
- Rising housing costs
- Low minimum wage
- Serious mental illness
- Drug and alcohol abuse

Q19 Some people say the government should ensure that all Americans have housing. Others say that housing shouldn't be a concern of the government. Do you agree or disagree with the following statement:

Yes, the government should ensure that all Americans have housing.
[Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree]

Q20 We'd like to show you a brief (90-second) video that offers facts about homelessness in California.
You must enable sound before you begin watching the video. You will be asked a question to verify that you watched the video and heard the information contained in it. Please pay attention to how the video makes you feel.

[VIDEO TREATMENT]

Q31 Which if the following best describes the narrator of this video?

- Male voice, child
- Male voice, adult
- Female voice, child
- Female voice, adult

Q32 Did you experience any of the following emotions while watching this video? Note: we are not asking how you feel about the topic of homelessness. Instead, we'd like to know if you felt any of these emotions—for any reason—while watching.

"Extremely" indicates you experienced the emotion strongly, while "Not at all" indicates you did not experience the emotion at all.

[Not at all, Slightly, Moderately, Very, Extremely]

- Anger
- Annoyed
- Anxiety
- Faint-hearted
- Fear
- Regret
- Furious
- Sadness
- Sorrow

Q33 After watching this video, which of the following reasons do you think is the most likely cause of homelessness in California?

- Economic hardship
- Rising housing costs
- Low minimum wage
- Serious mental illness
- Drug and alcohol abuse

Q34 Consider each of the following statements independently. Do you agree or disagree? Please use the buttons below to indicate your answers.
[Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree]

- Homelessness is a police matter

  We have a moral obligation to help the homeless.
- Homelessness is not my problem.
- I believe that we can prevent homelessness

Q35 Some Californians have proposed public policies that are intended to increase the amount of housing available in California. Considering a few of these ideas, do you support or oppose California state lawmakers enacting the following policies:

Q36 Providing additional tax credits for renters

[Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree]

Q37 Requiring landlords to accept tenants who use low-income (Section 8) vouchers to pay rent

[Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree]

Q38 Requiring local governments to allow more apartment housing

[Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree]

Q39 Fining landlords and real estate agents that discriminate by race or ethnicity

[Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree]

Q40 Likewise, some local lawmakers have proposed public policies that are intended to increase the amount of housing available in their cities. Considering a few of these ideas, do you support or oppose local lawmakers enacting the following policies in your city:

Q41 Allowing more housing to be built in undeveloped open space

[Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree]

Q42 Changing residential and business zoning laws to allow more housing construction

[Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree]

Q43 Passing rent control

[Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree]

Q44 What else should we know about your opinion on homelessness and affordable housing development in your neighborhood?

[Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree]

Q46 Your time and responses are very much appreciated by our team, thank you!

[Strongly disagree, Somewhat disagree, Neither agree nor disagree, Somewhat agree, Strongly agree]

Debrief Statement:

There was some information about the study that we did not share with you at the

beginning of your participation. In order for the study to work, it was necessary to leave out some information so that your response/reaction would be real.

Earlier in our consent form we told you that the purpose of the study was to survey about homelessness in California. In actuality, our study aims to measure the influence of creative choices—such as music and title graphics—in news media coverage.

The video you watched was randomly assigned to you. Some participants' videos included music or colorful titles in order to ascertain how viewers might respond to these elements and whether that response would inform how they felt about homelessness and residential zoning. There was no substantive difference between videos; all videos included the same footage and narration.

Although the true purpose of this study was not fully disclosed to you at the beginning of the study, everything else on the consent form is correct. Your answers were collected anonymously and we will not share or store any personally verifiable information about you. Your input will contribute to our understanding of how creative choices in television media may manipulate voter behavior. If you would like to learn more about this research, please email us at nac724@g.harvard.edu.

Appendix B.

Media Sources for Homelessness Video

3.2 million live in poverty in Southern California. (2013, December 5). In Los Angeles Times. https://www.youtube.com/watch?v=gec2bXYsmCI

Addicted while homeless (No. 3). (2021, August 7). [1080 HD]. In Dopesick Nation. VICE. https://www.youtube.com/watch?v=4qePOEBm9Aw

AudioJungle—Royalty Free Music & Audio. (2022). AudioJungle. https://audiojungle.net

Board, T. D. S. E. (n.d.). Editorial: California homelessness crisis demands creative, effective solutions. The Desert Sun. Retrieved July 29, 2022, from https://www.desertsun.com/story/opinion/editorials/2019/12/27/california-homeless-crisis-requires-creative-effective-solutions-desert-sun-editorial-board/2757041001/

Cal OES (Director). (2022, March 14). Inside look: Combatting youth homelessness in California. https://www.youtube.com/watch?v=Y6ec4Y3jOwI

California: A leading US state in child poverty. (2019, August 28). In Al Jazeera English. https://www.youtube.com/watch?v=1SXsOjoQRgk

California family left homeless after parents lose their jobs. (2020, February 27). In CBS Mornings. https://www.youtube.com/watch?v=fRq8VuUPKCQ

City of Santa Monica (Director). (2019, March 8). Day in the life. https://www.youtube.com/watch?v=wwOkifCDCYM

Clearing of homeless at Santa Ana civic center underway. (2018, April 2). In CBS Los Angeles. https://www.youtube.com/watch?v=k-SyqczXBlg

Coale, K. (n.d.). Part 1: A homeless family in SF lives in housing limbo, while more city-funded apartments sit empty. Center for Health Journalism. Retrieved July 25, 2022, from https://centerforhealthjournalism.org/fellowships/projects/homeless-family-sf-lives-housing-limbo-while-more-city-funded-apartments-sit

Fagan, K. (2004, January 2). SF man is homeless—By choice / He has a trust fund but prefers life on the street, off the wagon. SF Gate. https://www.sfgate.com/bayarea/article/S-F-man-is-homeless-by-choice-He-has-a-2833486.php

Halverstadt, L. (2020, May 27). Families Have Largely Been Left Out of Push to Shelter the Homeless. Voice of San Diego. http://voiceofsandiego.org/2020/05/27/families-have-largely-been-left-out-of-push-to-shelter-the-homeless/

Harris, E. (2021, October 10). “I’ve been homeless for 20 years” | How homelessness expands across generations. Abc10.Com. https://www.abc10.com/article/news/local/sacramento/how-homelessness-expands-across-generations/103-d30693f3-1f27-47bf-82f5-ad86724b7c4d

Heroin’s homeless: 20 minutes in a fast food bathroom. (2018, February 22). In WOOD TV8. https://www.youtube.com/watch?v=-lTCT7M-sG4

Holland, G. (2019, September 9). Locked out of LA’s white neighborhoods, they built a black suburb. Now they’re homeless. Los Angeles Times. https://www.latimes.com/california/story/2019-09-08/homeless-encampment-black-suburb-pacoima-racial-covenant

In LA, poverty on Skid Row defies US’ humane reputation. (2018, October 28). In PBS NewsHour. https://www.youtube.com/watch?v=vc7-w4szWoQ

Inside Los Angeles’ homeless crisis. (2021, May 21). [1080 HD]. In NBC News: Across America. NBC News. https://www.youtube.com/watch?v=aTZsJNj3sIE

Johnson, N. (Director). (2020, December 20). Here’s a look at how bad the homeless problem in Los Angeles has become [1080 HD]. YouTube. https://www.youtube.com/watch?v=E2RvooEI0YE

Johnson, N. (Director). (2021a, November 7). Here’s the tenderloin, the worst neighborhood in San Francisco, California. Heartbreaking. [1080 HD]. YouTube. https://www.youtube.com/watch?v=P74ydIHE0ps

Johnson, N. (Director). (2021b, November 26). There is no solution to the homeless problem in San Francisco, California anymore [1080 HD]. YouTube. https://www.youtube.com/watch?v=_um3a8r3qbM

Knight, H. (2020, December 7). Castro homeless woman known for wandering into traffic is dead. Why couldn’t SF save her? San Francisco Chronicle. https://www.sfchronicle.com/bayarea/heatherknight/article/Castro-homeless-woman-known-for-wandering-into-15783160.php

Lee, D. (Director). (2017a, July 10). Human trafficking in Los Angeles: Live free [Documentary]. https://www.youtube.com/watch?v=GEDfWzuH9F0

Lee, D. (Director). (2017b, September 8). Orange County motel family (No. 1). https://www.youtube.com/watch?v=YsAoAUNMOBU

Lewkowicz, F. (Director). (2022, June 3). Police Clean-up Homeless Encampment at Santa Monica Beach. https://www.youtube.com/watch?v=sovT5mwncpY

Long-time California homeless encampment cleared out. (2018, March 11). In CBS Evening News. https://www.youtube.com/watch?v=Hkq1C8s6gZE

Los Angeles sweeps homeless encampments ahead of Super Bowl. (2022, February 10). In NBC News. https://www.youtube.com/watch?v=HVlHq5Vj0MI

LSSNorcal. (2020, November 6). Lakeisha's story—LSS Family Supportive Housing Programs [Non-profit]. Lutheran Social Services of Northern California. https://www.lssnorcal.org/what_we_do/programs-serving-families---san-francisco-and-sacramento-counties/introduction.html

maasipro. (2018). Suspense piano [Music]. https://audiojungle.net/item/suspense-piano/21256073

Meerkats. (2020). Sad piano and orchestra [Music]. https://audiojungle.net/item/sad-piano-and-orchestra/26619835

Mixon, T. (2019, October 24). San Francisco's All In project: For families who need stable homes. San Francisco Chronicle. https://www.sfchronicle.com/opinion/openforum/article/San-Francisco-s-All-In-project-for-families-14557218.php

Oreskes, B. (2021, January 1). How the pandemic led to a rare success in California's effort to house the homeless. Los Angeles Times. https://www.latimes.com/homeless-housing/story/2021-01-01/covid-19-more-california-homeless-housing

Pelosi, A. (Director). (2010, August 8). The motel kids of Orange County [720 HD]. HBO Documentary Films. https://www.youtube.com/watch?v=HznOyrzJMN0

Santa Monica Third Street facing homeless problem, along with economic struggles. (2021, February 17). In NBC LA. https://www.youtube.com/watch?v=v9lYEfpmqYM

Scott, A. (n.d.). LA's Veterans Row gets a visit from VA Secretary Denis McDonough, who vows to fight veteran homelessness. KCRW. Retrieved July 27, 2022, from https://www.kcrw.com/news/shows/greater-la/veterans-row-meatless-tech-donations/denis-mcdonough-homeless-housing-plan

Spitzer, T. (2018, May 31). Op-Ed: In defense of Orange County's "NIMBY" stance on homelessness. Los Angeles Times. https://www.latimes.com/opinion/op-ed/la-oe-spitzer-homelessnes-oc-20180531-story.html

Stabilizing chronically homeless individuals with project welcome home. (2016, June 28). https://www.youtube.com/watch?v=dFF4gN56Bhg

Tyska, J. (Director). (2018, May 19). Oakland residents face $1,000 rent hike or eviction [Video]. In Mercury News. https://bayareane.ws/2Iw3Vnv

Understanding poverty in California. (2019, August 12). https://www.youtube.com/watch?v=tPh4xE7QLGo

Venice Gallerie (Director). (2021, August 15). Homeless girl on drugs. What happened to her? https://www.youtube.com/watch?v=Oq5oczsCjBw

Walker, J. (Director). (2022, January 4). Evicted in a pandemic: Hundreds in Fresno, Valley locked out despite COVID protections. In The Fresno Bee. https://www.fresnobee.com/fresnoland/article257013257.html

Walker, W. (Director). (2022, March 6). Kpix special report: San Francisco's tenderloin – a state of emergency. In KPIX CBS SF Bay Area. https://www.youtube.com/watch?v=KDDtKERvF4M

Warth, G. (2019, January 14). San Diego charity organization closes, cites new state law restricting feeding homeless people. San Diego Union-Tribune. https://www.sandiegouniontribune.com/news/homelessness/sd-me-homeless-feeding-20190114-story.html

Weissmueller, Z. (Director). (2021, July 7). Los Angeles is squandering $1.2 billion while homeless face a 'spiral of death.' ReasonTV. https://www.youtube.com/watch?v=oRVYI_fAHHs

Yu, B. (Director). (2022, July 10). Viral video of kids' Market Street encounter highlights San Francisco's drug problem. In KPIX CBS SF Bay Area. https://www.youtube.com/watch?v=K2CVMCZ6F2M

Appendix C.

Demographic Targets and Results

	Population[1]	Survey Groups				
		Control, N = 177[2]	**Blue GFX**, N = 163[2]	**Red GFX**, N = 175[2]	**Sad Music**, N = 165[2]	**Scary Music**, N = 167[2]
Gender						
Female	(51%)	85 (48%)	83 (51%)	86 (49%)	82 (50%)	92 (55%)
Male	(49%)	90 (51%)	80 (49%)	88 (51%)	83 (50%)	75 (45%)
Other or non-binary		2 (0.9%)	0 (0%)	0 (0.3%)	1 (0.5%)	0 (0%)
Age						
18-29	(23%)	39 (22%)	42 (26%)	32 (18%)	44 (27%)	36 (22%)
30-44	(27%)	46 (26%)	47 (29%)	45 (26%)	46 (28%)	42 (25%)
45-54	(17%)	31 (18%)	31 (19%)	27 (16%)	21 (12%)	33 (20%)
55-64	(16%)	32 (18%)	19 (12%)	28 (16%)	26 (16%)	27 (16%)
65+	(18%)	28 (16%)	25 (15%)	43 (25%)	28 (17%)	29 (17%)
Race						
American Indian or Alaskan Native	(0.8%)	1 (0.8%)	2 (1.0%)	0 (0%)	3 (1.5%)	1 (0.6%)
Asian	(15%)	31 (18%)	25 (16%)	34 (19%)	17 (10%)	23 (14%)
Black	(5.9%)	13 (7.2%)	10 (6.1%)	10 (5.9%)	9 (5.6%)	8 (4.6%)
Multiple Races	(3.6%)	3 (1.7%)	8 (4.7%)	7 (3.8%)	6 (3.8%)	7 (4.1%)
Native Hawaiian or Other Pacific Islander	(0.4%)	1 (0.8%)	0 (0%)	1 (0.3%)	0 (0.1%)	1 (0.7%)
Other	(13%)	19 (11%)	19 (12%)	19 (11%)	28 (17%)	26 (16%)
White	(61%)	108 (61%)	99 (61%)	105 (60%)	102 (62%)	102 (61%)
Ethnicity						
Hispanic	(35%)	65 (37%)	56 (34%)	52 (30%)	70 (42%)	56 (33%)
Non-Hispanic	(65%)	112 (63%)	107 (66%)	123 (70%)	96 (58%)	111 (67%)
Education						
Bachelor's degree	(20%)	40 (23%)	36 (22%)	28 (16%)	28 (17%)	34 (20%)
High school or less	(36%)	60 (34%)	54 (33%)	64 (37%)	65 (40%)	57 (34%)
Post-graduate or professional degree	(11%)	19 (11%)	18 (11%)	22 (13%)	15 (9.2%)	21 (13%)
Some college, or Associates or technical degree	(34%)	58 (33%)	55 (34%)	60 (34%)	57 (34%)	54 (33%)

[1] Weighted percentage from American Community Survey (2019) data.

[2] Unweighted count (n) and weighted percentage (%).

Appendix D.

R Software Citations

Bischl, B., Lang, M., Bossek, J., Horn, D., Richter, J., & Surmann, D. (2022). *Bbmisc: Miscellaneous helper functions for B. Bischl*. https://CRAN.R-project.org/package=BBmisc

Dowle, M., & Srinivasan, A. (2022). *data.table: Extension of `data.frame`*. https://CRAN.R-project.org/package=data.table

Ellis, G. F., & Schneider, B. (2022). *srvyr: 'dplyr'-like syntax for summary statistics of survey data*. https://CRAN.R-project.org/package=srvyr

Gohel, D. (2022). *officer: Manipulation of Microsoft Word and Powerpoint documents*. https://CRAN.R-project.org/package=officer

Gohel, D., & Skintzos, P. (2022). *flextable: Functions for tabular reporting*. https://CRAN.R-project.org/package=flextable

Iannone, R., Cheng, J., Schloerke, B., Hughes, E., & Seo, J. (2022). *gt: Easily create presentation-ready display tables*. https://CRAN.R-project.org/package=gt

Long, J. A. (2019). *interactions: Comprehensive, user-friendly toolkit for probing interactions*. https://cran.r-project.org/package=interactions

Long, J. A. (2022). *jtools: Analysis and presentation of social scientific data*. https://cran.r-project.org/package=jtools

Lumley, T. (2020). *survey: Analysis of complex survey samples*.

Pasek, J. (2018). *anesrake: ANES raking implementation*. https://CRAN.R-project.org/package=anesrake

R Core Team. (2022). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. https://www.R-project.org/

Rinker, T. W., & Kurkiewicz, D. (2018). *pacman: Package management for R*. http://github.com/trinker/pacman

Schneider, B. (2022). *svrep: Tools for creating, updating, and analyzing survey replicate weights*. https://CRAN.R-project.org/package=svrep

Sjoberg, D. D., Whiting, K., Curry, M., Lavery, J. A., & Larmarange, J. (2021). Reproducible summary tables with the gtsummary package. *The R Journal*, *13*(1), 570–580. https://doi.org/10.32614/RJ-2021-053

Wickham, H., Averick, M., Bryan, J., Chang, W., McGowan, L. D., François, R., Grolemund, G., Hayes, A., Henry, L., Hester, J., Kuhn, M., Pedersen, T. L., Miller, E., Bache, S. M., Müller, K., Ooms, J., Robinson, D., Seidel, D. P., Spinu, V., … Yutani, H. (2019). Welcome to the tidyverse. *Journal of Open Source Software*, *4*(43), 1686. https://doi.org/10.21105/joss.01686

References

Aarøe, L. (2011). Investigating frame strength: The case of episodic and thematic frames. *Political Communication, 28*(2), 207–226. https://doi.org/10.1080/10584609.2011.568041

Agans, R. P., & Liu, G. (2015). Public attitudes toward the homeless. *Global Journal of Science Frontier Research: Interdiciplinary, 15*(3.1).

Aslam, M. M. (2006). Are you selling the right colour? A cross-cultural review of colour as a marketing cue. *Journal of Marketing Communications*, *12*(1), 15–30. https://doi.org/10.1080/13527260500247827

Bailard, C. S. (2016). Corporate ownership and news bias revisited: Newspaper coverage of the Supreme Court's Citizens United ruling. *Political Communication*, *33*(4), 583–604. https://doi.org/10.1080/10584609.2016.1142489

Baum, M. A. (2011). *Soft news goes to war: Public opinion and American foreign policy in the new media age* (Course Book). Princeton University Press.

Baum, M. A., & Gussin, P. (2008). In the eye of the beholder: How information shortcuts shape individual perceptions of bias in the media. *Quarterly Journal of Political Science, 3*(1), 1–31. https://doi.org/10.1561/100.00007010

Baum, M. A., & Jamison, A. (2011). *Soft news and the four Oprah effects*. Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199545636.003.0008

Baumgartner, J., & Morris, J. S. (2006). The Daily Show effect: Candidate evaluations, efficacy, and American youth. *American Politics Research*, *34*(3), 341–367. https://doi.org/10.1177/1532673X05280074

Best, R. (2010). Situation or social problem: The influence of events on media coverage of homelessness. *Social Problems*, *57*(1), 74–91. https://doi.org/10.1525/sp.2010.57.1.74

Brosius, H.-B. (1990). Bewertung gut, behalten schlecht: Die wirkung von musik in informationsfilmen [Good evaluation, bad memory: The effect of music in information films]. *Medienpsychologie, 2*(1), 44–55.

Brown, S., & Volgsten, U. (2006). *Music and manipulation: On the social uses and social control of music*. Berghahn Books.

Buck, P. O., Toro, P. A., & Ramos, M. A. (2004). Media and professional interest in homelessness over 30 years (1974–2003). *Analyses of Social Issues and Public Policy*, *4*(1), 151–171. https://doi.org/10.1111/j.1530-2415.2004.00039.x

Calder, M. J., Hansard, A., Richter, S., Burns, K. K., & Mao, Y. (2011). Framing homelessness for the Canadian public: The news media and homelessness. *Canadian Journal of Urban Research*, *20*(2), 1–19. http://www.jstor.org/stable/26193866

Campbell, A., Converse, P. E., Miller, W. E., & Stokes, D. (1980). *The American voter* (Unabridged ed.). University of Chicago Press.

Carter, M. J. (2013). The hermeneutics of frames and framing: An examination of the media's construction of reality. *SAGE Open*, *3*(2), 2158244013487915. https://doi.org/10.1177/2158244013487915

Cassino, D., Taber, C. S., & Lodge, M. (2007). Information processing and public opinion. *Politische Vierteljahresschrift*, *48*(2), 205–220. http://www.jstor.org/stable/24200162

Chong, D., & Druckman, J. N. (2007). Framing theory. *Annual Review of Political Science*, *10*(1), 103–126. https://doi.org/10.1146/annurev.polisci.10.072805.103054

Claudia Bullerjahn. (2005). The effectiveness of music in television commercials: A comparison of theoretical approaches. In *Music and manipulation* (1st ed.). Berghahn Books.

Clifford, S. (2019). How emotional frames moralize and polarize political attitudes. *Political Psychology*, *40*(1), 75–91. https://doi.org/10.1111/pops.12507

Coleman, R., & Banning, S. (2006). Network tv news' affective framing of the presidential candidates: Evidence for a second-level agenda-setting effect through visual framing. *Journalism and Mass Communication Quarterly*, *83*(2), 313–328. http://www.proquest.com/docview/216932615/abstract/F3FD1B068A94CE2PQ/1

Converse, P. E. (2006). The nature of belief systems in mass publics (1964). *Critical Review*, *18*(1–3), 1–74. https://doi.org/10.1080/08913810608443650

Cooper, S. D. (2010). The oppositional framing of bloggers. In P. D'Angelo & J. A. Kuypers (Eds.), *Doing news framing analysis: Empirical and theoretical perspectives* (pp. 135–155). Routledge.

Coppock, A., Hill, S. J., & Vavreck, L. (2020). The small effects of political advertising are small regardless of context, message, sender, or receiver: Evidence from 59 real-time randomized experiments. *Science Advances*, *6*(36), eabc4046. https://doi.org/10.1126/sciadv.abc4046

Couper, M. P., Tourangeau, R., Conrad, F. G., & Crawford, S. D. (2004). What they see is what we get: Response options for web surveys. *Social Science Computer Review*, *22*(1), 111–127. https://doi.org/10.1177/0894439303256555

DeSteno, D., Petty, R. E., Rucker, D. D., Wegener, D. T., & Braverman, J. (2004). Discrete emotions and persuasion: The role of emotion-induced expectancies. *Journal of Personality and Social Psychology*, *86*(1), 43–56. https://doi.org/10.1037/0022-3514.86.1.43

Dunaway, J. (2008). Markets, ownership, and the quality of campaign news coverage. *The Journal of Politics*, *70*(4), 1193–1202. https://doi.org/10.1017/S0022381608081140

Dynata. (2022). *Panel quality: Our values; Answers to ESOMAR's 37 questions*. Dynata.

Elliot, A. J., Franklin, A., & Fairchild, M. D. (Eds.). (2015). Color symbolism and association. In *Handbook of Color Psychology* (pp. 317–432). Cambridge University Press. https://www.cambridge.org/core/books/handbook-of-color-psychology/color-symbolism-and-association/BC474855ACB3A12ABBD156D1D94E32AE

Elliot, A. J., & Maier, M. A. (2014). Color psychology: Effects of perceiving color on psychological functioning in humans. *Annual Review of Psychology*, *65*(1), 95–120. https://doi.org/10.1146/annurev-psych-010213-115035

Ezell, J. E. (2012). Affective, attitudinal, and cognitive responses to music in modern U.S. political advertising [Ph.D., The University of Alabama]. In *ProQuest Dissertations and Theses*. https://www.proquest.com/docview/1284870504/abstract/7E8FE12FDE714BC6PQ/1

Feinberg, M., & Willer, R. (2019). Moral reframing: A technique for effective and persuasive communication across political divides. *Social and Personality Psychology Compass*, *13*(12), e12501. https://doi.org/10.1111/spc3.12501

Fischel, W. A. (2001). *The homevoter hypothesis: How home values influence local government taxation, school finance, and land-use policies*. Harvard University Press.

Forgas, J. P. (2003). Affective influences on attitudes and judgments. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith (Eds.), *Handbook of affective sciences* (pp. 596–618). Oxford University Press.

Forgas, J. P. (2010). Affective influences on the formation, expression, and change of attitudes. In *The psychology of attitudes and attitude change* (pp. 141–160). Psychology Press.

Franz, M. M., & Ridout, T. N. (2007). Does political advertising persuade? *Political Behavior*, *29*(4), 465–491. https://doi.org/10.1007/s11109-007-9032-y

Fukui, H., & Toyoshima, K. (2014). Chill-inducing music enhances altruism in humans. *Frontiers in Psychology*, *5*. https://www.frontiersin.org/articles/10.3389/fpsyg.2014.01215

Gelman, A. (2008). Scaling regression inputs by dividing by two standard deviations. *Statistics in Medicine*, *27*(15), 2865–2873. https://doi.org/10.1002/sim.3107

Gentzkow, M., & Shapiro, J. M. (2008). Competition and truth in the market for news. *The Journal of Economic Perspectives*, *22*(2), 133–154. https://doi.org/10.1257/jep.22.2.133

Gerring, J. (2012). *Social science methodology: A unified framework: Vol. 2nd ed*. Cambridge eText.

Goffman, E. (1974). *Frame analysis: An essay on the organization of experience*. Harper & Row.

Gorn, G. J. (1982). The effects of music in advertising on choice behavior: A classical conditioning approach. *Journal of Marketing*, *46*(1), 94–101. https://doi.org/10.1177/002224298204600109

Gottbreht, T. S. (2019). *Closer to home: Newspaper representations of homelessness during the housing crisis and great recession of 2007 - 2009* [Ph.D., The Johns Hopkins University]. https://www.proquest.com/docview/2353550087/abstract/4296C967B26E4323PQ/1

Grabe, M. E., & Bucy, E. P. (2009). *Image bite politics: News and the visual framing of elections*. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780195372076.001.0001

Gross, K., & Brewer, P. R. (2007). *Sore losers: News frames, policy debates, and emotions*. https://journals-sagepub-com.ezp-prod1.hul.harvard.edu/doi/abs/10.1177/1081180X06297231

Gross, K., & D'Ambrosio, L. (2004). Framing emotional response. *Political Psychology, 25*(1), 1–29. https://doi.org/10.1111/j.1467-9221.2004.00354.x

Güneş, E., & Olguntürk, N. (2020). Color-emotion associations in interiors. *Color Research & Application, 45*(1), 129–141. https://doi.org/10.1002/col.22443

Haidt, J. (2003). The moral emotions. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith (Eds.), *Handbook of affective sciences* (pp. 852–870). Oxford University Press.

Hamilton, J. (2004). *All the news that's fit to sell: How the market transforms information into news*. Princeton University Press.

Hanada, M. (2018). Correspondence analysis of color–emotion associations. *Color Research & Application, 43*(2), 224–237. https://doi.org/10.1002/col.22171

Hankinson, M. (2018). When do renters behave like homeowners? High rent, price anxiety, and NIMBYism. *American Political Science Review, 112*(3), 473–493. https://doi.org/10.1017/S0003055418000035

Harmon-Jones, C., Bastian, B., & Harmon-Jones, E. (2016). The discrete emotions questionnaire: A new tool for measuring state self-reported emotions. *PLOS ONE, 11*(8), e0159915. https://doi.org/10.1371/journal.pone.0159915

Hartley, T., & Russett, B. (1992). Public opinion and the common defense: Who governs military spending in the United States? *The American Political Science Review, 86*(4), 905–915. https://doi.org/10.2307/1964343

Herget, A.-K., & Albrecht, J. (2022). Soundtrack for reality? How to use music effectively in non-fictional media formats. *Psychology of Music, 50*(2), 508–529. https://doi.org/10.1177/0305735621999091

Hertz, Z. (2022, May 16). Creating survey weights in R using Census data. *Zachary Lorico Hertz*. https://zacharylhertz.github.io/posts/2022/05/weighting-surveys

Hinckley, R. H. (1992). *People, polls, and policymakers: American public opinion and national security* (p. xxi+157-xxi+157).

Hitchcock, A. (Director). (1960, September 8). *Psycho*. Universal Pictures, Paramount Pictures.

Huddy, L. (2007). On the distinct political effects of anxiety and anger. In F. Stanley, C. Erin, G. E. Marcus, W. R. Neuman, & M. MacKuen (Eds.), *The affect effect: Dynamics of emotion in political thinking and behavior* (p. 0). University of Chicago Press. https://doi.org/10.7208/chicago/9780226574431.003.0009

Hung, K. (2000). Narrative music in congruent and incongruent tv advertising. *Journal of Advertising*, *29*(1), 25–34. https://doi.org/10.1080/00913367.2000.10673601

Iyengar, S. (1987). Television news and citizens' explanations of national affairs. *The American Political Science Review*, *81*(3), 815–831. https://doi.org/10.2307/1962678

Jacobs, K. W., & Hustmyer, F. E. (1974). Effects of four psychological primary colors on gsr, heart rate and respiration rate. *Perceptual and Motor Skills*, *38*(3), 763–766. https://doi.org/10.2466/pms.1974.38.3.763

Jacobs, K. W., & Suess, J. F. (1975). Effects of four psychological primary colors on anxiety state. *Perceptual and Motor Skills*, *41*(1), 207–210. https://doi.org/10.2466/pms.1975.41.1.207

Kahneman, D., Slovic, P., & Tversky, A. (1982). *Judgment under uncertainty: Heuristics and biases*. Cambridge University Press.

Kaid, L. L. (Ed.). (2004). Political advertising. In *Handbook of political communication research* (pp. 155–202). Lawrence Erlbaum Associates.

Kaid, L. L. (2012). Political advertising as political marketing: A retro-forward perspective. *Journal of Political Marketing*, *11*(1–2), 29–53. https://doi.org/10.1080/15377857.2012.642731

Kellaris, J. J., Cox, A. D., & Cox, D. (1993). The effect of background music on ad processing: A contingency explanation. *Journal of Marketing*, *57*(4), 114–125. http://www.proquest.com/docview/1296604125/citation/FF789DD4E1924C8BPQ/1

Kernell, G., Lamberson, P. J., & Zaller, J. (2018). Market demand for civic affairs news. *Political Communication*, *35*(2), 239–260. https://doi.org/10.1080/10584609.2017.1339221

Kopiez, R., Platz, F., & Wolf, A. (2013). The overrated power of background music in television news magazines: A replication of Brosius' 1990 study. *Musicae Scientiae*, *17*(3), 309–331. https://doi.org/10.1177/1029864913489703

Kühne, R., & Schemer, C. (2013). The emotional effects of news frames on information processing and opinion formation. *Communication Research*, *42*. https://doi.org/10.1177/0093650213514599

Kuklinski, J. H., & Quirk, P. J. (2000). Reconsidering the rational public: Cognition, heuristics, and mass opinion. In A. Lupia, M. D. McCubbins, & S. L. Popkin (Eds.), *Elements of reason: Cognition, choice, and the bounds of rationality* (pp. 153–182). Cambridge University Press. https://doi.org/10.1017/CBO9780511805813.008

Kuypers, J. A. (2010). Framing analysis from a rhetorical perspective. In P. D'Angelo & J. A. Kuypers (Eds.), *Doing news framing analysis: Empirical and theoretical perspectives* (pp. 135–155). Routledge.

Ladd, J. M. (2011). *Why Americans hate the media and how it matters*. Princeton University Press.

Lecheler, S. (2018). *News framing effects* (First edition.). Routledge.

Lecheler, S., Bos, L., & Vliegenthart, R. (2015). The mediating role of emotions: News framing effects on opinions about immigration. *Journalism & Mass Communication Quarterly*, *92*(4), 812–838. https://doi.org/10.1177/1077699015596338

Lecheler, S., Schuck, A. R. T., & Vreese, C. H. de. (2013). Dealing with feelings: Positive and negative discrete emotions as mediators of news framing effects. *Communications - The European Journal of Communication Research*, *38*(2), 189–209. https://doi.org/10.1515/commun-2013-0011

Lupia, A., & McCubbins, M. D. (1998). *The democratic dilemma: Can citizens learn what they need to know?* Cambridge University Press.

Mackinnon, A., Jorm, A. F., Christensen, H., Korten, A. E., Jacomb, P. A., & Rodgers, B. (1999). A short form of the positive and negative affect schedule: Evaluation of factorial validity and invariance across demographic variables in a community

sample. *Personality and Individual Differences*, *27*(3), 405–416. https://doi.org/10.1016/S0191-8869(98)00251-7

Mago, V. K., Morden, H. K., Fritz, C., Wu, T., Namazi, S., Geranmayeh, P., Chattopadhyay, R., & Dabbaghian, V. (2013). Analyzing the impact of social factors on homelessness: A Fuzzy Cognitive Map approach. *BMC Medical Informatics and Decision Making*, *13*, 94. https://doi.org/10.1186/1472-6947-13-94

Manville, M. (2021). Liberals and housing: A study in ambivalence. *Housing Policy Debate*, 1–21. https://doi.org/10.1080/10511482.2021.1931933

Marble, W., & Nall, C. (2021). Where self-interest trumps ideology: Liberal homeowners and local opposition to housing development. *The Journal of Politics*. https://doi.org/10.1086/711717

Matheis, M., & Sorens, J. (2022). Framing affordable housing: An experimental test of changing attitudes. *Housing Studies*, 1–17. https://doi.org/10.1080/02673037.2022.2101630

Mott, F. L. (1962). *American journalism: A history, 1690-1960* (3rd ed.). Macmillan.

Murphy, J., Hofacker, C., & Mizerski, R. (2006). Primacy and recency effects on clicking behavior. *Journal of Computer-Mediated Communication*, *11*(2), 522–535. https://doi.org/10.1111/j.1083-6101.2006.00025.x

Nabi, R. L. (1999). A cognitive-functional model for the effects of discrete negative emotions on information processing, attitude change, and recall. *Communication Theory*, *9*(3), 292–320. https://doi.org/10.1111/j.1468-2885.1999.tb00172.x

Nabi, R. L. (2003). Exploring the framing effects of emotion: Do discrete emotions differentially influence information accessibility, information seeking, and policy preference? *Communication Research*, *30*(2), 224–247. https://doi.org/10.1177/0093650202250881

Nelson, T. E., Clawson, R. A., & Oxley, Z. M. (1997). Media framing of a civil liberties conflict and its effect on tolerance. *American Political Science Review*, *91*(3), 567–583. https://doi.org/10.2307/2952075

Nisbet, M. C. (2010). Knowledge into action: Framing the debates over climate change and poverty. In P. D'Angelo & J. A. Kuypers (Eds.), *Doing news framing analysis: Empirical and theoretical perspectives* (pp. 43–83). Routledge.

Ou, L.-C., Luo, M. R., Woodcock, A., & Wright, A. (2004). A study of colour emotion and colour preference. Part I: Colour emotions for single colours. *Color Research & Application*, *29*(3), 232–240. https://doi.org/10.1002/col.20010

Page, B. I. (1992). *The rational public: Fifty years of trends in Americans' policy preferences*. University of Chicago Press.

Page, B. I., Shapiro, R. Y., & Dempsey, G. R. (1987). What moves public opinion? *The American Political Science Review*, *81*(1), 23–43. https://doi.org/10.2307/1960777

Parrott, S., Hoewe, J., Fan, M., & Huffman, K. (2019). Portrayals of immigrants and refugees in U.S. news media: Visual framing and its effect on emotions and attitudes. *Journal of Broadcasting & Electronic Media*, *63*(4), 677–697. https://doi.org/10.1080/08838151.2019.1681860

Petty, R. E., Fabrigar, L. R., & Wegener, D. T. (2003). Emotional factors in attitudes and persuasion. In *Handbook of affective sciences* (pp. 752–772). Oxford University Press.

Plass, J. L., Heidig, S., Hayward, E. O., Homer, B. D., & Um, E. (2014). Emotional design in multimedia learning: Effects of shape and color on affect and learning. *Learning and Instruction*, *29*, 128–140. https://doi.org/10.1016/j.learninstruc.2013.02.006

Popkin, S. L. (1994). *The reasoning voter: Communication and persuasion in presidential campaigns* (Second edition.). The University of Chicago Press.

Prior, M. (2003). Any good news in soft news? The impact of soft news preference on political knowledge. *Political Communication*, *20*(2), 149–171. https://doi.org/10.1080/10584600390211172

Pruitt, A. S. (2019). *Dominant cultural narratives on homelessness: The association between media and attitudes and beliefs on homelessness in Honolulu* [Ph.D., University of Hawai'i at Manoa]. https://www.proquest.com/docview/2289586470/abstract/196D251C81EF4BC0PQ/1

Qualtrics. (2005). *Qualtrics* (November 2022) [Web]. Qualtrics. https://www.qualtrics.com

R Core Team. (2022). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. https://www.R-project.org/

Rapeli, L. (2022). What is the best proxy for political knowledge in surveys? *PLOS ONE*, *17*(8), e0272530. https://doi.org/10.1371/journal.pone.0272530

Reppond, H. A., & Bullock, H. E. (2018). Framing homeless policy: Reducing cash aid as a compassionate solution. *Analyses of Social Issues and Public Policy*, *18*(1), 284–306. https://doi.org/10.1111/asap.12156

Scheufele, D. A., & Scheufele, B. T. (2010). Of spreading activation, applicability, and schemas: Conceptual distinctions and their operational implications for measuring frames and framing effects. In P. D'Angelo & J. A. Kuypers (Eds.), *Doing news framing analysis: Empirical and theoretical perspectives* (pp. 135–155). Routledge.

Scheufele, D. A., & Tewksbury, D. (2007). Framing, agenda setting, and priming: The evolution of three media effects models: models of media effects. *Journal of Communication*, *57*(1), 9–20. https://doi.org/10.1111/j.0021-9916.2007.00326.x

Schudson, M. (1978). *Discovering the news: A social history of American newspapers*. Basic Books.

Schwan, K. (2016). *Why don't we do something? The societal problematization of "homelessness"and the relationship between discursive framing and social change* [Ph.D., University of Toronto (Canada)]. https://www.proquest.com/docview/1889554099/abstract/233218179BA24CD9PQ/1

Scott, W. D. (1908). *The psychology of advertising; a simple exposition of the principles of psychology in their relation to successful advertising*. Small, Maynard & company. http://nrs.harvard.edu/urn-3:HUL.FIG:005079236

Shevy, M. (2007). The mood of rock music affects evaluation of video elements differing in valence and dominance. *Psychomusicology: A Journal of Research in Music Cognition*, *19*(2), 57–78. https://doi.org/10.1037/h0094034

Sniderman, P. M. (1993). The new look in public opinion research. In A. W. Finifter (Ed.), *Political science: The state of the discipline II* (pp. 219–245). American Political Science Association.

Sniderman, P. M., Brody, R. A., & Tetlock, P. E. (1991). *Reasoning and choice: Explorations in political psychology*. Cambridge University Press.

Sorens, J. (2022). *How to unclog America's home supply* (p. 13) [Issue Brief]. The Manhattan Institute.

Spezio, M. L., & Adolphs, R. (2007). Emotional processing and political judgment: Toward integrating political psychology and decision neuroscience. In G. E. Marcus, W. R. Neuman, & M. MacKuen (Eds.), *The affect effect: Dynamics of emotion in political thinking and behavior* (p. 0). University of Chicago Press. https://doi.org/10.7208/chicago/9780226574431.003.0004

Storbeck, J., & Clore, G. L. (2008). Affective arousal as information: How affective arousal influences judgments, learning, and memory. *Social and Personality Psychology Compass*, *2*(5), 1824–1843. https://doi.org/10.1111/j.1751-9004.2008.00138.x

Stromberg, D. (2015). Media and politics. *Annual Review of Economics*, *7*(1), 173–205. https://doi.org/10.1146/annurev-economics-080213-041101

Sullivan, J. (2006, Winter). Psycho: The music of terror. *Cineaste*, *32*(1), 20-28,80. http://www.proquest.com/docview/204855700/abstract/C7D585AB6F244CE0PQ/1

Thompson, E. R. (2007). Development and validation of an internationally reliable short-form of the Positive and Negative Affect Achedule (PANAS). *Journal of Cross-Cultural Psychology*, *38*(2), 227–242. https://doi.org/10.1177/0022022106297301

Thorson, E., Christ, W. G., & Caywood, C. (1991). Effects of issue-image strategies, attack and support appeals, music, and visual content in political commercials. *Journal of Broadcasting & Electronic Media*, *35*(4), 465–486. https://doi.org/10.1080/08838159109364141

Truong, S. V. (2012). *"Please do not feed the homeless:" The role of stereotyping and media framing on the criminalization of homelessness* [UC Santa Cruz]. https://escholarship.org/uc/item/9jv4v5nw

Turner, M. M. (2021). Emotion in persuasion and risk communication. In Katrin Döveling & Elly A. Konijn (Eds.), *Routledge international handbook of emotions and media* (2nd Edition). Routledge. https://www.taylorfrancis.com/books/edit/10.4324/9780429465758/routledge-international-handbook-emotions-media-katrin-d%C3%B6veling-elly-konijn

Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science (American Association for the Advancement of Science)*, *211*(4481), 453–458. https://doi.org/10.1126/science.7455683

US Census Bureau. (2022). *American Community Survey (ACS)*. Census.Gov. https://www.census.gov/programs-surveys/acs

Valdez, P., & Mehrabian, A. (1994). Effects of color on emotions. *Journal of Experimental Psychology: General*, *123*(4), 394–409. https://doi.org/10.1037/0096-3445.123.4.394

Varma, A. (2018). *Solidarity in action: A case study of journalistic humanizing techniques in the San Francisco homeless project* [Ph.D., Stanford University]. https://www.proquest.com/docview/2434487748/abstract/E518A2AE91FB4042PQ/1

Varma, A. (2022). Solidarity eclipses objectivity as journalism's dominant ideal [Policy blog]. *Nieman Lab*. https://www.niemanlab.org/2021/12/solidarity-eclipses-objectivity-as-journalisms-dominant-ideal/

Zaller, J. (1992). *The nature and origins of mass opinion*. Cambridge University Press.

Zaller, J. (1999, September). *Market competition and news quality*. Annual Meetings of the American Political Science Association, Atlanta, GA. https://web.stanford.edu/class/comm1a/readings/zaller-market-demand.pdf

Zaller, J. (2003). A new standard of news quality: Burglar alarms for the monitorial citizen. *Political Communication*, *20*(2), 109–130. https://doi.org/10.1080/10584600390211136

Zaller, J. (2012). What "Nature and Origins" leaves out. *Critical Review*, *24*(4), 569–642. https://doi.org/10.1080/08913811.2012.807648

Zheng, X., Lang, A., & Ewoldsen, D. (2021). *The measurement of positive and negative affect in media research* (pp. 48–66). https://doi.org/10.4324/9780429465758-4