methods, data, analyses | Vol. 19(2), 2025, pp. 146-176 DOI: 10.25521/mda.706

Improving Assessments of Group-Based Appeals in Political Campaigns by Systematically Incorporating Visual Components of Ads

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Abstract

Existing research on group-based appeals primarily uses text-based methods, and while many studies show the importance of visuals in implicitly cueing groups, this data is rarely captured in a systematic way. This paper seeks to make the first important step towards filling this gap by outlining a coding scheme to evaluate how group-based appeals are used multimodally in modern political campaigns. This paper builds categories from a qualitative sample of 182 images taken from 28 television and 63 Facebook ads from candidates running in the US 2020 House of Representatives elections. Direct appeals are captured as explicit group mentions and I present new categories for indirect and baseline appeals, which incorporate primarily visual indicators of groups. Intercoder reliability tests were conducted, and the schema was applied to a larger sample of 2480 images from 125 television ads from candidates running in the three most populous states (California, Texas, Florida). This paper finds that candidates use direct and indirect appeals at similar rates, often using them in combination. Capturing visual data therefore enables greater coverage of the range of group-based appeals that political campaigns conduct. Secondly, candidates are more likely to cue occupational groups indirectly, and capturing only direct cues may lead to skewed findings in terms of which groups candidates appeal to. I find that this new coding scheme may reduce bias in measures of both the prevalence of group-based appeals and the types of groups that campaigns appeal to in modern political discourse.

Keywords: group appeals, visual methods, election campaigns, group targeting, political communication

Political campaigns' appeals towards voter groups is receiving increased interest in political science (Huber, 2022; Huber & Dolinsky, 2023). Currently, group-based appeals are measured from text-based sources such as speeches and manifestos (Dolinsky, 2022; Horn et al., 2021; Huber, 2022; Thau, 2019, 2021). Where multimodal media such as print campaign materials are analyzed, only the textual content is typically evaluated (Dolinsky, 2022). Textual content, however, only reveals part of the picture, and studies suggest that groups can be indicated indirectly, through visuals (McIlwain & Caliendo, 2011; Swigger, 2012). Visual communication is even more prominent today as newer forms of social media such as Instagram and TikTok are primarily visual platforms. Despite the evident importance of images, we lack a methodology to systematically incorporate indirect measures into assessments of group-based appeals. The focus on text-based methods is part of a broader pattern in political science that prioritizes textual over visual content, partly due to methodological reasons such as the volume of images available on social media raising questions around size and scope, as well as images being viewed as more subjective and a hinderance to reasoning (Coleman, 2010; Dean, 2019; Graber, 2012). However, by incorporating multimodal features of campaign content into assessments of group-based appeals, researchers can unlock new insights into the wider range of ways in which campaigns signal groups. In this paper I propose an approach for systematically coding group-based appeals using visual data such as campaign advertisements or social media posts.

This paper first reviews the literature and demonstrates that group-based appeals are currently measured by text-based methodologies, before moving to argue why visual and indirect appeals are likely to be important for political campaigns and how this data can be incorporated. The paper then outlines how the coding scheme was developed from a qualitative analysis, before presenting the schema. The coding scheme is tested for intercoder reliability with a second coder and applied to television ads in the 2020 US House of Representatives elections for candidates running in the three most populous states. Application of the coding scheme reveals that indirect cues both provide additional context to direct appeals and constitute group-based appeals in themselves and are therefore important to capture to make accurate assessments of how campaigns target groups.

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Background

Existing Approaches to Measuring Group-Based Appeals: Textual Analysis Methods

Since the 1960s political scientists have recognized the importance of groups in politics and campaigns, and it is therefore important to capture the full range of ways in which they are appealed to (Ford & Jennings, 2020; Lipset & Rokkan, 1967). Group-based voting is a two-step process in which voters naturally link themselves to a social group, and this group is associated with a political party (Butler & Stokes, 1969; Campbell et al., 1980; Conover, 1988). Political parties play a role in this process, by representing some groups over others, they help foster and sustain group identities and articulate and mobilize group demands (Lipset & Rokkan, 1967). Group-based appeals are used by political parties to signal which groups they will represent if elected.

Huber and Dolinsky (2023) define a group-based appeal as "*an intentional act that associates a political actor with or dissociates them from a social group*" (p. 11) and distinguish between direct and indirect appeals. Direct appeals constitute overt and unambiguous communication toward a group, for example, explicit statements of endorsement (Huber & Dolinsky, 2023). For example, statements referencing demographic groups such as 'women' and 'Latino voters', economic groups such as 'farmers', 'workers', and religious groups such as 'Catholics' and 'Muslims', would count as direct appeals. In this way, the *intentional* linking to a group is clear, a campaign explicitly mentions a group or they do not. In contrast, indirect appeals are when "no overt mention of a group is observed but the party instead uses symbols or language associated" with a group or proposes policies that impact a group without naming them directly (Huber & Dolinsky, 2023, p. 17). Huber and Dolinsky (2023) observe that indirect appeals can be conducted through symbols, language or policies associated with a group. These have been less well explored in the literature due to the challenge of reading the intention behind such group linkage (Huber & Dolinsky, 2023). While direct appeals constitute the foundation of what has already been evaluated by existing methods, indirect appeals constitute the methodological gap, or 'new' data that this paper seeks to address.

Existing methods evaluating textual content demonstrate that group-based appeals play an important role in political campaigns' electoral communication. Most studies focus on Europe and show that group-based appeals are moving away from class-based groups and towards demographic and identity-based groups such as lifecycle groups (for example, the young, elderly, pensioners) (Dolinsky 2022). In the UK, political parties appeal to a greater number of groups today than they did in the 60s, even when the length of manifestos is controlled for (Thau, 2019). Many of these studies have relied on hand-coding textual data (Dolinsky, 2022; Horn et al., 2021; Huber, 2022; Thau, 2019, 2021),

although work on appeals increasingly uses and develops computational methods such as detection of keywords and supervised classification language models (Licht & Sczepanski, 2024). This leaves a notable gap for two reasons. Firstly, such approaches are missing a significant component of group-based appeals, particularly the more cultural, symbolic, and implicit which is now arguably a primary component. Secondly, this component is likely to be even more important in the US context, where implicit cues have been shown to signal cultural and particularly racial messages (McIlwain & Caliendo, 2011; Mendelberg, 2001).

The Need for New Methods to Capture Indirect and Visual Group-Based Appeals

There are three key reasons why campaigns may be motivated to use visual communication for group-based appeals, underscoring the importance of capturing this data. Firstly, audiovisuals provide rich opportunities for audiences to learn about politics, particularly for those with low political interest and knowledge, and therefore are likely to be useful for political campaigns (Graber, 2001). The inclusion of visuals enhances memory and accuracy in recalling news, as well as invoking emotion in audiences, and political campaign professionals will try to maximize the benefits of this (Graber, 2001). Secondly, including images of groups in ads may be a lower-risk strategy for political campaigns than conducting direct group-based appeals. Showing a group visually involves less commitment than explicitly stating which group you will represent and, according to Swigger (2012), is an effective way of positively associating candidates with a group while avoiding committing to potentially unpopular policies. Finally, developments in media technologies are likely to further incentivize candidates to conduct group-based appeals with visual cues. Ads are cheaper to run on social media than television, and campaigns can microtarget messages, which may motivate campaigns to target groups through this medium (Fowler et al., 2023). Television ads are already inherently visual, and visual platforms such as TikTok and Instagram are therefore likely to continue these trends.

Having argued that visuals are likely to be used for group-based appeals, I now turn to the question of how such appeals can be measured. As highlighted by Huber and Dolinsky (2023), studies do explore how parties associate or disassociate from social groups, although they are rarely framed as group appeals. Scholars of race in particular have studied implicit messages about racial groups, and Mendelberg's (2001) analysis of the infamous Willie Horton ad is a good example of this. Textually, the 1988 Bush ad references 'murderers', while showing a threatening image of an African American man who committed violent crimes while on weekend release from prison. In this way, the ad disassociates from African Americans as a group using visual racial stereotypes. Using this example, traditional text-based approaches would record the ad as an appeal against

'murderers' as a collective group. The visual information of showing an African American man however provides additional context as to the racial aspects of who is meant by this term, and capturing the visual changes our interpretation as an appeal against criminals to disassociating from and demonizing African Americans as a group.

Candidates can indirectly associate with groups through the visible demographic characteristics of people included in ads, as well as through additional signifiers such as clothing and symbols. McIlwain and Caliendo (2011) conduct a systematic content analysis of House and Senate ads between 1970 and 2006, coding ads into 56 variables relating to racist potential. One variable evaluates whether non-candidates included in images are white, and although they argue that this kind of imagery is not enough to constitute a racist appeal in itself, it does indicate who is being included and excluded (McIlwain & Caliendo, 2011). Taken together with Mendelberg's (2011) analysis, these studies suggest that the visible demographics of people included in ads could be one variable in which groups are signaled and provide important information about who a candidate represents. Furthermore, Benoit's (2019) study of visual and verbal symbols in presidential campaign posters dating back to 1828 found that images depicted groups such as blacksmiths, farmers and miners through the setting, such as factories, and clothing. Therefore, while not studying group appeals specifically, this suggests that campaigns have been depicting and signaling groups through various symbols since the early days of political campaigning in the US.

Visual features may enhance emotions and perceptions of groups included in ads and are therefore important to consider in developing a methodology. These can be studied using a visual social semiotic approach, which focuses on relationships between the viewer and the image, such as camera angle and gaze (Feng & O'Halloran, 2012; Kress & Van Leeuwen, 1996). Setting, facial expression, gaze, distance and gestures all contribute towards perceptions of a candidate's credibility (Kaid & Johnston, 2001; Page & Duffy, 2009). Close-ups suggest intimacy, smiling and eye contact increase perceptions of likeability and authenticity, while casual clothing and setting convey authenticity (Kaid & Johnston, 2001; Kress & van Leeuwen 1996; Page & Duffy 2009). Additionally, color tone of an ad is likely to be important, as negative ads cue fear through shadowed lighting and contrasts (Brader, 2005; Jamieson, 1992). More recent studies have used automated image analysis to detect facial expressions and emotions of people included in ads (Bossetta & Schmøkel, 2023). Commercially available image labelling tools such as Google Cloud Vision, Amazon Rekognition and Clarifai have been used to tag images and conduct automated visual content analyses (Araujo et al., 2020; Bossetta & Schmøkel, 2023; d'Andrea & Mintz, 2019; Geboers & Van De Wiele, 2020). Although these automated methodologies do frequently exhibit gender and racial biases (Barlas et al., 2021; Neumayer & Rossi, 2022), it is promising for future visual political communication research that such tools

are being developed. For automated image analysis tools to be used successfully in the future, it is important to develop an understanding of the use of different kinds of visual features and create gold-standard human data to compare these automated approaches against.

Data and Methods

To build a methodology to capture visual aspects of political campaigns and to measure group-based appeals, a qualitative approach was firstly undertaken to build categories from the bottom up. This ensured that the coding scheme was data-driven and responsive to appeals present in ads. The scheme was then checked for intercoder reliability through a second coder and applied to a larger sample to evaluate whether the categories work more broadly.

Data Collection and Sampling

To conduct the qualitative exploration, intercoder reliability and proof of concept, three samples were created. Table 1 outlines how these samples were developed and for what purpose, the column 'Referenced as' indicates how each is referenced throughout the paper.

Firstly, a *qualitative sample* of television and social media ads was used to explore how group-based appeals may be conducted multimodally to develop the coding scheme (Table 1). Television adverts were accessed through the Wesleyan Media Project (WMP; Fowler et al., 2023), which provides the video files of television adverts put out by candidates. Social media adverts were accessed through the Meta ad library. The first sweep for the qualitative analysis included 134 images. 78 images were screenshotted from 23 television ads, and 56 images were screenshotted from 58 sampled social media ads. I subsequently collected more images from different candidates using the same random sampling and technique, resulting in a further 48 images (182 total), to ensure saturation of the categories developed.

A primary dataset was created of television ads for each of the top two candidates running in all 435 House of Representatives elections from the WMP. Only television ads were included for analysis despite the qualitative sample containing Facebook ads, because television ads are an important part of political campaigns and contain a strong visual element.

To test the reliability and internal validity of the coding scheme, an *intercoder reliability sample* was created by randomly sampling 25 ads from the primary dataset, which were coded by the author and a second coder, as described in more detail below.

Table 1 Data samples used in the paper

Element of research process	Data source	Sample	Referenced as
Coding scheme development	US House of Representatives 2020, all 435 races. Stratified into three equal-sized groups: the third closest races, the third least close races, and the third middle races, depending on the percentage margin of victory.	Four races randomly sampled from each group (24 candidates), and two television and social media adverts sampled per candidate. 182 total images screenshotted Sweep 1: 134 images (78 from 23 television ads, 56 from 56 Facebook ads) Sweep 2: 48 images (30 from 5 television ads, 18 from 7 Facebook ads)	Qualitative sample
Primary dataset for which samples can be taken	Top two candidates running in all 435 districts, US House of Representatives 2020 election. Television ads running from 1st September to 3rd November 2020. Primaries excluded.	For each candidate, two weeks randomly sampled, and one ad for each week sampled proportionately to the estimated amount of money spent on the ad slot (variable taken from WMP).	Primary dataset
Intercoder reliability	Main dataset of ads.	Random sample of 25 ads. Videos screenshotted every two seconds resulting in 375 images.	Intercoder reliability sample
Proof of concept	Main dataset of ads.	125 unique ads from candidates running in 3 most populous states, California, Texas and Florida who had ads in the period. Videos screenshotted every 2 seconds resulting in 2480 images.	Proof of concept sample

Finally, to evaluate the application of the schema, the two ads for candidates running in the three most populous states (California, Texas, and Florida) were taken for the *proof of concept sample* from the primary dataset and coded. This final sample was created to apply the schema to a larger set of ads to evaluate what new information the inclusion of visual and indirect appeals provides compared with textual-only appeals.

Coding Scheme Development

The coding scheme categories were developed through an inductive exploration of the qualitative sample (Table 1), analyzing different ads to identify patterns and letting categories emerge (Thomas, 2006). I watched each ad in the first sweep of the qualitative sample for instances where a candidate appeared to make a group-based appeal, and screenshotted and uploaded these images to NVivo. I evaluated why I believed an image contained an appeal, and annotated the image to note which features led me to believe this. This general inductive method shares similarities with visual discourse analysis, which emphasizes viewing the visual as a whole (Albers, 2013), however, instead of uncovering the discourse emerging within the sample, features indicating potential indirect group-based appeals were assessed. Following this approach, uses of groups were noted, and categories were created. I then returned to watch the full ads again to ensure that all categories were applied, to ensure saturation and that no features were missed.

This exploration of the qualitative sample revealed that many groups could be signaled in one shot, some more strongly than others, and the coding scheme was therefore developed to take account of this. For example, some ads contained shots of the candidate talking to a group of people, and from this image the demographic characteristics of age, gender and race of each person may be assumed by the viewer. In other cases, people in an image were shown in clothes which signaled occupation, such as a nurse's uniform or symbols of the military, and in this way, many groups could be signaled in one shot. As a result, the coding scheme was developed to code group attributes, such as gender, occupation and household position, through a variety of different cues, which can then be aggregated post-coding to gauge the overall group-based appeal. The coding scheme presented below uses examples from this qualitative approach to demonstrate why categories were incorporated and provides examples from this sample.

Moffitt's (2022) study was used as a guide for incorporating demographic characteristics of age, gender and race into the coding scheme. Moffitt (2022) codes for the majority characteristics within an image. In the case of gender, this uses the categories 'majority feminine in appearance', 'majority masculine in appearance', 'mix/balance' and 'unsure/difficult to discern' (Moffitt, 2022). This struc-

ture was used as a guide to capture where demographics were signaled, and additional types of group features included as categories, as outlined in the next subsection.

The Coding Scheme

As a result of this process, the following coding scheme was created as a method to capture multimodal group-based appeals. The coding scheme has three parts to capture 1) *what* group attributes are coded for, 2) *how* these attributes are cued, and 3) *how* group members are visually presented. The coding scheme applies to a still image as a unit of analysis.

As outlined above, the coding scheme evaluates how individual group attributes are cued, which can then be reaggregated post-coding. Table 2 depicts these attributes, and the subcategories that are coded for. This scheme proposes that the following group attributes can be cued in either their visual, verbal or textual content: *age, gender, race/ethnicity, occupation, industry, wealth/income, sexuality, religion, disability, health, partisan, recreational activity, household position,* and *ideological group*. These attributes are coded for people who are not the candidate or another politician. Where these attributes are not present, NA is recorded. The benefit of including group attributes separately is that groups covering multiple identities can be coded systematically. For example, the phrase 'working families' would be coded under both occupation and household position. If the family shown in the image is Latino, race can then be coded as 'demographics of person/people'. The image was taken as the unit of analysis, the scheme could be applied to each person/group member in an image for more granular data, and the categories changed from 'majority feminine in appearance' to 'feminine in appearance' for example.

Capturing Group-Based Appeals: Baseline, Indirect, and Direct Appeals

Table 3 shows *how* the group attributes presented in Table 2 can be measured across multimodal indicators, starting with the data that is captured by existing studies.

Direct Appeals

Direct appeals indicate the data captured by existing methods of measuring explicit mentions of groups in text or verbal aspects: *explicit mention of attribute in voiceover, text*, or *caption*. For direct group-based appeals, these terms are recorded as an appeal when they refer to a collective of people who are not politicians or public figures. For example, the phrase 'protecting pre-existing conditions' would not be recorded as a direct appeal, but 'protecting people with

Table 2 Group attributes that can be cued through multi-modal group cues and their subcategories

Attribute	Attribute categories	Rationale
Age	Baby/small child (0–3) Child (4–12) Teenager (13–19) Adult (20–40) Adult (41–64) Retirement (65+) Unsure/difficult to discern	
Gender	Majority masculine in appearance Majority feminine in appearance Mix/balance Unsure/difficult to discern	
Race	White Black/African American Asian American American Indian/Alaska Native Native Hawaiian or other Pacific Islander Hispanic/Latinx Unsure/difficult to discern Mix/balance	Moffitt (2022) keeps racial categories broad in his coding scheme using the categories 'majority white' and 'majority non-white' to avoid making problematic assumptions. However, conflating distinct groups arguably erases important distinctions between people that would be more meaningful to them, and therefore this schema uses distinct categories for race and ethnicity.[a] Importantly, the researcher is not making claims about what a person's identity is, but what the intended audience may assume it is from watching the ad.
Occupation	What occupations are depicted? (open text box answer)	
Industry	What industry/industries are the people linked to? (open text box answer)	
Sexuality	Heterosexual Homosexual Bisexual Other (open text box answer)	For example, same sex parents in an image would be coded as homosexual.
Religion	Christian Muslim Hindu Sikh Jewish Buddhist Atheist Other	

Table 2 (continued)

Attribute	Attribute categories	Rationale
Disability	Does the image show a person who appears visibly disabled? (yes/no)	
Health	Is there a person with assumed health issues? (yes/no)	For example, if the ad talks about people with health issues, or a person is shown is hospital.
Recreational activity	Are they taking part in a recreational activity? Yes/no (open text box answer)	For example, is a person in the ad engaging in hobbies or recreational activities not related to their occupation
Household position	Parents Children Grandparents Family/mix Unsure/difficult to discern	
Partisanship	Democrat Republican Party switcher (i.e., ex-Republican/ex-Democrat) Non-partisan/independent Other party (e.g., Green, Libertarian, Socialist) Unsure/difficult to discern	This category was added because both Republican and Democrat candidates used examples of party switchers explaining why they no longer support the opposing party. Visually, these cues could include party logos and symbols.
Ideological group	What is the ideological group reference? (open text box answer)	Added as a category due to the consistent use of terms such as 'radical leftists' and 'radicals' by Republican candidates
Candidate association with group	Strong association Broad/assumed association Broad/assumed disassociation Strong disassociation Neither Unsure	
Opponent association with group	Strong association Broad/assumed association Broad/assumed disassociation Strong disassociation Neither Unsure	

[a] More importantly, as a white, British researcher there is a reasonable question of whether I will make such coding decisions in the same way as the target audience. As discussed above, I was conscious to be aware of the different context and research cues such as locations and activities.

Table 3 How direct and indirect group-based appeals are cued

Group cue	Indicator	Captured by existing methods?
Direct	Explicit mention of group/attribute in voiceover Explicit mention of group/attribute in text Explicit mention of attribute in caption	Yes
Indirect	Historical context of person Characteristic accentuated by activity Setting indicates group Symbol indicates group Clothing indicates group Issue of ad indicates group Inferred from voiceover Inferred from text Inferred/would be assumed by viewer Language	Some indicators explored
Baseline	Demographics of person/people	Captured by Moffitt (2022) under the framing of showing who populists represent rather than group-based appeals

pre-existing conditions' would. Similarly, references were recorded as ideological groups when they refer to a collective of people. For example, 'radicals' was included as a group cue when referring to people such as protestors or citizens with socialist beliefs, but not when used to describe an opponent or other politicians. In the qualitative sample, candidates did occasionally use group terms to refer to themselves, such as referencing that they used to be a 'doctor' or talking about their 'family'. These were not counted as direct appeals because they emphasize candidate characteristics rather than a generic grouping of people.

Indirect Appeals

Indirect appeals are instances where a group attribute is implied through visual or verbal cues without directly mentioning the group. The coding scheme evaluates whether the group is signaled visually by *characteristics accentuated by activity, historical context of the individual, setting, symbols, clothing, language* (e.g., if the ad is in Spanish), *issue of ad,* or verbally *inferred from voiceover* or *text.* Similar to how direct appeals are not counted when the candidate is speaking about themselves, indirect appeals are assessed based on people who are not the candidate. For example, if a candidate is wearing a military uniform, this would not be coded as a group, unlike if an ordinary person is wearing the same.

Attributes can be cued by *characteristic accentuated by activity*. For example, Figure 1 shows Republican Minnesota candidate Lacy Johnson talking to the camera while men walk into a barbershop behind him. In the voiceover, Johnson discusses how conversations start in neighborhoods, not government and 'in here'. Black barbershops are important cultural spaces for Black men to talk about their experiences (Mills, 2013). Therefore, by having men walk into a barbershop behind him while he talks, Johnson is accentuating the characteristics of being both African American and a man. A mix of both white and Black men walk into the barbershop, which signals masculinity, seemingly regardless of race.

Figure 1 Screenshot from Lacy Johnson's (Minnesota 5) ad 'Breaks my heart'

The *historical context of the person* can cue a demographic group. For example, Ilhan Omar's television ad 'Broken' (Figure 2) shows a photograph of George Floyd taped to a bus stop. George Floyd was murdered by a police officer in Omar's district of Minneapolis, prompting protests against racism and police brutality (Taylor, 2021). The image of George Floyd therefore connects to a broader movement against racism, which very much connects to the demographics of being Black, and particularly male in this instance.

The *setting* of a group was noted where it indicated a group, and when there were people (non-politicians) in the image. Some ads did include settings which could indicate a group, such as showing a field of wheat. On one hand, this could indicate a group-based appeal because of the implied link to farmers. However, it could also indicate farming as an issue, or values of rural life more generally. Because of this ambiguity, only images with people included are coded as 'setting' under the group-based appeals schema.

The *clothing* of a group was again noted if it indicated or implied that the person was a member of a group. A person wearing military clothing, or army camouflage would be recorded as clothing implying a group. *Symbols* were again

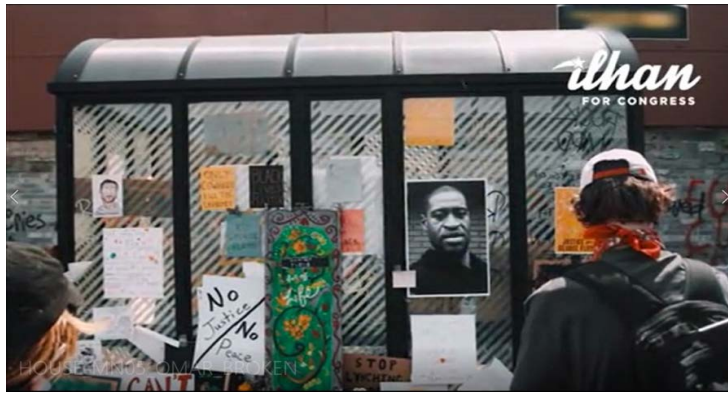

Figure 2 Screenshot from Ilhan Omar's (Minnesota 5) television ad 'Broken'

noted as implying a group where there was an identifiable and recognizable symbol, for example the LGBTQ, Irish flag and military symbols.

Textually, a group can be *inferred through the voiceover, text, or the name of the ad*. Finally, the category *inferred/would be assumed by viewer* captures instances where an identity may be inferred or assumed. For example, a person talking to the candidate may be assumed to be American.

Baseline Appeals

A baseline appeal is defined when the characteristics of age, gender and race are cued through the visible/assumed demographics of the people shown in the ad, not including indirect indicators listed above. A viewer might make inferences about a person's age, gender, and race, and therefore these characteristics cued through *demographics* are coded as a 'baseline' cue towards that group rather than an indirect appeal. For example, in Figure 3 Texas candidate Gina Oritz Jones is talking to a white woman. Here, the demographic characteristics of age (65+), gender (majority feminine in appearance) and race (white) can be coded, and there are no further indicators of other group attributes. It is difficult to conceptualize this image as a group-based appeal in itself, yet the demographics of people included is revealing when ads are evaluated systematically. Therefore, instead of constituting an indirect appeal, these baseline appeals are coded where demographics are coded for and convey information, yet do not signal a group through any cues other than the visible characteristics.

Social Semiotics

Finally, the coding scheme captures social semiotic features around the presentation of group members as outlined in the literature review. These features build upon the previous categories to gain a deeper understanding about how a group is portrayed.

Figure 3 Screenshot from Gina Oritz Jones's (Democrat, Texas 23rd District) ad 'Gina vs Tony

Gaze captures whether the group member is looking at the *camera, candidate, 'stock imagery' (*looking neither at the camera nor candidate), *face obscured, mix/balance,* or *unsure/difficult to discern*. I have termed the phrase 'stock imagery' where a person is engaging with neither the camera nor candidate as in Figure 4.

When the gaze is at the camera, it demands more attention from the viewer and is therefore more powerful (Kress & Van Leeuwen, 1996). *Shot type* addresses whether the image of the group member of person is *close-up, medium/torso,* or *long shot*. Close-ups can be polarizing in that a close personal distance is acceptable when we are comfortable with the person, but aggressive if not (Kress & van Leeuwen, 1996). *Color tone* evaluates whether the image is *black and white, sepia/low saturation, normal* or *other.* In the US, black and white color tone often conveys fear, and therefore may indicate negative campaigning or disassociating from an outgroup (Gorn et al., 1997).

Facial expression captures the emotions: *happy, sad, anger, disgust, calm, surprised, confused, fear, neutral,* and an open-ended text-box option for '*other*', following Bossetta and Schmøkel's (2023) categorization.

In the qualitative sample, the social semiotic indicators suggest that the emotional intensity of group-based appeals can be increased with visual features. Black and white color toning was used in ads disassociating from groups to create fear around an outgroup. The connection between black and white and fear is likely to be both universal (in the human physiology of reacting to color) and culturally specific in how it has been used in the US (Gorn et al., 1997). Genevieve Collins uses black and white in her negative ad (Figure 5) of a protestor alongside the message that 'Dallas radicals' are trying to defund the police. The protestor's face is obscured in the edited image, overlaid with the image of Collins' opponent. The black and white color tone therefore conveys fear, and the

Figure 4 Screenshot from a Facebook ad by Gina Oritz Jones (Democrat, Texas 23rd District)

red text stands out in the image. The fact that both the protestor and the opponent's faces are obscured by the mask creates fear and uncertainty.

Collins' ad demonstrates how multiple types of groups can be used within one image. The ad tells us a clear narrative of a villain (Dallas radicals), and a victim (the police). The phrase 'Dallas radicals' is an example of an ideological group, and this phrase is emblematic of the ideological phrases Republican candidates used across their ads in the qualitative sample. However, the fact that the protestor is not white adds a demographic aspect to the group being dissociated from and implicit racial messaging. Collins herself is white, and the fact that she uses a non-white woman overlaid with her African American opponent implies a racial message, while the editing and use of black and white creates fear.

Intercoder Reliability and Proof of Concept

To test the reliability and internal validity of the coding scheme, a second coder was included for a random sample of 25 ads (see Table 1). Videos were screenshotted every 2 seconds and the resulting images taken as the unit of analysis, with a typical 30-second ad producing 15 images, creating a final sample of 375 images. Coding the ads in this way ensures that the verbal content can be matched to the visual and captures how frequently groups appear across an ad. The second coder was trained and provided with guidance and examples on the scheme. Videos were watched for context when coding the individual images where required. Auto-captioning software was used to automatically add subtitles to the videos to ensure that verbal information was captured. Intercoder reliability tests were conducted to calculate percentage agreement and Cohen's kappa scores, which is perceived to be the best choice when the distribution of categories is not expected to be equal (Di Eugenio & Glass, 2004).

Figure 5 Screenshot from Genevieve Collins' (Texas 32) ad 'The real Colin'

Finally, the scheme was applied to a larger proof of concept sample (see Table 1) of candidates running in the three most populous states using the same methodology outlined above. Some television images were too blurry or dark to evaluate and 199 were removed, leaving 2281 coded screenshots.

Results

Intercoder Reliability

Percentage agreement between the two coders on whether an image contained group cues as outline in the scheme above was generally very good, as shown in Figure 6, as all but three agreement scores are over 80%.

Figure 7 depicts the Cohen's kappa scores for the presence of group cues by type. Baseline appeals cued through the visible demographics of people included in images have good scores above .75. Low kappa scores (< .20) were recorded for direct appeals mentioning household position, ideology, occupation and industry for three reasons. Firstly, there were differences in how coders coded explicit mentions. The schema presented in this paper posits that group-based appeals are not coded where a candidate talks about themselves, however this was not equally applied. For instance, in one ad, a candidate discussed their previous career as a 'midwife', which was coded as a missing value by Coder 1 and occupational by Coder 2, emphasizing the need for clarity amongst coders on the definition of a group-based appeal. As a result, indirect cues are not less reliable than explicit text-based mentions, suggesting against general perceptions that visual cues are more subjective.

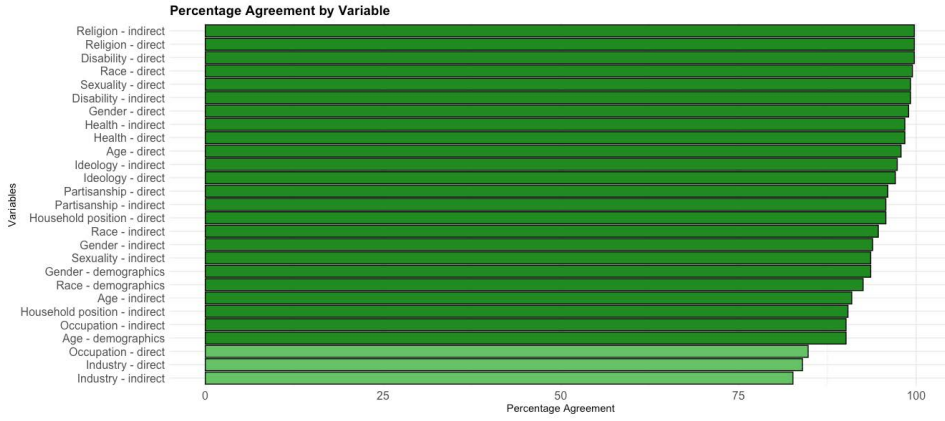

Figure 6 Percentage agreement between two coders on whether an ad contains a baseline, indirect and/or direct group-based appeal. Dark green shows agreement of over 80% and light green over 75%.

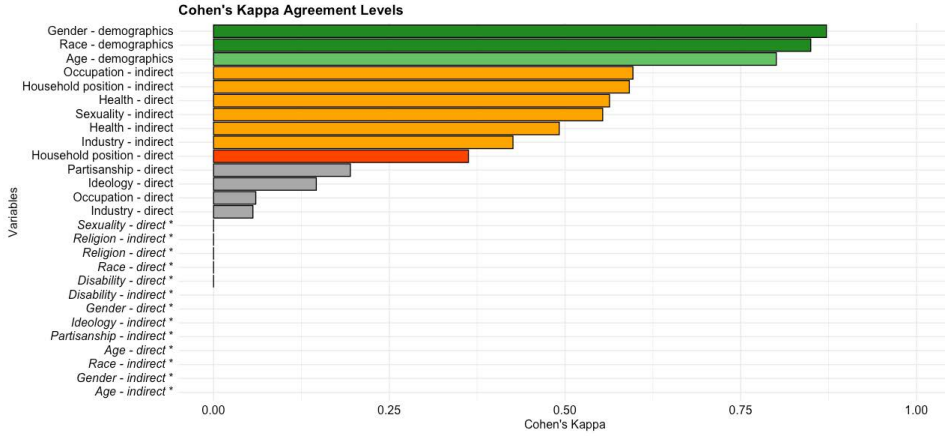

Figure 7 Cohen's kappa scores for the two coders on presence of a baseline, indirect, and/or direct group-based appeal. Dark green shows very good scores of .81–1.00; light green for substantial scores of .61–.80; orange for moderate scores .41–.60; red for fair scores of .21–.40; and grey for slight 0–.20. Variables marked with an asterisk indicate low prevalence of <16 instances (6.5%).

Secondly, there were differences in the coding of indirect cues relating to a candidate. For instance, in one ad, the second coder consistently coded demographics of the candidate, alongside additional indirect cues relating to the candidate, where the first coder logged this as a missing value. This could be explained by the selection of the House of Representatives, where candidates are less recog-

nizable.[1] To improve reliability in future, researchers and coders should visually identify the candidate before beginning the coding. Researchers could provide images of the candidate along with the ad data, particularly in instances where the candidate is less well-known.

Thirdly, Cohen's kappa is affected by skewed data, such as low prevalence, which may lower scores (Di Eugenio & Glass, 2004; Viera & Garrett, 2005). This is indicated in Figure 7 where variables in grey (marked *) were used in fewer than 16 instances, with 6 categories being used fewer than 6 times. These categories could still be included in future applications of the coding scheme, as the percentage agreement was generally very good.

Table 4 Cohen's kappa scores for social semiotic features of visual group-based appeals

Variable	Kappa
Gaze	.50
Image type	.49
Color tone	.46
Facial expression	.33

The categories capturing social semiotic characteristics image type, gaze, color tone and facial expression had generally moderate Cohen's kappa scores (.41–.60) (Table 4). This is perhaps to be expected from categories which are more subjective and future use of the coding scheme could therefore omit them from a quantitative application of the scheme. These features may be better explored qualitatively to understand the depiction of groups in specific contexts as opposed to scaling up.

Proof of Concept: Application of the Coding Scheme

Table 5 shows the frequency of baseline, indirect and direct appeals by political party in the television ads of candidates running for election in the three most populous US states (Table 1, proof of concept sample). The rows show the type of appeal, and what proportion of images screenshotted from television ads by Democrat and Republicans contain each appeal. Direct appeals are explicit mentions of groups that are captured by traditional methods and constitute 13.5% of images screenshotted every 2 seconds in television ads. A further

[1] The second coder was a PhD student selected due to knowledge of US elections; however, it is unlikely that they would recognize all candidates in the sample. The coding instruction sheet does advise to look up an image of the candidate before coding the particular ad. See appendix for future recommendations.

10.6% of all images contain a combination of both direct and indirect appeals. In these instances, existing methods capture only the direct aspect. Indirect-only appeals constitute 15.7% of all images captured from television ads, representing the new data captured by incorporating visual and more implicit references. Finally, baseline appeals, where age, gender and/or race are assumed through *only* the demographics of people included in images with no other kind of appeal present, constitute 4% of all images screenshotted from ads of candidates from both parties.

Table 5 The proportion of images (taken from ads every 2 seconds, $N = 2{,}281$) containing baseline (demographic cues only), indirect, and direct appeals on group attributes by party

Appeals	Democrat		Republican		Both	
Baseline	56	5.10%	34	2.88%	90	3.95%
Indirect	196	17.83%	163	13.79%	359	15.74%
Indirect and direct	131	11.92%	111	9.39%	242	10.61%
Direct	169	15.38%	139	11.76%	308	13.50%
No appeal	547	49.77%	735	62.18%	1,282	56.20%
Total	1,099	100.00%	1,182	100.00%	2,281	100.00%

Table 6 further decomposes the appeals to show the frequency of each sub-type of cue by party. The visible demographic characteristics (age, gender, race) can be inferred in 35.6% of the total number of images taken from ads. This seems surprising given that only 4% of images contained a baseline appeal as shown in Table 5. The low level of baseline appeals is therefore not explained by demographics rarely being visible, but by other formats of group cue being alongside these.

Of the indirect cues towards groups, clothing (11.1%), setting (12.7%), characteristic accentuated by activity (9.8%) and inferred from voiceover (9.8%) are the most frequently used. Clothing was often used for occupation and industry, cueing groups of workers. Therefore, indirect appeals are primarily derived from the person included in the image and what they are wearing, doing and their location. Significantly, these are primarily visual cues towards groups.

Table 7 shows the frequency of types of appeal by group attribute. The rows list the group attributes captured by the coding scheme and the columns how the group is cued. Industry and occupation are the most likely attributes to be cued indirectly, with 14.7% and 11.4% of the total images containing indirect cues towards these attributes. Industry and occupation are highly related, as showing workers such as nurses often cues both aspects. In the sample this was largely driven by campaigns showing workers, particularly manual, industrial

and construction workers, as well as small business owners working in hospitality or retail. Industry and occupation are therefore the most likely group attributes to be missed from existing text-based methods.

Table 6 Frequency of use of group cues by party

	How different cues are used	Democrat	Republican	Total references across groups	Number of images containing appeal
Baseline	Demographics of people	1,305	995	2,300	812 (35.59%)
Indirect	Clothing indicates/ accentuates attribute	212	273	485	253 (11.09%)
	Setting indicates/ accentuates attribute	259	208	467	291 (12.76%)
	Characteristic indicated/ accentuated by activity	224	168	392	224 (9.82%)
	Symbol indicates/ accentuates attribute	26	127	153	95 (4.16%)
	Issue of ad	170	135	305	192 (8.41%)
	Historical context of person	171	110	281	114 (3.97%)
	Language	93	82	175	175 (7.67%)
	Inferred from voiceover	159	117	276	224 (9.82%)
	Inferred from text	114	107	221	172 (7.54%)
	Inferred from ad name	15	8	23	23 (1.01%)
Direct	Explicit mention of attribute in text	157	181	338	269 (11.79%)
	Explicit mention of attribute in voiceover	168	152	320	317 (13.90%)
	Explicit mention of attribute in ad name	3	8	11	11 (0.48%)
	Total				2,281

Household position is cued indirectly in 6.4% of images, with candidates showing images of families, parents and children. Other group attributes including wealth, health, sexuality, disability, partisanship and religion are rarely cued in any format. Of the 45 ideological group-based appeals, 42 of these were made by Republican candidates appealing directly against groups such as ‘radicals’ and ‘leftists’ and indirectly showing BLM protestors and symbols.

Table 7 Frequency of indirect and direct cues used for different group attributes.

	Indirect	Indirect and direct	Direct	None	
Industry	351 14.72%	35 1.53%	71 3.11%	1,824 79.96%	2,281
Occupation	261 11.44%	78 3.42%	117 5.13%	1,825 80.01%	2,281
Household position	146 6.40%	13 0.57%	36 1.58%	2,086 91.45%	2,281
Health	47 2.06%	14 0.61%	23 1.01%	2,197 96.32%	2,281
Sexuality	47 2.06%	0 0.00%	0 0.00%	2,234 97.94%	2,281
Ideological	26 1.14%	3 0.13%	16 0.70%	2,236 98.03%	2,281
Disability	37 1.62%	0 0.00%	0 0.00%	2,244 98.38%	2,281
Partisan	17 0.75%	0 0.00%	6 0.26%	2,258 98.99%	2,281
Religion	15 0.66%	0 0.00%	2 0.09%	2,264 99.25%	2,281

Household Position As a Case Study

To demonstrate how the inclusion of indirect appeals impacts our conclusions, household position was selected as a case study. Figure 8 shows the proportion of images cueing household position by party, appeal type (direct or indirect) and the type of family member cued. If we look only at direct appeals in the darkest shades of red and blue, Republicans explicitly appeal to parents and children in 26% and 22% of images cueing household position, compared with no direct appeals by Democrats to these groups. Democrats are more likely to mention 'families' explicitly in 38% of images cueing household position, compared with 6% of Republican images. Neither party directly appeals to grandparents, suggesting a lack of interest.

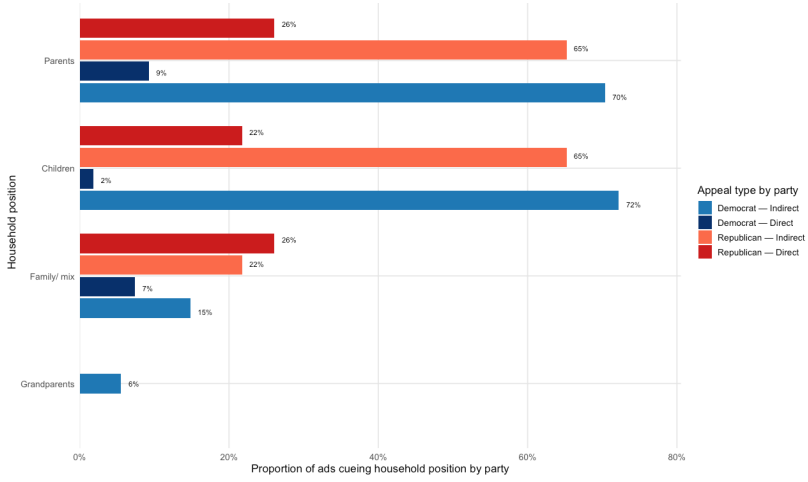

Figure 8 Appeals cueing household position by party and appeal type

The picture looks different when we include indirect appeals as a measure, and the two parties start to look more similar. Despite Republicans explicitly mentioning parents and children more than Democrats, Democrats are slightly more likely to signal these groups indirectly, with 72% and 70% of images cueing household position containing indirect appeals to parents and children respectively. Republicans mention families explicitly more often, and are more likely to signal them indirectly (22%) than Democrats (15%). Democrats appeal to grandparents in 6% of shots cueing household position, indicating that this group would be missed if direct appeals were studied alone. Including indirect appeals therefore alters our conclusions from Republicans appealing to all household positions more than Democrats, to Republicans appealing to these groups more directly, while Democrats do so more indirectly. Furthermore, using traditional methods we would conclude that neither party appeals to grandparents, whereas inclusion of indirect appeals shows Democrats do appeal to this group, albeit rarely. Not including indirect measures therefore biases our understanding of how the two parties appeal. Interestingly, the finding that Republicans appeal more explicitly to household position counters the perception that Democrats are more interested in social groups than Republicans (Grossmann & Hopkins, 2016) and therefore suggests that party differences in this type of campaigning are worth further exploration.

Indirect appeals can occur either 1) with direct appeals to provide additional meaning and context to an appeal, or 2) alone to constitute a group appeal without an explicit group reference, and Figures 9 and 10 are taken from the qualitative analysis to demonstrate this. Figure 9 depicts both a direct appeal towards 'working families' and an indirect appeal towards blue-collar workers, as repre-

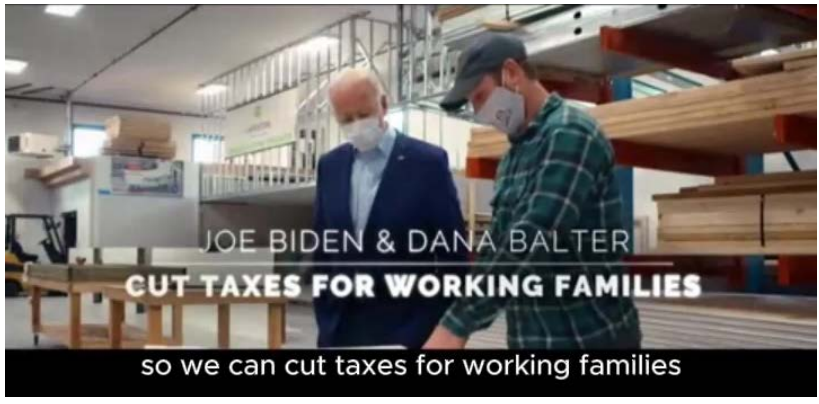

Figure 9 Screenshot from Dana Balter's (New York 24) ad 'The last four years'

sented through a white man. Using traditional methodologies, only the phrase 'working families' would be captured, exemplifying how indirect appeals can provide additional context as to who is inferred to be part of this group. In contrast, Figure 10 depicts an instance where the appeal is only indirect because using text-based methods no group would be detected in this image. Without incorporating the visual, this scene is a policy statement. Including the visual indicates a young Black family, with a small child with health conditions (as symbolized through the characteristic accentuated by activity of using an asthma inhaler), an appeal signaling the kinds of families the candidate seeks to represent. It is therefore important to include indirect appeals both to capture the additional meaning and context of direct appeals and to ensure that indirect appeals that occur without textual references are included in the analysis.

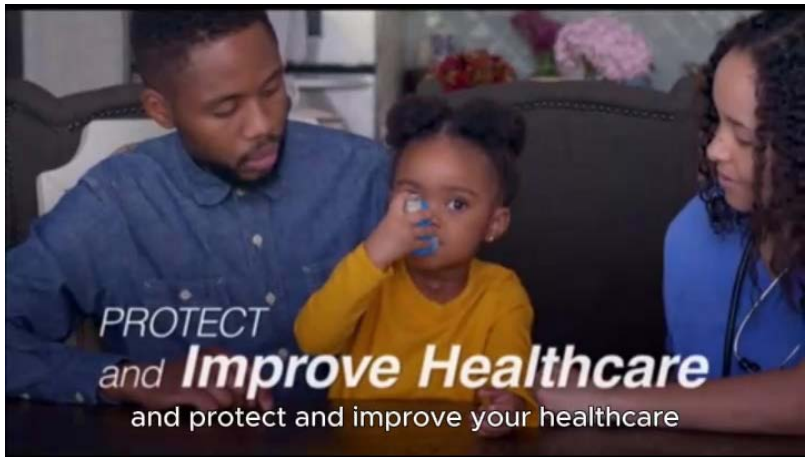

Figure 10 Screenshot from Charlie Crist's (Florida 13) ad 'Called a Lot'

Discussion and Conclusion

Existing studies of group-based appeals focus primarily on textual mentions of groups, and are not equipped to incorporate more indirect, and particularly visual cues towards groups. This paper has proposed and briefly evaluated a novel schema to conduct content analyses incorporating visual and indirect cues.

This paper has demonstrated the importance of incorporating visual cues into methodologies of group-based appeals for two reasons. Firstly, candidates running in the three most populous states for the 2020 US House of Representatives elections engage in indirect appeals at similar levels to direct appeals. Furthermore, indirect appeals are conducted alongside direct appeals in 10.6% of images screenshotted from television ads. The exploration of household position as a case study demonstrates that indirect appeals alone can convey information about who a candidate seeks to represent, and combined with a direct appeal provide more context as to who is meant by text-based groups. Capturing visual data therefore provides both a greater *coverage* of appeals conducted and deepens understanding and meaning with further insights as to who is included in groups. Secondly, candidates appear to use different cue types for different groups, and capturing only direct appeals may lead to skewed findings in terms of *which* groups parties appeal to. Industry and occupation in particular are more likely to be cued indirectly, and therefore capturing only textual appeals to these groups may bias results. In the case of household position, the inclusion of indirect appeals alters our conclusions to reveal that Republicans are more interested in families and Democrats in grandparents than direct only appeals would suggest.

This study has limitations which could be addressed through future research. Firstly, some categories in the scheme scored low on intercoder reliability. Particularly, social semiotic categories such as gaze and facial expression had low reliability, and such features may be better explored qualitatively to understand how members of groups are visually depicted and positioned. A second reason for low intercoder reliability for some variables was due to low prevalence of many categories, and the scheme should therefore be tested on a larger scale. Secondly, the schema was tested only on television ads despite being developed from a qualitative sample of ads from television and social media. Television ads were selected because they are widely used in US elections and they are inherently visual. Future research however could apply the schema to social media to evaluate media differences in the use of group-based appeals and to explore reliability across mediums. Finally, this study uses US ads while most group-based appeals studies focus on European political communication. This brings benefits in broadening the literature to include North America, however could be applied to other countries to evaluate whether indirect appeals are as widely used beyond the US context.

Group appeals are important aspects of political campaigns, yet if we only measure direct mentions, we do not get an accurate picture of which groups exactly are being appealed to. As a result, we would get biased results as to which group identities are being activated and made salient, which is particularly important given than visual signals are more easily processed by audiences and may be more emotive. Inclusion of indirect appeals data may reduce bias in measures of both the *prevalence* of group-based appeals and *which* groups political parties appeal to in modern political discourse. I hope that this paper adds to the accurate measurement of group-based appeals in political advertisements moving forward.

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Reflective Appendix

Data Samples and Collection

I originally planned to test the scheme on a large dataset of two television and social media ads for each candidate running in the 2020 US House of Representatives elections.

I used both Facebook and television ads for the qualitative sample to create the schema, but decided to code only television ads for intercoder reliability and proof-of-concept due to time constraints. Firstly, the coding scheme is complex, taking between 1 and 20 minutes to code an image depending on the content of the ad. Secondly, collecting Facebook ads specifically was time-consuming because the API allows researchers to download a maximum of 3 CSV files a day. Instead of downloading a file per candidate, I therefore searched for phrases like 'for congress' or 'for Illinois' and manually extracted the ads in bulk through the image IDs, cross-referencing against the number of ads in the library. Some ads were removed from Facebook for breaching advertising guidelines, therefore potentially biasing the sample. Therefore the WMP television ads were a more comprehensive dataset for testing. Furthermore, I reduced the n to the

three most populous states to reduce coding time while still providing a large enough sample (2,480 images from 125 ads) to test the schema.

Method: Developing the Coding Scheme

I planned to evaluate group-based appeals by making a judgment on which type of group was being appealed to (such as economic, lifecycle, religious), and then evaluating in what format the appeal was conducted (text, visual).

When I started looking at the ads however this was often challenging to do visually. Compared to a textual statement like 'farmers', images allow for many individuals with group characteristics to be shown at once, and it was often difficult to pinpoint one or two singular groups being indicated. I then tried to organize appeals by 'types' or 'frames', such as whether a group member appeals directly to the camera or represents an issue (e.g., nurses = healthcare). Again, it was often challenging to make an overall judgment, with multiple types used in the same shot to differing degrees. I finally decided to code individual attributes (e.g. gender, occupation) along with the social semiotic features to capture this aspect of engagement with a group.

Development of the schema was iterative and I removed national identity and migration status as categories because they were largely 'assumed American'/ 'assumed native to US' without additional indicators, and therefore repetitive to code without producing useful insight. For 'disability', I began coding every person as disabled or not, however due to the repetition of coding 'not disabled' in most instances, I decided to only code when disability was visibly present. I removed 'wealth' as it was often difficult to judge and could be inferred through other variables such as occupation. Group cues were added iteratively, with common cues setting, clothing and symbol added early on, and less frequently used categories such as 'historical figure' later.

Recommendations

1. The number of variables made coding in a spreadsheet unwieldy and so I uploaded the images to Qualtrics. Qualtrics limits 100 image uploads per survey (it crashes if it goes above this) so I uploaded images in batches and piped the ad title in with the looped image so that coders can view the candidate and ad name for further context (see Figure A1).

2. Do not underestimate how long it will take to code images. At the beginning, I completed around 50–100 images in a day, increasing up to 200 in an 8-hour working day towards the end. Using Qualtrics did make this quicker through an initial filtering question which asks if any of the attributes are present or can be assumed, answering 'none' moves on to the next image

(Figure A2). Part of the initial slowness at the beginning however was part of learning the complexity of the coding scheme. Therefore, I recommend reviewing the coding scheme for clarity and understanding periodically before and during coding.

3. Spend time looking up the candidate and local politicians so that group members are not confused with political figures. This caused a particular challenge for the second coder, who, on multiple occasions, coded the demographics of the candidate, despite coding instructions to only code these features where a person who is not a politician is included. This was likely because House candidates are less likely to be recognized.

Figure A1 Screenshot 1 from Qualtrics coding scheme

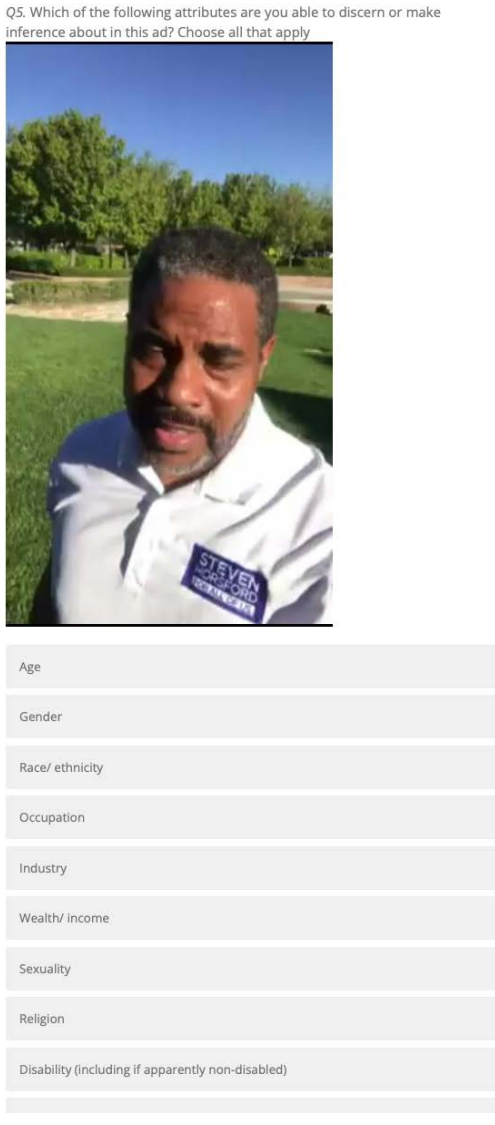

Figure A2 Screenshot 2 from Qualtrics coding scheme